

# Board of Curators Meeting - Public Session

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**Board of Curators Meeting**  
**June 24, 2021**  
**Public Session**



## Vision

To advance the opportunities for success and well-being for Missouri, our nation and the world through transformative teaching, research, innovation, engagement and inclusion.

## Mission

To achieve excellence in the discovery, dissemination, preservation and application of knowledge. With an unwavering commitment to academic freedom and freedom of expression, the university educates students to become leaders, promotes lifelong learning by Missouri's citizens, fosters meaningful research and creative works, and serves as a catalyst for innovation, thereby advancing the educational, health, cultural, social and economic interests to benefit the people of Missouri, the nation, and the world.

## Missouri Compacts for Achieving Excellence

The Missouri Compacts for Achieving Excellence provide unifying principles that inform and guide the four universities and their strategic plans. Learn more about the compacts, below, at <http://umurl.us/prespri>.



Excellence in Student Success



Excellence in Research and Creative Works



Excellence in Engagement and Outreach



Inclusive Excellence



Excellence in Planning, Operations and Stewardship

## Core Values

Our institution collectively embraces a series of core values that serve as the foundation upon which we build new knowledge and provide outstanding programs for students and citizens of our state and beyond.



- Academic freedom
- Access
- Accountability
- Civility
- Collaboration
- Creativity
- Discovery
- Engagement
- Excellence
- Freedom of expression
- Inclusion
- Innovation
- Integrity
- Respect
- Responsibility
- Transparency

## Guiding Principles

1. Support courageous and proactive leadership that is articulate, unified and committed to excellence in carrying out our existing core missions of teaching, research, engagement and economic development and in meeting the changing needs of the world and the state.
2. Establish a collaborative environment in which UM System universities work together to achieve collective results that cannot be achieved individually and are committed to each other and our mutual success.
3. Exercise central authority that recognizes and respects institutional distinctiveness, appropriate deference and accountability.
4. Enact informed decisions based on collaboratively developed strategic directions and planning.
5. Identify and promote systemwide core values, including respect for all people, transparency, accountability, stewardship and purposeful self-assessment of performance.

No. 1

Recommended Action – Resolution for Executive Session of the Board of Curators Meeting June 24, 2021

It was moved by Curator \_\_\_\_\_ and seconded by Curator \_\_\_\_\_, that there shall be an executive session with a closed record and closed vote of the Board of Curators meeting June 24, 2021 for consideration of:

- **Section 610.021(1), RSMo**, relating to matters identified in that provision, which include legal actions, causes of action or litigation, and confidential or privileged communications with counsel; and
- **Section 610.021(2), RSMo**, relating to matters identified in that provision, which include leasing, purchase, or sale of real estate; and
- **Section 610.021(3), RSMo**, relating to matters identified in that provision, which include hiring, firing, disciplining, or promoting of particular employees; and
- **Section 610.021(12), RSMo**, relating to matters identified in that provision, which include sealed bids and related documents and sealed proposals and related documents or documents related to a negotiated contract; and
- **Section 610.021 (13), RSMo**, relating to matters identified in that provision, which include individually identifiable personnel records, performance ratings, or records pertaining to employees or applicants for employment; and
- **Section 610.021 (17), RSMo**, relating to matters identified in that provision, which include confidential or privileged communications between a public governmental body and its auditor.

Roll call vote of the Board: YES NO

Curator Brncic  
Curator Chatman  
Curator Graham  
Curator Graves  
Curator Hoberock  
Curator Holloway  
Curator Layman  
Curator Wenneker  
Curator Williams

The motion \_\_\_\_\_.

June 24, 2021

UNIVERSITY OF MISSOURI  
BOARD CHAIR REPORT

There are no materials for this information item.

UNIVERSITY OF MISSOURI  
PRESIDENT'S REPORT

There are no materials for this information item.



STUDENT REPRESENTATIVE TO THE  
BOARD OF CURATORS REPORT

There are no materials for this information item.

No. 1

Recommended Action - Approval of Board of Curators Executive Committee and Standing Committees Appointments, 2021

It was recommended by Chair Chatman, moved by Curator \_\_\_\_\_ and seconded by Curator \_\_\_\_\_, that the following Board of Curators Executive Committee and Standing Committees appointments be approved for 2021:

**Executive Committee**

Darryl M. Chatman, Chair  
Greg E. Hoberock  
Jeff L. Layman

**Academic, Student Affairs, Research and Economic Development Committee**

Todd P. Graves, Chair  
Greg E. Hoberock  
Jeff L. Layman  
Robin R. Wenneker

**Audit, Compliance and Ethics Committee**

Jeff L. Layman, Chair  
Julia G. Brncic  
Maurice B. Graham  
Keith A. Holloway

**Finance Committee**

Greg E. Hoberock, Chair  
Todd P. Graves  
Jeff L. Layman  
Michael A. Williams

June 24, 2021

**Governance, Compensation and Human Resources Committee**

Michael A. Williams, Chair

Julia G. Brncic

Keith A. Holloway

Robin R. Wenneker

**Health Affairs Committee**

Robin R. Wenneker, Chair

Maurice B. Graham

Keith A. Holloway

Michael A. Williams

Ronald G. Ashworth (non-curator)

John R. Phillips (non-curator)

Roll call vote:

YES

NO

Curator Brncic

Curator Chatman

Curator Graham

Curator Graves

Curator Hoberock

Curator Holloway

Curator Layman

Curator Wenneker

Curator Williams

The motion \_\_\_\_\_.

June 24, 2021

No. 3

Recommended Action - Resolution for Phil H. Snowden

It was endorsed by President Choi, recommended by Chair Chatman, moved by Curator \_\_\_\_\_ and seconded by Curator \_\_\_\_\_, that the following resolution recognizing the dedicated service of Phil H. Snowden to the University be approved:

#### RESOLUTION

WHEREAS, Phil H. Snowden served the people of Missouri with distinction as a member of the University of Missouri Board of Curators from January 2, 2015 until April 7, 2021; and

WHEREAS, Curator Snowden served on multiple Standing Committees; and during his term, he also served as Chair of the Audit; Compensation and Human Resources; and Academic, Student Affairs & Research and Economic Development Committees; and

WHEREAS, Curator Snowden was a member of the search committee for the 24<sup>th</sup> President of the University of Missouri System, and once described it as “the most important task of my time as a Curator”; and

WHEREAS, Curator Snowden promoted engagement not only with leadership, but also with faculty, staff and students. It was important to him to hear their ideas, experiences and concerns as a governing Board member; and

WHEREAS, Phil Snowden is known by fellow Curators to be engaging and enthusiastic in discussions and always brought the Board back to a team approach; and

WHEREAS, he understood the distinct strengths of each university within the UM System and supported research excellence and economic development; and

WHEREAS, he is a True Son, who graduated from Mizzou in 1960 having been on the Dean’s Honor Roll and the Mystical 7 Senior Men’s Honor. And in 1957-59, Phil was a quarterback for the Tigers, going to the Orange Bowl in 1960, and was named A.P. National Back of the Week and A.P Honorable Mention All-American; and

WHEREAS, Phil was later inducted into the Missouri Sports Hall of Fame in 2017; and

WHEREAS, Phil was elected to the Missouri State House of Representatives in 1967 where he served until 1977. He thereafter served as a Missouri State Senator from 1977 to 1985, where along with passing bills benefiting Clay County and the State of Missouri, he sponsored the US Constitutional Amendment to balance the Federal Budget, making Missouri the 37<sup>th</sup> state to do so; and

WHEREAS, Curator Snowden advocated and cared deeply about what was best for the University of Missouri, as an entity in and of itself, and in its role in the State of Missouri; and

WHEREAS, Curator Snowden is a true professional. He is considerate and kind, and has always shown his appreciation to staff who have assisted him in his duties to the Board and University. His contributions will have a lasting influence on the future of the University of Missouri System and the State:

NOW, THEREFORE, BE IT RESOLVED, that the Board of Curators, on behalf of the students, faculty, staff and alumni of the University of Missouri System, and on behalf of the citizens of the State of Missouri, does hereby adopt this resolution in sincere appreciation of the dedicated and devoted leadership of Phil H. Snowden;

AND ALSO, that his future relations with the University of Missouri System be formally recognized by bestowing the title of “Curator Emeritus” upon Phil H. Snowden; and

BE IT FURTHER RESOLVED, that the Secretary of the Board of Curators cause this resolution to be spread upon the minutes of this meeting and that a duly inscribed copy thereof be furnished to Phil H. Snowden.

Roll call vote:	YES	NO
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Curator Brncic

Curator Chatman

Curator Graham

Curator Graves

Curator Hoberock

Curator Holloway

Curator Layman

Curator Wenneker

Curator Williams

The motion \_\_\_\_\_.

No. 5

Recommended Action - Resolution for Avery J. Welker

It was endorsed by President Choi, recommended by Chair Chatman, moved by Curator \_\_\_\_\_ and seconded by Curator \_\_\_\_\_, that the following resolution recognizing the dedicated service of Avery J. Welker to the University be approved:

#### RESOLUTION

WHEREAS, Avery J. Welker served with distinction as Student Representative to the Board of Curators from July 28, 2018 until July 14, 2020; and

WHEREAS, during his term, he effectively and professionally represented the diverse interests and priorities of students from all four universities of the University of Missouri System; and

WHEREAS, he was committed and engaged while working with the Board as he advocated for students, constantly maintaining a positive attitude, actively listening and offering incisive opinions; and

WHEREAS, while addressing the Committees or the Board of Curators as a whole, he was a dedicated, articulate spokesperson who brought realistic insight to student issues and perspectives; and

WHEREAS, the Board held Avery in very high esteem, as witnessed by Curator Graham, who stated: “First and foremost, Avery was a student representative whom the Board continually learned from and heavily relied on. He was always prepared and made certain the Board was fully informed on every important student issue, and Avery’s views were always considered in Board decisions. Now, as Avery commences his law school education, we know that he will continue to exhibit the same passion, dedication, and commitment we observed during the time he was our colleague on the Board.”; and

WHEREAS, he received a B.S. in Petroleum Engineering from Missouri S&T in 2016, and while serving as Student Representative to the Board of Curators, Avery also earned a Master’s Degree in Petroleum Engineering in December 2018. He then went on to attend the University of Missouri–Columbia in August 2020 to pursue a law degree; and

WHEREAS, while diligently working for all UM System students, he provided leadership by engaging student body presidents and vice presidents from the four universities. As Chair of the Intercampus Student Council (ISC), Avery provided leadership during a time of immense uncertainty and change. He helped lead the ISC through a restructuring that had been under consideration for many years, equalizing the number of student votes across the four universities; and

WHEREAS, Avery grew as a leader while in this role. He urged students to become engaged on their campuses, knowledgeable of board actions, and to attend the Curator meetings; and

WHEREAS, Avery is spirited, lighthearted, friendly, and seemingly never meets a stranger. He has endeared himself to all who have had the pleasure of working with him:

NOW, THEREFORE, BE IT RESOLVED, that the Board of Curators, on behalf of the students, faculty, staff and alumni of the University of Missouri System, and on behalf of the citizens of the State of Missouri, does hereby adopt this resolution in appreciation of the dedicated and devoted service of Avery J. Welker; and

BE IT FURTHER RESOLVED, that the Secretary of the Board of Curators cause this resolution to be spread upon the minutes of this meeting and a duly inscribed copy thereof be furnished to Avery J. Welker.

Roll call vote:	YES	NO
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Curator Brncic

Curator Chatman

Curator Graham

Curator Graves

Curator Hoberock

Curator Holloway

Curator Layman

Curator Wenneker

Curator Williams

The motion \_\_\_\_\_.

## REVIEW CONSENT AGENDA

There are no materials for this information item.





Consent A

Recommended Action - Minutes, April 22, 2021 Board of Curators Meeting  
Minutes

It was moved by Curator \_\_\_\_\_ and seconded by Curator \_\_\_\_\_, that the minutes of the April 22, 2021 Board of Curators meeting be approved as presented.

Roll call vote: YES NO

Curator Brncic

Curator Chatman

Curator Graham

Curator Graves

Curator Hoberock

Curator Holloway

Curator Layman

Curator Wenneker

Curator Williams

The motion \_\_\_\_\_.

June 24, 2021

Consent B

Recommended Action - Minutes, April 22, 2021 Board of Curators Committee Meetings

It was moved by Curator \_\_\_\_\_ and seconded by Curator \_\_\_\_\_, that the minutes of the April 22, 2021 Board of Curators committee meetings, be approved as presented.

Roll call vote:	YES	NO
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Curator Brncic

Curator Chatman

Curator Graham

Curator Graves

Curator Hoberock

Curator Holloway

Curator Layman

Curator Wenneker

Curator Williams

The motion \_\_\_\_\_.

June 24, 2021

OPEN – CONSENT – B-1

Consent C

Recommended Action - Minutes, May 19, 2021 Board of Curators Special Meeting and Finance Committee Meeting

It was moved by Curator \_\_\_\_\_ and seconded by Curator \_\_\_\_\_, that the minutes of the May 19, 2021 Board of Curators special meeting and Finance Committee meeting be approved as presented.

Roll call vote:	YES	NO
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Curator Brncic

Curator Chatman

Curator Graham

Curator Graves

Curator Hoberock

Curator Holloway

Curator Layman

Curator Wenneker

Curator Williams

The motion \_\_\_\_\_.

June 24, 2021

Consent D

Recommended Action – Approval of Degrees, Summer Semester 2021, for all universities

It was recommended by Chancellors, endorsed by President of the University of Missouri Mun Choi, recommended by the Academic, Student Affairs and Research & Economic Development Committee, moved by Curator \_\_\_\_\_, seconded by Curator \_\_\_\_\_ that the following action be approved:

that the action of the President of the University of Missouri in awarding degrees and certificates to candidates recommended by the various faculties and committees of the four University of Missouri System campuses who fulfill the requirements for such degrees and certificates at the end of the Summer Semester 2021, shall be approved, and that the lists of said students who have been awarded degrees and certificates be included in the records of the meeting.

Roll call vote of Board:

YES

NO

Curator Brncic

Curator Chatman

Curator Graham

Curator Graves

Curator Hoberock

Curator Holloway

Curator Layman

Curator Wenneker

Curator Williams

The motion\_\_\_\_\_.

Sole Source Purchase  
Digital Television Transmitter System  
MU

In accordance with the Collected Rules and Regulations 80.010, University of Missouri – Columbia on behalf of KOMU requests approval for the sole source purchase of a Digital Television Transmitter System from Rohde & Schwarz USA Inc., Columbia, Maryland, for an estimated total of \$1,352,343.43 for the transmitter and Dielectric LLC, Raymond, Maine, for an estimated total of \$525,748.11 for the antenna.

An engineering consultant hired by the University determined the KOMU transmitting tower needs to be replaced due to its age and structural deficiencies. A bid to select a supplier for the design and construction of the new tower was completed through Campus Design and Construction, and the design of the tower has substantially been completed. As part of this replacement process, KOMU applied for and was granted a channel change for the television station by the Federal Communications Commission for improved signal coverage of central Missouri. The new channel will require a new transmitter to feed a new antenna that gets installed on the top of the tower.

There are several components that must be considered when selecting a transmitter such as power capability, physical size, power consumptions, cooling requirements, redundancy, reliability, and the need for compatibility of the next generation of digital television. These items impact the building size, cooling power and tower base pad size required for heat exchangers. The tower height and antenna design dictate the power output required of the transmitter to achieve the FCC license requirement and the make and model must be specified when requesting FCC approval. In addition, the height of the antenna must be approved by the FAA prior to obtaining FCC approval. Changes to any of these items will significantly impact the cost and legal operation for the system.

Both the antenna and transmitter are required to make up the digital transmitter system. Considering all the above components and to meet the required antenna pattern and signal level, a 50' antenna was specified with special modifications that are required to fit with the tower design. Dielectric LLC is the only supplier that can meet the antenna design that fits with the tower design that was approved by the FCC. Based on the required size, amplification and radiation pattern for the antenna, the transmitter size, capacity, and density are essential, as they work hand in hand. Rohde & Schwarz USA Inc. is the only supplier that can provide the size transmitter needed with the highest amount of density that will fit with the tower design and building size specified. Any variation to the antenna and/or transmitter suppliers that were specified would require modifications to the tower design, which would require having to seek FCC approval again, which is a lengthy process and would significantly delay the construction of the new tower.

The total estimated \$1,878,091.54 expenditure will be paid from the KOMU Reserve funds.

June 24, 2021

No. E

Recommended Action – Sole Source – Purchase of Digital Television Transmitter System, MU

It was recommended and endorsed by President Choi, recommended by the Finance Committee, moved by Curator \_\_\_\_\_ and seconded by Curator \_\_\_\_\_, that the following action be approved:

that the University of Missouri – Columbia be authorized to purchase a Digital Television Transmitter System from Rohde & Schwarz USA Inc., Columbia, Maryland, at a total estimated cost of \$1,352,343.43 for the transmitter and Dielectric LLC, Raymond, Maine, at a total estimated cost of \$525,748.11 for the antenna.

Funding is as follows:  
KOMU Reserve Funds

F0101-777400

Roll call vote Finance Committee	YES	NO
Curator Graves		
Curator Hoberock		
Curator Layman		
Curator Williams		

The motion \_\_\_\_\_.

Roll call vote Full Board:	YES	NO
Curator Brncic		
Curator Chatman		
Curator Graham		
Curator Graves		
Curator Hoberock		
Curator Holloway		
Curator Layman		
Curator Wenneker		
Curator Williams		

The motion \_\_\_\_\_.

June 24, 2021

## Insurance Broker Selection UM

The University requests approval to retain AON to provide insurance broker services for property, casualty, and other insurance for the period July 1, 2021 through January 31, 2027.

The University uses a combination of self-funded programs and commercial insurance for its risk financing programs. The services of insurance brokers are used to purchase commercial insurance and excess insurance above self-funded retentions (deductibles). Upon Board approval, the University will issue a contract to the insurance broker through January 31, 2023 with up to four one (1) year renewals to coincide with the broker contracts with Lockton Companies LLC and Arthur J. Gallagher & Co. with contract expiration dates of January 31, 2027.

Insurance brokers earn either a commission or fee applicable to the specific policy coverages the University purchases (e.g., property, casualty, etc.). Commissions/fees vary based on several components such as the state of the insurance market, resources required, and complexity of placing the coverage. In fiscal year 2021, approximately \$431,272 was paid in commissions/fees.

In May 2021, the University issued a Request for Proposals to add an additional broker for the period July 1, 2021 through January 31, 2027. One proposal was received and reviewed by the selection committee. The criteria used to make the selection included:

- Knowledge and experience/qualifications as well as the financial stability of the firm
- Competencies of the brokerage assigned personnel
- Creativity of design and approach toward the University's unique risks
- Responsiveness in total presentation
- Additional risk management and services offered by firm
- Diversity participation

June 24, 2021



No. F

Recommended Action – Insurance Broker Selection, UM System

It was recommended by Vice President Rapp, endorsed by President Choi, recommended by the Finance Committee, moved by Curator \_\_\_\_\_ and seconded by Curator \_\_\_\_\_, that the following action be approved:

that the Vice President for Finance and Administration be authorized to retain the firm of AON to provide insurance broker services for property, casualty, and other insurance for the period July 1, 2021 thru January 31, 2023 with up to four one (1) year renewals to coincide with current contract expiration dates of January 31, 2027.

Roll call vote Finance Committee                      YES                      NO

Curator Graves  
Curator Hoberock  
Curator Layman  
Curator Williams

The motion \_\_\_\_\_.

Roll call vote Full Board:                      YES                      NO

Curator Brncic  
Curator Chatman  
Curator Graham  
Curator Graves  
Curator Hoberock  
Curator Holloway  
Curator Layman  
Curator Wenneker  
Curator Williams

The motion \_\_\_\_\_.

June 24, 2021

Rename the International Institute for Nano and Molecular Medicine Building to the  
Molecular Innovations and Theranostics Center  
MU

*Pursuant to CRR 110.080*, naming of buildings and exterior areas requires Board approval. The University of Missouri-Columbia requests approval to name the building located at 1514 Research Park Drive the Molecular Imaging and Theranostics Center (currently named International Institute for Nano and Molecular Medicine).

The Molecular Imaging and Theranostics Center (MITC) is positioned to be a university-wide resource for development of radiopharmaceutical-based diagnostic imaging and therapeutic agents and a hub of shared resources for *in vivo* imaging from mice to humans. MITC will support the needs of investigators at MU, UM System, and beyond who wish to incorporate state-of-the-art *in vivo* imaging to advance their research. MITC will effectively be the replacement for the Radiopharmaceutical Sciences Institute (RSI), supporting a broader scope of imaging and theranostic research.

The Office of Research and Economic Development terminated support for the International Institute for Nano and Molecular Medicine on June 30, 2017 because of lack of performance in garnering extramural support for continuation of its research programs and the lack of external research opportunities to move its technologies from the laboratory to animal models leading up to human clinical trials. With recent recruitments, the focus of the research facility has shifted to Molecular Innovations and Theranostics, hence the name change to MITC.

University of Missouri President Mun Choi, Vice Chancellor of University Advancement Jacqueline Lewis, and Provost Latha Ramchand are all in support of this naming.

June 24, 2021

No. G

Recommended Action - Rename the International Institute for Nano and Molecular Medicine Building to the Molecular Innovations and Theranostics Center, MU

It was recommended and endorsed by President Choi, moved by Curator \_\_\_\_\_ and seconded by Curator \_\_\_\_\_, that the following action be approved:

that the building located at 1514 Research Park Drive be named the Molecular Imaging and Theranostics Center (currently named International Institute for Nano and Molecular Medicine).

Roll call vote:

YES

NO

Curator Brncic  
Curator Chatman  
Curator Graham  
Curator Graves  
Curator Hoberock  
Curator Holloway  
Curator Layman  
Curator Wenneker  
Curator Williams

The motion \_\_\_\_\_.

June 24, 2021

## June 2021 Security Resolution

The Security Executive Committee, first formed by Curator resolution in 1999, has the authority and responsibility for the negotiation, execution and administration of Department of Defense (DoD) and its User Agencies classified contracts. To perform their duties, these individuals are required, by the DoD's Defense Counterintelligence and Security Agency (DCSA), to obtain personnel security clearances for access to classified materials to the level of the University's facility security clearance (currently at the TOP SECRET level). To date, there has been only one relatively minor policy decision decided by this committee.

The DoD's Defense Counterintelligence and Security Agency (DCSA) requires that personnel security clearance exemptions be by individual name and not by position, so now that DCSA has recommended that the Chancellors and Provosts at all campuses with faculty engaged in classified research, a designated member of the Board of Curators, and the MU Vice Chancellor for Research be cleared and become committee members once fully cleared, and there have been additional changes in the personnel requiring clearances, a new resolution must be passed by the Board of Curators.

June 24, 2021

OPEN – CONSENT – H-1

Consent H

It was endorsed by President Choi, moved by Curator \_\_\_\_\_ and seconded by Curator \_\_\_\_\_, that the following resolution be approved:

#### Resolution

The Curators of the University of Missouri agree that the following individuals occupying the designated offices shall constitute a Security Executive Committee with full authority and responsibility for the negotiation, execution and administration of Department of Defense, or User Agency classified contracts as described in DoD 5520.22-M, "National Industrial Security Program Operating Manual":

The members of this Security Executive Committee have been processed for a personnel security clearance for access to classified information up to the level of the facility security clearance granted to this institution, as provided for under the aforementioned security program.

Once the following personnel complete all the requirements for a Department of Defense Top Secret personnel security clearance, they too will become full voting members of the Security Executive Committee.

- President, University of Missouri System, and Interim Chancellor, University of Missouri-Columbia, Mun Y. Choi, Ph.D.
- TBD Curator, University of Missouri System
- Provost, University of Missouri-Columbia, Latha Ramchand, Ph.D.
- Chancellor, University of Missouri-Kansas City, C. Mauli Agrawal, Ph.D.
- Provost, University of Missouri-Kansas City, Jennifer Lundgren, Ph.D.
- Chancellor, Missouri University of Science and Technology, Mohammad Dehghani, Ph.D.
- Provost, Missouri University of Science and Technology, Colin Potts, Ph.D.
- Vice Chancellor for Research, University of Missouri, Thomas E. Spencer, Ph.D.

The Security Executive Committee is hereby delegated all of the Board's duties and responsibilities pertaining to the protection of classified information under classified contracts of the Department of Defense or User Agencies awarded to the Curators of the University of Missouri.

The following officers and members of the University of Missouri Board of Curators shall not be required, shall not have, and can be effectively excluded from access to all classified information in the possession of the Curators of the University of Missouri, and do not occupy positions that would enable them to affect adversely the policies and practices of the Curators of the University of Missouri in the performance of classified contracts for the Department of Defense or User Agencies awarded to the Curators of the University of Missouri, and need not be processed for a personnel security clearance:

June 24, 2021



Collected Rules and Regulations 520.010  
Benefit Programs

Executive Summary

The COVID-19 Relief Bill allows for the University to implement provisions for flexible spending account plans that allow flexibility for employees and is no additional cost to the University. Below is a summary of the relevant changes in federal law and administration's recommendation for corresponding changes to the University's flexible spending account plans:

**Flexible Spending Account COVID-Relief Bill**

On December 27, 2020 President Trump signed the COVID-19 Relief Bill passed by Congress. The provisions in the bill affecting health and dependent care flexible spending accounts (FSAs) are discretionary – not mandatory. There are multiple provisions that employers can choose to implement. Employers have until December 31, 2021 to implement the provisions.

- **Grace Period Extension for Health Care Flex Spending Accounts**

The grace period can be extended through December 31, 2021 for the 2020 plan year.

Recommend extending the grace period for health care FSAs. Employees will have until December 31, 2021 to submit charges for remaining 2020 funds. Terminated participants would also be able to take advantage of this extension since we are recommending they be allowed to spend down their unused contributions. This option is available for health care FSA's only due to not having the grace period implemented for dependent day care FSAs in 2020.

- **Add Grace Period to Dependent Care Flex Spending Accounts**

The grace period extends coverage 2.5 months after the end of the plan year, therefore employees would have through March 15<sup>th</sup> (a total of 14.5 months) to incur eligible expenses for the plan year.

Recommend making this change effective January 1, 2021 with a grace period effective annually to March 15 of the following year.

There is no risk exposure to the Plan. All contributions taken during the plan year will have already occurred, and employees can only be reimbursed up to the amount contributed. However, this option should result in the reduction of forfeitures.

- **Allow terminated Health FSA participants from the 2020 plan year to spend down their unused contribution balance for expenses incurred through the remainder of the plan year, including the grace period**

A terminated Health Care FSA participant is anyone who stopped contributing to their Health Care FSA during the 2020 plan year. This could be due to a change in election to stop contributions, a termination of employment, or going on unpaid layoff or other unpaid leave of absence.

Recommend implementing this provision as the ongoing pandemic set in after employees made their annual elections for the 2020 plan year. With the continued uncertainty throughout the 2020 plan year, many employees were unable to use those funds.

There is no further risk exposure to the Plan. All contributions taken during the plan year will have already occurred. However, this option should result in the reduction of forfeitures.

- **Allow Prospective Changes to 2021 FSA Elections without a Qualifying Event**

We may also allow employees to make prospective changes to their 2021 election without a qualifying change in status event. This would allow participants that were unaware of the extension of the grace period occurring to reduce their current election. This would also allow participants that may now feel comfortable seeing a provider to set aside monies on a pretax basis to pay for those expenses.

Recommend allowing employees to make prospective changes to 2021 elections without a qualifying event with the following caveats: Do not allow a Health Care FSA participant to reduce an election to less than the amount already reimbursed.

The risk exposure to the Plan can be controlled by implementing the caveats recommended. This option may, however, result in the reduction of forfeitures.





## Current and Proposed Flexible Spending Account Plan Language

### Grace Period Extension for Health Care Flex Spending Accounts

- **Current:** The University Health Care FSA has a 2.5-month Grace Period (through March 15 of the following year), which allows you extra time to incur expenses to use your flexible spending health care balance after the close of the plan year. The Dependent Care FSA does not have the extended period of coverage, so those expenses must be incurred during the plan year.
- **Proposed:** The University Health Care FSA has a 12-month extended Grace Period (through December 31, 2021) which allows you extra time to incur expenses to use your 2020 flexible spending health care balance after the close of the plan year. For 2021 health care expenses, the University Health Care FSA has a 2.5-month Grace Period (through March 15 of the following year), which allows you extra time to incur expenses to use your flexible spending health care balance after the close of the plan year.

### Add Grace Period to Dependent Care Flex Spending Accounts

- **Current:** The Dependent Care FSA does not have the extended period of coverage, so those expenses must be incurred during the plan year.
- **Proposed:** The University Dependent Care FSA has a 2.5-month Grace Period (through March 15 of the following year), which allows you extra time to incur expenses to use your flexible spending dependent care balance after the close of the plan year.

### Allow terminated Health Care FSA participants to spend down their unused contribution balance for expenses incurred through the remainder of the plan year, including the grace period

- **Current:** You will have until April 15 of the year following your termination of participation to submit expenses for the Health Care FSA. You may include any expenses incurred up to the end of the month in which your flexible spending account deduction/(s) terminates. You may not be reimbursed for expenses incurred after this date unless you continue your health care deposits by making direct payments to the University's COBRA Administrator on a post-tax basis.
- **Proposed:** You will have until December 31, 2021 to submit expenses for your 2020 unused contribution balance in the Health Care FSA. For 2021 expenses, you will have until April 15 of the year following your termination of participation to submit expenses for the Health Care FSA. You may include any expenses incurred up to the end of the month in which your flexible spending account deduction(s) terminates. You may not be reimbursed for expenses incurred after this date unless you continue your health care deposits by making direct payments to the University's COBRA Administrator on a post-tax basis.

**Allow Prospective Changes to 2021 FSA Elections without a Qualifying Event**

- **Current:** No election changes can occur without a qualifying change in status event.
- **Proposed:** You may, during calendar year 2021 and on a prospective basis only, make a new election, increase or decrease an existing election or revoke an existing Health Care FSA or Dependent Care FSA. However, if you are currently enrolled in a Health Care FSA, you cannot revoke or decrease your current annual election to an amount less than the amount that you have already been reimbursed for the 2021 Plan Year. This change is only applicable to the 2021 Plan Year. If you cease all contributions to the Health Care FSA prior to the end of the 2021 Plan Year, your coverage will terminate on the last day of the month in which your last contribution was made.

# FINANCE COMMITTEE

The Finance Committee (“Committee”) oversees the fiscal stability and long-term economic health of the University. The Committee will review and recommend policies to enhance quality and effectiveness of the finance functions of the University.

## I. Scope

In carrying out its responsibilities, the Committee monitors the University’s financial operations, fundraising performance, debt level, capital priorities and investment performance; requires the maintenance of accurate and complete financial records; and maintains open lines of communication with the Board about the University’s financial condition.

## II. Executive Liaison

The Vice President for Finance of the University or some other person(s) designated by the President of the University, with the concurrence of the Board Chair and the Committee Chair, shall be the executive liaison to the Committee and responsible for transmitting committee recommendations.

## III. Responsibilities

In addition to the overall responsibilities of the Committee described above and in carrying out its responsibilities, the charge of the Committee shall include

- A. Reviewing and making recommendations to the Board on the following matters:
  1. University operating budget and financial plan;
  2. University capital budget and master facility plans;
  3. capital projects;
  4. tuition, fees and housing rates;
  5. state appropriation requests;
  6. pursuant to applicable Collected Rules and Regulations, contracts and reports;
  7. insurance brokers and self-insurance programs;
  8. pursuant to applicable Collected Rules and Regulations, real estate sales, purchases, leases, easements and right-of-way agreements;
  9. the issuance of debt;
  10. asset allocation guidelines and other policies related to the University’s investment management function; and
  11. additional matters customarily addressed by the finance committee of a governing board for an institution of higher education.
- B. Providing governance oversight to:
  1. long-range financial planning strategies;
  2. fundraising and development strategies;
  3. total indebtedness and debt capacity of the University;
  4. the investment portfolio performance; and
  5. the financial condition of the pension fund.
- C. Reviewing periodic reports including:
  1. quarterly and year-end financial reports that measure the University’s fiscal condition;
  2. annual purchasing reports on bids and equipment leases;
  3. quarterly debt-management reports;
  4. quarterly and year-end investment performance reports;
  5. semi-annual reports on development and fundraising activities; and
  6. other financial reports as requested by the Committee.

## Master Plan UMKC

The University of Missouri-Kansas City requests approval of the 2021 Campus Master Plan.

In accordance with the University of Missouri Collected Rules and Regulations 70.060, each campus is required to bring updated Campus Master Plans for approval to the Board of Curators every five years, or when significant changes are proposed. The 2021 Campus Master Plan builds upon previous Master Plans and recent projects and integrates the 2018-2028 Strategic Planning pillars into a unified, flexible framework to guide the future growth and development of the campus within the context of the University of Missouri's compacts.

### Vision Statement:

UMKC aspires to be an exemplary public urban research university of the 21st Century, pursuing excellence as a human-centric learning and discovery community, fostering equity, diversity and inclusion to enrich the lives of the people and regions we serve.

### Mission Statement:

As an urban research university, our mission at the University of Missouri-Kansas City is to promote learning through the discovery, preservation and dissemination of knowledge of public value across a broad spectrum of disciplines and fields of study. UMKC celebrates the individual and embodies diversity and inclusion by intertwining these goals with innovation to enable transformational impact aimed at bringing cultural, social, health and economic prosperity to the metropolitan, regional and global communities we serve.

### Strategy Statement:

In accord with the UMKC Strategic Plan 2018-2028, UMKC commits to build a model public urban research university for the 21st century by providing:

- Transformational undergraduate and graduate education
- Transformational solutions to grand challenges via discovery
- Transformational enhancements to social, cultural, health and economic prosperity

Our foundational commitment is to support the personal and professional development of our faculty and staff. This foundation supports five pillars through which we will achieve transformation:

1. Provide exceptional student learning, success and experience
2. Become a thriving discovery enterprise
3. Transform our community and region with impactful engagement
4. Foster an environment of invigorating multiculturalism, globalism, diversity and inclusion
5. Develop a strong and resilient people, process and physical infrastructure

### 2021 Master Plan:

As a student-centered urban university, serving our mission of learning, discovery, research and service, the 2021 Master Plan responds to and reflects the goals of the 2018-2028 UMKC Strategic Plan. The planning process included robust engagement utilizing stakeholder meetings, focus groups, surveys, interactive presentations and open houses with UMKC and community stakeholders.

The 2021 Master Plan is guided by five planning principles which support our community and create a campus that is more sustainable, welcoming and uniquely UMKC. Building off a rich history of planning, the plan addresses the key issues and opportunities facing the campus today with a forward-looking vision to respond to the competitive higher education climate. The plan provides a flexible planning framework that can adapt to future needs and guide the development of the campus over time. Specific recommendations tie back to these planning principles:

#### **Student Success: Promote professional and social mobility for all learners**

- Student Success highlights opportunities that will directly impact the academic, health, wellness, and everyday experience of students on campus. Renovations to academic facilities and outdoor spaces, enhanced collaboration spaces and additional housing, recreation, wellness, and student support spaces are key to promoting professional and social mobility for all learners. The goal is to create a vibrant, fun environment that results in a sense of pride from the UMKC community.

#### **Identity and Connectivity: Celebrate UMKC's unique identity and role as an anchor institution in Kansas City**

- With two campus locations, we need to strengthen the collective UMKC identity through enhanced gateways, signage and streetscapes that tie the campuses together and to the Kansas City community. We will leverage the streetcar terminus and better connect the campus east-west bridging to the surrounding neighborhoods and community.

#### **Physical Environment: Elevate the quality and condition of buildings, landscape and streetscape**

- Establishing a campus heart for each campus that promotes vibrancy and collaboration is a central part of the plan. These central spaces are supported by enhanced movement systems, distinct intersections and crosswalks, more active open spaces, and renovated buildings with strategic additions.

#### **Impactful Engagement: Advance engagement for the benefit of the community and the university**

- Impactful engagement focuses on opportunities that benefit both the university and the community. These include campus open space, arts, athletics, clinics, academic and outreach programs to provide transformational enhancements to social, cultural, health

and economic prosperity. Near-term opportunities include food-truck rallies, farmers markets and mixed-use development.

**Resiliency and Stewardship: Ensure stewardship of UMKC’s mission, facilities and campus community**

- Resiliency and stewardship are woven into all planning recommendations with a focus on social equity, sustainability, accessibility, fiscal responsibility and economic development. Sustainable practices include renovating existing buildings, incorporating green infrastructure and stormwater management in active landscapes and parking lots, native plantings, providing infrastructure for bus, bike, and pedestrian mobility, electric charging stations and solar power.

No. 1

Recommended Action - Master Plan, UMKC

It was recommended by Chancellor Agrawal, endorsed by President Choi, recommended by the Finance Committee, moved by Curator \_\_\_\_\_ and seconded by Curator \_\_\_\_\_, that the following action be approved:

that the 2021 University of Missouri-Kansas City Campus Master Plan be approved.

Roll call vote Finance Committee	YES	NO
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Curator Graves  
Curator Hoberock  
Curator Layman  
Curator Williams

The motion \_\_\_\_\_.

Roll call vote Full Board:	YES	NO
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Curator Brncic  
Curator Chatman  
Curator Graham  
Curator Graves  
Curator Hoberock  
Curator Holloway  
Curator Layman  
Curator Wenneker  
Curator Williams

The motion \_\_\_\_\_.

June 24, 2021



UM Fiscal Year 2022 Operating Budget  
UM

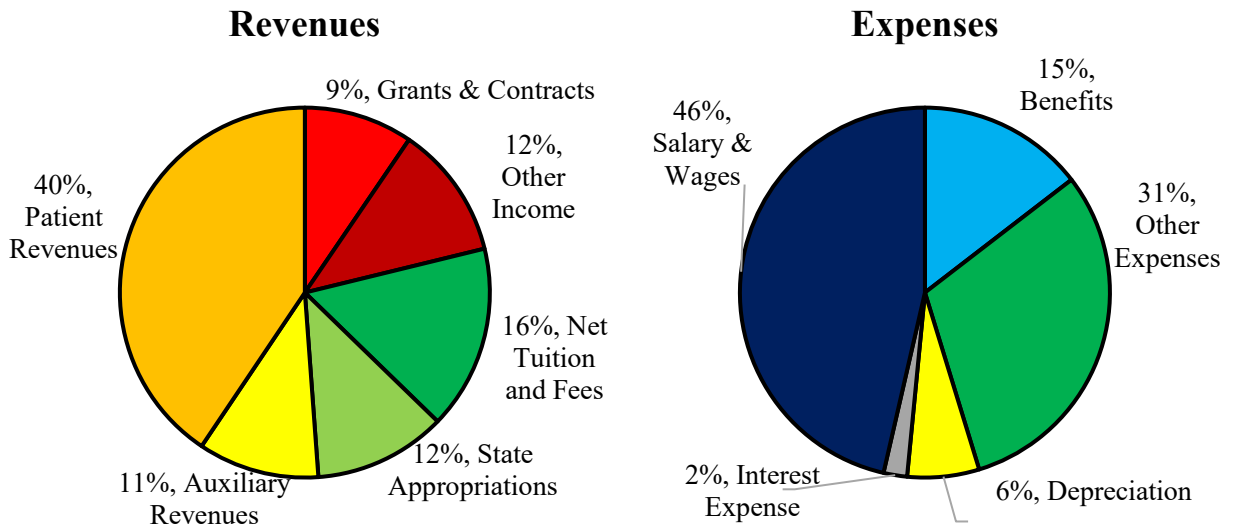
At the June 24, 2021 Board of Curators Meeting, Vice President for Finance Ryan Rapp will present the FY 2022 budget. The FY 2022 budget reflects the culmination of planning efforts undertaken by each institution throughout the spring. With the pandemic stabilizing, the University’s FY 2022 budget represents a return to more stable operations.

The FY 2022 all funds revenue budget is \$3.7 billion. The following table shows the FY 2022 revenue budget by revenue source (\$’s presented in millions).

FY 2022 Revenue Budget	MU		MO			UM		University	Total
	MU	Healthcare	UMKC	S&T	UMSL	System	Wide Units		
Net Tuition and Fees	\$ 251.8	\$ -	\$ 138.2	\$ 56.6	\$ 69.9	\$ (0.1)	\$ -	\$ 516.4	
Federal Pell Grants	24.0	-	12.8	5.8	13.5	-	-	56.1	
Government Aid Funding	14.0	-	4.0	5.0	3.7	-	-	26.7	
State Appropriations	228.0	-	78.0	53.4	60.5	1.8	9.5	431.2	
CARES Funding	21.6	-	10.6	7.2	10.7	-	-	50.1	
Grants & Contracts	237.9	-	53.6	38.7	24.3	-	-	354.5	
Auxiliary Revenues	272.5	23.5	40.6	21.9	15.4	20.6	-	394.5	
Patient Revenues	278.1	1,195.7	38.0	-	0.1	-	-	1,511.9	
Private Gift Revenues	35.1	0.7	11.6	14.7	11.1	0.1	-	73.3	
Endowment & Investment	108.2	-	15.6	17.1	11.2	6.9	66.6	225.6	
Other Income	49.4	-	17.0	3.0	2.0	4.6	9.7	85.7	
<b>Total Revenue</b>	<b>\$ 1,520.6</b>	<b>\$ 1,219.9</b>	<b>\$ 420.0</b>	<b>\$ 223.4</b>	<b>\$ 222.4</b>	<b>\$ 33.9</b>	<b>\$ 85.8</b>	<b>\$ 3,726.0</b>	

**FY 2022 All Funds Budget**

The pie chart on the left indicates major sources of revenues for the University of Missouri. The unrestricted portion of the academic enterprise represents 39% of available funds consisting of auxiliaries, tuition, and state support. Healthcare continues to grow and represents another 40% of revenues. The remaining 21% is spread largely across restricted sources, such as gifts, endowment distributions and grants. The chart on the right shows that 61% of the total budget is spent for compensation, 6% for depreciation and 33% of all other types of expenditures. Compensation remains the largest expense for the University.



## Next Steps

After the FY 2022 budget process, each university will spend the fall completing the five-year financial plans and financial performance targets to be presented at the February Board of Curators Meeting. The financial plan serves as the link between the strategic plan, capital plan, and operating budget and also serves as the time to reset financial performance targets as codified in Collected Rule 140.025. The financial planning process will focus each University on ensuring their strategy is built upon sustainable financial performance, including connecting their key academic initiatives and financial drivers to actionable plans with quantified financial results. The financial plan will serve as the foundation to post-pandemic budgets.

Through the coming fall, each University will work on developing detailed plans for new tuition models and vet those plans with relevant constituencies. The universities will work on their specific transition and implementation plans, with a planned presentation to the Board for approval in the spring of 2022. The first possible semester of implementation for any model changes would be fall of 2023, but some universities may desire to wait longer to allow for further communications and planning for students recruited into the new model.

The FY 2022 budgets were built in the middle of the pandemic, with the expectation that financial performance at each university should balance within available revenues, however, revenue growth contained within the FY 2022 budget will not be sustainable over the long-run. The state budget will face challenges upon the expiration of federal stimulus and the potential implementation of Medicaid expansion. Market pressures in public higher education will force public institutions to better link degree outcomes with prices. Across the board tuition increases will be difficult in the future, and students will demand more pricing transparency and predictability in relation to their public education. Each University will need to develop a better understanding of their degrees across student demand, contribution to the university's finances, and the relationship of the degree to the mission.

Attached is the recommended action followed by supporting narrative and FY 2022 summary budgets by fund group by campus.

No. 2

Recommended Action - UM Fiscal Year 2022 Operating Budget, UM

It was recommended by the respective Chancellors, endorsed by President Choi, recommended by the Finance Committee, moved by Curator \_\_\_\_\_ and seconded by Curator \_\_\_\_\_, that the following recommendations be approved:

- that the President of the University System be authorized to develop the FY 2022 budgets in accordance with the attached planning assumptions and financial summaries, which include the allocation of FY 2022 state appropriations less 3.0% statutory withholdings.
- that the President of the University System be authorized to: (a) make required changes to working capital and reserve funds and (b) make supplemental allocations within the funds available to several campuses and programs, such allocations to be made on the basis of priority and need. The President will report periodically to the Board of Curators any material changes in sources and uses of current funds;
- that the operating budget for FY 2022 and allocation as stated herein can be modified as necessary by the President to bring the same into harmony with the state appropriations as finally approved by the governor and any withholdings in excess of those shown above.

Roll call vote Finance Committee:	YES	NO
Curator Graves		
Curator Hoberock		
Curator Layman		
Curator Williams		

The motion \_\_\_\_\_.

Roll call vote:	YES	NO
Curator Brncic		
Curator Chatman		
Curator Graham		
Curator Graves		
Curator Hoberock		
Curator Holloway		
Curator Layman		
Curator Wenneker		
Curator Williams		

The motion \_\_\_\_\_

June 24, 2021

## **FY 2022 University of Missouri Budget**

The FY 2022 budget plans reflects the actions necessary for each institution to emerge from the pandemic. For the first time since 2016, the University's FY 2022 operating budget reflects growth in net tuition and fees, state appropriations, and grants and contracts. The FY 2022 budget also includes continued positive performance by MU Healthcare. Overall, expenses for FY 2022 are budgeted to grow within available revenues, maintaining a consolidated operating margin above the 5% target set via the 2019 financial planning process.

Each University's budget reflects their specific circumstances, and the planning guidelines issued reminded each university that federal and other stimulus funding was one-time in nature and should only be used for one-time spending. Each university has been challenged to only add permanent cost structures to areas where they see sustained revenue growth. Each university has submitted a budget above break-even. The FY 2022 budget does not solve for the long-term goals or the strategies of each institution.

The pandemic disrupted the typical recruiting cycle for the fall 2022 freshman class, making the first-time freshman class a difficult cohort to predict. Enrollment related revenue budgets are based upon the best available data from May, which is historically a strong indicator of opening day enrollments. Final enrollments will be monitored closely and budget adjustments will be made if necessary.

Assumptions around federal and state revenue streams have solidified as the state and country start to move past the worst parts of the pandemic. Significant federal stimulus has provided the universities with a buffer to adapt to the changes. The stimulus funding filled in lost revenues and covered increased costs in preparing each campus for safe in-person learning.

### **The Purpose of a University's Budget**

The Board approves the annual budget, monitors the university's financial condition, and sets policy guidelines affecting the use of assets. Leadership prepares the operating budget, provides the board with quarterly updates on financial performance against the approved budget, and operates the institution within the Board's defined policy framework. A key component of the financial health of any institution is the commitment of the institution's leadership to sound financial management and the board holding leadership accountable for maintaining the institution's financial health. The budget serves as the guide to help each institution plan for the future as well as assess current financial health. The Board approved budget serves as the guide for the year, as the assumptions underlying the budget may change throughout the year causing management to make adjustments to maintain the financial health of the institution.

The key metric on each University's Statement of Revenues, Expenditures, and Changes in Net Position is the "operating margin" on line 23. The operating margin reflects management's ability to balance operating expenses within revenues in a given year. A positive operating margin indicates available revenues exceed annual operating expenses.

For FY 2022, each university built a budget to balance expenditures within available revenues in the midst of the pandemic. The financial planning process will be completed in the Fall of 2021 to begin tying together desired strategic outcomes with aligned financial and capital plans.

### **Rating Agency Outlook**

Moody's updated the higher education market outlook from "negative" to "stable" noting improved revenue forecast over the next year and half. Moody's notes the following key factors in their outlook revision release from March 2021:

*Return to campus in fall 2021 expected to increase tuition and auxiliary revenue.* The expectation campus presence will increase in comparison to prior fall, will drive revenue growth in housing and dining and other student auxiliary operations. However, there is still an unpredictability in enrollment yield rates due to the atypical recruiting cycle and test-optional admissions.

“Additionally, the typical recruiting cycle was interrupted for fall 2021, and the move to test-optional admissions has significantly shifted student application patterns, leading to difficulty in predicting yield rates for fall 2021. Data on the Free Application for Federal Student Aid (FAFSA) indicates that overall applications are down over 9% through March 5, with 43.1% of high school seniors completing the form compared to 47.2% the prior year. In particular, applications from lower income Title I high school students are down over 12%, compared to a 6.5% decline from Title I ineligible schools, highlighting that access-oriented colleges stand to face greater enrollment disruptions headed into fall 2021.”

*Federal government relief funds subsidized pandemic-related revenue loss and expense increases.* Government relief funds provided additional budgetary support for the pandemic related revenue disruption and unbudgeted expenses related to reopening the universities and infrastructure to support remote learning. In addition to the American Rescue Plan Act funding Moody's noted:

“For research-intensive institutions, the environment for research funding is likely to remain positive. In fiscal 2021, for example, funding to the National Institutes of Health increases by 3% and to the National Science Foundation by 2.5%. Funding is unlikely to be reduced in fiscal 2022.”

*State economies recover with assistance from the American Rescue Plan Act.* The risk of material state appropriation withholds or cuts for public institutions has decreased as revenue forecasts for the current fiscal year and fiscal year 2022 indicate stronger than expected tax collection and additional federal fiscal stimulus funding.

*Financial market strength support philanthropy and endowments.* Moody's report noted:

“Improved economic growth prospects in the second half of 2021 will enhance families' ability to pay tuition and bolster philanthropic donations. Moody's upgraded its forecast for economic growth in 2021 to 4.7% from

4.2% and for 2022 to 5.0% from 3.9%, in part reflecting the support for consumers from the federal fiscal stimulus and the vaccine rollout.”

Financial market performance will continue to remain volatile, however strong market performance typically correlates with an increase in philanthropy.

Moody’s outlook reflects the significant inflow of funding which institutions are expected to receive over the next fiscal year. The stable outlook is driven by these one-time funding sources which have short life span. In order to continue to maintain a stable the outlook institution must focus on recurring revenue sources from tuition and auxiliary revenue. The industry outlook could once again shift negative if the public health crisis accelerates in 2022 or 2023. Other factors that could lead to worsening outlook include a deterioration in macroeconomic conditions supporting state and federal budgets or a significant disruption in the financial markets. There is a high dependency on federal policy, any changes could add significant volatility to universities budgets.

S&P kept a negative outlook for U.S. not-for profit higher education sector. S&P issued their rating in January as there was still uncertainty surrounding federal policy and support and vaccinations. The report indicated:

“While many schools were having difficulty meeting enrollment and revenue targets pre-COVID, the pandemic has exacerbated those pressures, and has forced a fundamental shift in business models for all. The effectiveness of vaccination will be critical to in-person class resumption, but challenges facing the industry are not affecting all schools equally. Schools with weaker demand and financial profiles will have less operating flexibility and could face credit deterioration.”

### **FY 2022 Planning Process**

Each university submitted a budget above the breakeven minimum guidance issued in the midst of the pandemic. Risks in the current budget center around fall 2022 enrollments. The future success of each University depends on their ability to understand the market for degree programs, the margin on those degree programs, and the connection of each degree program and department to the University’s research and public service missions.

The summaries that follow show both the revenue and expense plans for each university and the consolidated system. Financial results will be presented using the Moody’s framework in four columns:

- FY 2019 Actuals: actual performance for FY 2019
- FY 2020 Actuals: actual performance for FY 2020.
- FY 2021 Projected: projected performance for FY 2021, which includes performance through April with a projection for the final two months to close.
- FY 2022 Budget: budgets completed for FY 2022.

## Consolidated Summary

### Schedule 1: University of Missouri System FY 2022 Budget (Dollars in Thousands) Simplified View Statement of Revenues, Expenses, and Changes in Net Position - non-GAAP – Unaudited

Line No.		Actuals FY 2019	Actuals FY 2020	Projected FY 2021	Budget FY 2022
<b>Operating Revenues</b>					
1	Tuition and Fees	\$ 857,456	\$ 873,335	\$ 876,140	\$ 901,264
2	Less Scholarship Allowances	333,682	353,141	376,711	384,847
3	<b>Net Tuition and Fees</b>	<b>523,774</b>	<b>520,194</b>	<b>499,429</b>	<b>516,417</b>
4	Federal Pell Grants	56,595	54,480	54,420	56,100
5	Government Scholarship Funding	33,551	29,038	26,941	26,670
6	Institutional CARES Act Funding	-	14,520	114,245	50,012
7	Grants and Contracts	309,500	323,688	335,619	354,573
8	Auxiliary Enterprises	408,320	374,961	360,714	394,496
9	Patient Medical Services, Net	1,345,638	1,355,094	1,463,139	1,511,908
10	Other Operating Revenues	69,763	65,576	58,039	57,251
11	State Appropriations	408,797	364,412	420,853	431,213
12	Federal Appropriations	27,026	27,108	28,082	28,454
13	Private Gifts	85,809	71,003	57,507	73,337
14	Spendable Investment Income (Moody's)	194,567	210,100	223,586	225,603
15	<b>Total Operating Revenues</b>	<b>3,463,340</b>	<b>3,410,174</b>	<b>3,642,574</b>	<b>3,726,034</b>
<b>Operating Expenses</b>					
16	Salaries and Wages	1,547,032	1,588,345	1,548,052	1,639,017
17	Benefits	461,479	481,679	481,575	512,664
18	Supplies, Services and Other Operating Expenses	1,020,750	975,374	1,033,377	1,079,916
19	Depreciation	203,860	207,216	214,217	221,136
20	Interest Expense	65,058	63,282	71,108	72,390
21	<b>Total Operating Expenses</b>	<b>3,298,179</b>	<b>3,315,896</b>	<b>3,348,329</b>	<b>3,525,123</b>
22	<b>Net Operating Income</b>	<b>165,161</b>	<b>94,278</b>	<b>294,245</b>	<b>200,911</b>
23	<b>Net Operating Margin</b>	<b>4.8%</b>	<b>2.8%</b>	<b>8.1%</b>	<b>5.4%</b>
<b>Nonoperating Revenues (Expenses)</b>					
24	Investment Income (Losses), Net of Fees	194,426	31,857	285,151	195,268
25	Spendable Investment Income (Moody's)	(194,567)	(210,100)	(223,586)	(225,603)
26	Other Nonoperating Revenues (Expenses)	210	31,409	6,434	534
27	State Capital Appropriations	-	-	-	21,000
28	Capital Gifts and Grants	67,106	40,648	37,501	55,489
29	Private Gifts for Endowment Purposes	30,524	45,916	42,142	31,766
30	Pension and OPEB Impact on Income Statement	(96,094)	(104,906)	(80,000)	(100,000)
31	Mandatory Transfers	-	-	-	-
32	Non-Mandatory Transfers	-	-	-	-
33	<b>Net Nonoperating Revenues (Expenses)</b>	<b>1,605</b>	<b>(165,176)</b>	<b>67,642</b>	<b>(21,546)</b>
34	<b>Increase in Net Position</b>	<b>166,766</b>	<b>(70,898)</b>	<b>361,887</b>	<b>179,365</b>
35	<b>Net Position, Beginning of Year</b>	<b>4,725,967</b>	<b>4,890,236</b>	<b>4,852,418</b>	<b>5,214,305</b>
36	Cumulative Effect of Change in Accounting Principle	(2,497)	33,080	-	-
37	<b>Net Position, Beginning of Year, Adjusted</b>	<b>4,723,470</b>	<b>4,923,316</b>	<b>4,852,418</b>	<b>5,214,305</b>
38	<b>Net Position, End of Period</b>	<b>\$ 4,890,236</b>	<b>\$ 4,852,418</b>	<b>\$ 5,214,305</b>	<b>\$ 5,393,670</b>

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As schedule 1 demonstrates, the University projects revenues to increase over FY 2020 by 9% and grow over the projection for FY 2021 by 2%:

- Net Tuition Revenues are projected to grow by 3% or \$18.4M year over year, additional discussion is provided for each institution. In addition, Federal Pell Grants (line 4) and Government Scholarship Funding (line 5) represent amounts provided to the University as additional aid to students. The long-term success of the academic enterprise is dependent on successful growth these revenue streams.
- CARES Act Funding as presented on line 6 of the income statement represents federal stimulus funding awarded which allowed the university to recover increased expenses related to reopening the universities, supported infrastructure for remote learning, and recovered lost revenues stemming from the pandemic. \$29.4M of CARES funding is allocated to Net Tuition and Fees, included in line 2, to off-set financial aid grants to students awarded as part of the federal stimulus package.
- State Appropriations are budgeted at the amount Truly Agreed and Finally Passed (TAFP) by the legislature for the 2021 legislative session. Appropriations for capital projects (HB19) are reported as “State Capital Appropriations” on line 27.
- Discussions around remaining operating revenues will be provided for each unit.

The University’s operating expenses are projected to increase over FY 2020 by 6% and grow over the projection for FY 2021 by 5%:

- Discussions of operating expenses related to Salaries and Wages, Supplies Services and Other, Depreciation, and Interest expenses are included in the section for each university that follows.
- Benefits are projected to grow in line with the growth in Salaries and Wages. Benefits remain an area that will apply upward pressure on the institution’s costs over the long-term. Contributions for the pension plan will increase over the coming years to fund the pension liability based upon the current funding policy. The Board will review and approve pension assumptions and funding plans during FY 2022. Benefits budgets also reflect a 5% decrease in medical costs as a result of the medical plan changes implemented for calendar year 2022. Additional areas of increase include unemployment insurance from the high level of personnel actions taken by the University to deal with the pandemic in FY 2021 and FY 2022. In total, the benefits expense grew due to increased contributions necessary for retirement offset by the changes to the medical plan. The University will continue to manage benefit costs with a focus towards market competitiveness and manage costs in line with the corresponding labor market.



**MU**

MU's FY 2022 budget reflects the institution's emergence from the pandemic. In FY 2020 and FY 2021, MU took the necessary actions to balance budgets and protect resources to respond to the unknown aspects of the budget. MU's budget carries forward the necessary permanent actions into the FY 2022 budget and invests the revenue growth in the key priorities of research growth, student success, and academic excellence.

**Schedule 2: MU FY 2022 Budget (Dollars in Thousands)**

Simplified View Statement of Revenues, Expenses, and Changes in Net Position - non-GAAP - Unaudited

Line No.		Actuals FY 2019	Actuals FY 2020	Projected FY 2021	Budget FY 2022
<b>Operating Revenues</b>					
1	Tuition and Fees	\$ 419,279	\$ 432,603	\$ 441,051	\$ 458,111
2	Less Scholarship Allowances	171,671	184,088	201,048	206,306
3	Net Tuition and Fees	247,608	248,515	240,003	251,805
4	Federal Pell Grants	21,702	22,520	22,620	24,000
5	Government Scholarship Funding	18,955	14,894	13,272	14,000
6	Institutional CARES Act Funding	-	7,711	55,132	21,600
7	Grants and Contracts	210,471	219,499	225,345	237,887
8	Auxiliary Enterprises	274,339	258,060	248,361	272,541
9	Patient Medical Services, Net	246,068	256,272	267,673	278,123
10	Other Operating Revenues	38,916	39,309	30,631	30,763
11	State Appropriations	208,149	188,295	218,723	228,028
12	Federal Appropriations	17,198	17,237	18,256	18,542
13	Private Gifts	43,752	37,864	30,408	35,069
14	Spendable Investment Income (Moody's)	88,646	94,453	96,637	108,241
15	<b>Total Operating Revenues</b>	<b>1,415,804</b>	<b>1,404,629</b>	<b>1,467,061</b>	<b>1,520,599</b>
<b>Operating Expenses</b>					
16	Salaries and Wages	785,164	814,562	789,103	833,801
17	Benefits	216,353	226,984	233,000	256,687
18	Supplies, Services and Other Operating Expenses	281,558	261,487	245,728	277,934
19	Depreciation	87,245	88,849	91,848	92,735
20	Interest Expense	29,432	29,582	36,187	32,398
21	<b>Total Operating Expenses</b>	<b>1,399,752</b>	<b>1,421,464</b>	<b>1,395,866</b>	<b>1,493,555</b>
22	<b>Net Operating Income</b>	<b>16,053</b>	<b>(16,835)</b>	<b>71,195</b>	<b>27,044</b>
23	<b>Net Operating Margin</b>	<b>1.1%</b>	<b>-1.2%</b>	<b>4.9%</b>	<b>1.8%</b>
<b>Nonoperating Revenues (Expenses)</b>					
24	Investment Income (Losses), Net of Fees	63,863	20,366	163,652	106,260
25	Spendable Investment Income (Moody's)	(88,646)	(94,453)	(96,637)	(108,241)
26	Other Nonoperating Revenues (Expenses)	967	12,529	6	506
27	State Capital Appropriations	-	-	-	16,000
28	Capital Gifts and Grants	24,304	14,304	19,907	21,216
29	Private Gifts for Endowment Purposes	22,141	39,237	28,200	25,450
30	Mandatory Transfers	61	(4,677)	-	-
31	Non-Mandatory Transfers	27,828	56,938	31,667	30,117
32	<b>Net Nonoperating Revenues (Expenses)</b>	<b>50,518</b>	<b>44,244</b>	<b>146,795</b>	<b>91,308</b>
33	<b>Increase in Net Position</b>	<b>66,571</b>	<b>27,409</b>	<b>217,990</b>	<b>118,352</b>
34	<b>Net Position, Beginning of Year</b>	<b>2,868,042</b>	<b>2,932,281</b>	<b>2,970,602</b>	<b>3,188,592</b>
35	Cumulative Effect of Change in Accounting Principle	(2,332)	10,912	-	-
36	<b>Net Position, Beginning of Year, Adjusted</b>	<b>2,865,710</b>	<b>2,943,193</b>	<b>2,970,602</b>	<b>3,188,592</b>
37	<b>Net Position, End of Period</b>	<b>\$ 2,932,281</b>	<b>\$ 2,970,602</b>	<b>\$ 3,188,592</b>	<b>\$ 3,306,944</b>

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MU's FY 2022 budget reflects a 1.8% operating margin. Key drivers for revenue growth include increasing enrollments and a return to normal operations for auxiliary operations. Key drivers of expense growth include investments to improve the faculty and production of research; both key factors in academic excellence.

### **Operating Revenues:**

The biggest driver of the University's overall revenues related to the academic enterprise is enrollment which drives both teaching revenues and the majority of auxiliary enterprises. Lines 1-5 of from Schedule 2 above are summarized in Schedule 3 below with the key drivers. Other key areas of revenue for MU include:

- Institutional CARES Act Funding reflects the additional funding available from the Higher Education Emergency Relief Fund (HEERF) from the third round of stimulus passed in the Spring of 2021. Full guidance on this funding has not been issued by the Department of Education as of May 2021, and the University budgeted the full amount of funding in FY 2022. Depending on the funding restrictions, this amount could move across fiscal years. For financial statement presentation purposes student aid funded by the CARES Act is not included in the revenues as it is a direct flow through to students. These amounts total to \$7.7 million, \$8.1 million and \$21.6 million for fiscal years 2020, 2021, and 2022, respectively.
- Grants and Contracts are projected to increase by 6% over the prior year. MU is committed to improving research competitiveness and experienced a 7% growth in awards from FY 2020 to FY 2021. The budgeted revenue growth aligns with trends in proposals and awards as leading indicators of research expenditure growth.
- Auxiliary Enterprises revenues are budgeted to return to pre-pandemic levels. As more students returning to campus in the Fall and with capacity limits removed; venues operated by the University are back at full operations.
- Net Patient Medical Service revenues are projected to increase by \$10.4 million over projected FY 2021, representing a 4% growth. University Physicians continues to expand their primary care base and emergency medicine services. The School of Medicine anticipates a growth in volume coming out of the pandemic. The revenues from University Physicians fund the clinical compensation of the clinical portions of Medical School faculty appointments.
- State Appropriations are projected to increase by \$9.3 million over FY 2021 projection. The primary drivers of this increase include the reallocation of appropriations from UM System Administration to the campus, a line-item for the delta center in southeast Missouri, and a line-item for the law school veteran's clinic, and the MoExcels project for Clinical Engineering.
- Spendable Investment Income is projected to increase by \$11.6 million over FY 2021 projection. The primary driver of the increase is the reallocation of investment income previously provided to UM System Administration to fund operations. There is a corresponding increase in Supplies, Services, and Other for the UM System Administration charges to MU.

**Schedule 3: MU Net Tuition Revenue Detail**

	Actuals FY 2019	Actuals FY 2020	Projected FY 2021	Budget FY 2022
<b>Enrollment - Full-time Equivalent</b>				
Undergraduate				
<i>Resident</i>	15,956	16,044	17,101	17,545
<i>Non-Resident</i>	4,610	4,481	4,197	4,103
Total Undergraduate	20,566	20,525	21,298	21,648
Graduate/Professional	4,796	4,823	4,972	5,077
<b>Gross Tuition and Fees \$'s in thousands</b>				
Undergraduate Tuition				
<i>Resident</i>	\$ 132,539	\$ 143,242	\$ 158,248	\$ 171,632
<i>Non-Resident</i>	96,665	98,429	99,486	100,373
Total Undergraduate Tuition	229,204	241,671	257,734	272,005
Graduate/Professional Tuition	76,818	80,378	79,688	82,927
Undergraduate Supplemental Fees	37,849	41,171	44,629	45,319
Graduate/Professional Supplemental Fees	7,028	6,486	7,167	6,784
Activity and Facility Fees	16,622	16,913	17,647	19,304
Continuing Education Fees	47,568	42,118	30,709	28,689
Other Educational Fees	4,190	3,866	3,477	3,083
<b>Total Tuition and Fees (Line 1)</b>	<b>\$ 419,279</b>	<b>\$ 432,603</b>	<b>\$ 441,051</b>	<b>\$ 458,111</b>
<b>Aid Awarded by Institution \$'s in thousands</b>				
Unrestricted				
<i>Undergraduate</i>	\$ (71,574)	\$ (83,713)	\$ (97,574)	\$ (91,510)
<i>Graduate/Professional</i>	(33,098)	(33,804)	(32,806)	(36,088)
<i>Miscellaneous Aid</i>	(3,313)	(3,596)	(3,782)	(3,852)
Total Unrestricted Aid	(107,985)	(121,113)	(134,162)	(131,450)
Restricted Donor Aid				
<i>Undergraduate</i>	(12,413)	(12,515)	(21,143)	(23,707)
<i>Graduate/Professional</i>	(3,705)	(4,495)	(4,246)	(4,347)
Total Restricted Donor Aid	(16,118)	(17,010)	(25,389)	(28,054)
Restricted Non-Gift Aid/Waivers	(6,912)	(8,551)	(5,605)	(8,802)
Federal Pell Grant Aid	(21,702)	(22,520)	(22,620)	(24,000)
Government Scholarships	(18,955)	(14,894)	(13,272)	(14,000)
<b>Total Scholarship Allowances (Line 2)</b>	<b>\$ (171,671)</b>	<b>\$ (184,088)</b>	<b>\$ (201,048)</b>	<b>\$ (206,306)</b>
<b>Net Tuition and Fees (Line 3)</b>	<b>\$ 247,608</b>	<b>\$ 248,515</b>	<b>\$ 240,003</b>	<b>\$ 251,805</b>
<b>Federal Pell Grants (Line 4)</b>	<b>\$ 21,702</b>	<b>\$ 22,520</b>	<b>\$ 22,620</b>	<b>\$ 24,000</b>
<b>Government Scholarship Funding (Line 5)</b>	<b>\$ 18,955</b>	<b>\$ 14,894</b>	<b>\$ 13,272</b>	<b>\$ 14,000</b>

- The enrollment numbers presented in the schedule above represent projected fall census. MU is budgeting a fall undergraduate enrollment increase of 2% over prior year. As shown in the trends above, the goals and strategies put into place in 2019 enhanced student access and increased the undergraduate enrollment by 5% from Fall

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2019. Scholarship expense grew to reflect the need to invest to both grow enrollment and improve the overall quality of the incoming class. MU continues to see growth in graduate and professional degree programs.

- The gross tuition and fee budgeted amounts include rate increases approved by the Board in May 2021.
- The \$11.2M increase over FY 2020 in undergraduate restricted donor aid in FY 2021 and 2022 stems from the Promise & Opportunity Scholarship and Next Generation Merit Scholarship Programs that were both implemented as a part of the Missouri Compacts program.

## Operating Expenses

Overall, MU's operating expenses are projected to increase within revenue growth reflecting increased spending as the University emerges from the pandemic. Schedule 4 and 5 provides additional detail changes in Salaries and Wages and Supplies Services and Other for the FY 2022 budget.

### Schedule 4: MU Salaries and Wages Detail (Dollars in Thousands)

	Actuals FY 2019	Actuals FY 2020	Projected FY 2021	Budget FY 2022
<b>Salaries and Wages</b>				
<i>Teaching and Research</i>				
Unrestricted	\$ 324,243	\$ 331,574	\$ 335,549	\$ 345,636
Restricted (Gifts & Grants)	69,971	73,826	73,205	78,209
Total Teaching and Research Salaries	394,214	405,400	408,754	423,845
<i>Staff and Supporting Services</i>				
Operations and Service Operations	176,439	183,498	169,707	175,127
Auxiliary Enterprises	81,563	91,228	81,642	90,865
Patient Services	90,893	92,052	85,947	94,645
Restricted (Gifts & Grants)	42,055	42,384	43,053	49,319
Total Staff and Supporting Services Salaries	390,950	409,162	380,349	409,956
<b>Total Salaries and Wages (Line 16)</b>	<b>\$ 785,164</b>	<b>\$ 814,562</b>	<b>\$ 789,103</b>	<b>\$ 833,801</b>

### Salaries and Wages

- All wages for FY 2022 budget include the effect of a 2% performance-based merit and market raise pool.
- *Teaching and Research (Unrestricted)* represent faculty and teaching salaries funded from tuition and state appropriations is budgeted to increase by \$10.1 million from FY 2021 projection. The budgeted increase represents additional faculty and targeted investments to enhance the overall quality of the University's faculty. This increase in cost will provide additional teaching and research capacity providing students with access to additional course selections.
- *Teaching and Research (Restricted)* represent faculty and researcher salaries funded from grants and gifts. Spending on these salaries is contingent upon available revenues and is anticipated to increase by 7% or \$5.0 million from FY 2021 projection.

- *Operations and Service Operations* are budgeted to increase from FY 2021 projection, reflective of the 2% raise pool. In total, staff size will remain close to projected levels from FY 2021.
- *Auxiliary Enterprises* wages are budgeted to increase year over year by \$9.2 million. This increase is attributed to the increase in on-campus presence in Fall 2021 and represents a return to normal operations.
- *Patient Services* staff wages are budgeted to increase by \$8.7 million correlating with the growth in anticipated volumes. During the pandemic clinic positions were left vacant, with the anticipated expansion, these positions will need to be filled.
- *Staff (Restricted)* funded from grants and gifts are anticipated to increase by \$6.3 million or 13%. This compensation and workforce size is dependent on the availability of the related revenues to fund research.

**Schedule 5: MU Supplies, Services and Other Operating Expenses Detail (Dollars in Thousands)**

	Actuals FY 2019	Actuals FY 2020	Projected FY 2021	Budget FY 2022
<b>Supplies, Services and Other Operating Expenses</b>				
Operations and Service Operations	\$ 75,677	\$ 43,314	\$ 37,568	\$ 67,592
Auxiliary Enterprises	125,736	139,613	121,470	121,370
Patient Services	(23,674)	(28,838)	(16,806)	(28,631)
Restricted (Gifts & Grants)	85,375	80,846	80,557	87,277
Plant	18,444	26,553	22,940	30,326
<b>Total Supplies, Services and Other Operating Expenses (Line 18)</b>	<b>\$ 281,558</b>	<b>\$ 261,487</b>	<b>\$ 245,728</b>	<b>\$ 277,934</b>

Supplies, Services and Other Operating Expenses

- *Operations and Service Operations* expenditures are budgeted to increase \$30 million over FY 2021 projection, \$11.8 million is related to UM System expense allocation which is offset by \$14.8 million reallocated revenues to MU. Investments of \$5.4 million are include in the FY 2022 budget to support student success and academic excellence. Investments of \$5.7 for research support is also included in the FY 2022 budget to support research revenue and expenditure growth efforts.
- *Auxiliary Enterprises* expenditures are budgeted flat from FY 2021 projection. This budgeted amount is a reflection of the University no longer needing contracted quarantine space which is off-set by the increase expense from auxiliaries operating at pre-pandemic levels.
- *Patient Services* expenditures are presented as a negative expense as a charge to the Hospital for clinical services provided by University Physicians, including anesthesia coverage, call coverage, and other purchased services common in healthcare operations. The amount budgeted for FY 2022 is in line with funding received in FY 2020.
- *Restricted* expenditures funded from grants and gifts are anticipated to increase by 8% or \$6.7 million from FY 2021 projection, this increase correlates with the budgeted revenue growth in grants and contracts. These expenditures relate to the specific supplies and services needed by individual gift or grant agreements.
- *Plant* expenditures are projected to increase by \$7.4 million over prior year due to planned maintenance and repair (M&R) projects.

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## UMKC

In March of 2021, UMKC launched UMKC Forward, an initiative aimed at improving student success, faculty development, research, career expansion and community engagement. The plan calls for significant investment over five years; the FY 2022 budget earmarks \$10 million in funding for the first full year of this initiative.

Significant investments in student success included in the FY2022 budget are as follows:

- *Effective Advising* - the campus has centralized advising and invested additional funds to improve the student experience and path to graduation.
- *Professional Mobility Escalators* - a unique system of personalized support and services which will propel students from their academic studies to higher-paying careers. This system intended to improve retention, graduation and post-graduation outcomes for UMKC's students.
- *Director of Career Preparedness* position is being added to facilitate UMKC's professional mobility escalator goals and centralized advising.

UMKC Forward Faculty and Research Excellence, Career Expansion and Community Engagement investments include:

- *Center for Advancing Faculty Excellence (CAFE)* - which will feature a comprehensive program of mentoring, development opportunities and resources to support, attract and retain high quality and engaged faculty.
- Investments in increasing and improving research infrastructure.
- *Talentlink* - will improve UMKC's non-credit bearing course offerings to adult learners and corporations.
- *Grow Student Internships* - create opportunities to engage with the community

UMKC is committed to making strategic investments for the campus and student body. Utilizing the resources received in FY 2021 UMKC intends to continue to improve their operating margin so future investments can be made.

## Schedule 6: UMKC FY 2022 Budget (Dollars in Thousands)

### Simplified View Statement of Revenues, Expenses, and Changes in Net Position - non-GAAP - Unaudited

Line No.		Actuals FY 2019	Actuals FY 2020	Projected FY 2021	Budget FY 2022
<b>Operating Revenues</b>					
1	Tuition and Fees	\$ 189,699	\$ 196,383	\$ 195,012	\$ 201,326
2	Less Scholarship Allowances	59,821	61,230	61,685	63,157
3	Net Tuition and Fees	129,878	135,153	133,327	138,169
4	Federal Pell Grants	13,599	12,949	13,000	12,800
5	Government Scholarship Funding	4,079	4,061	4,000	4,000
6	Institutional CARES Act Funding	-	2,948	24,657	10,577
7	Grants and Contracts	36,998	41,597	47,143	53,582
8	Auxiliary Enterprises	41,676	36,342	31,468	40,564
9	Patient Medical Services, Net	37,515	38,567	38,424	38,049
10	Other Operating Revenues	11,861	13,472	15,090	17,051
11	State Appropriations	73,852	64,058	74,060	77,992
12	Federal Appropriations	-	-	-	-
13	Private Gifts	19,092	17,318	10,070	11,605
14	Spendable Investment Income (Moody's)	13,030	13,537	13,720	15,609
15	<b>Total Operating Revenues</b>	<b>381,580</b>	<b>380,002</b>	<b>404,959</b>	<b>419,998</b>
<b>Operating Expenses</b>					
16	Salaries and Wages	193,297	194,985	183,248	202,180
17	Benefits	55,606	57,123	59,715	62,272
18	Supplies, Services and Other Operating Expenses	110,872	97,420	98,365	119,712
19	Depreciation	25,166	24,597	24,560	24,000
20	Interest Expense	9,140	8,611	7,700	8,000
21	<b>Total Operating Expenses</b>	<b>394,081</b>	<b>382,736</b>	<b>373,588</b>	<b>416,164</b>
22	<b>Net Operating Income</b>	<b>(12,501)</b>	<b>(2,734)</b>	<b>31,371</b>	<b>3,834</b>
23	<b>Net Operating Margin</b>	<b>-3.3%</b>	<b>-0.7%</b>	<b>7.7%</b>	<b>0.9%</b>
<b>Nonoperating Revenues (Expenses)</b>					
24	Investment Income (Losses), Net of Fees	12,622	7,228	20,000	22,468
25	Spendable Investment Income (Moody's)	(13,030)	(13,537)	(13,720)	(15,609)
26	Other Nonoperating Revenues (Expenses)	1,051	22,552	-	-
27	State Capital Appropriations	-	-	-	-
28	Capital Gifts and Grants	36,657	12,784	12,000	11,000
29	Private Gifts for Endowment Purposes	436	471	800	800
30	Mandatory Transfers	25	39	-	-
31	Non-Mandatory Transfers	1,375	6,863	1,103	33
32	<b>Net Nonoperating Revenues (Expenses)</b>	<b>39,136</b>	<b>36,400</b>	<b>20,183</b>	<b>18,692</b>
33	<b>Increase in Net Position</b>	<b>26,635</b>	<b>33,666</b>	<b>51,554</b>	<b>22,526</b>
34	<b>Net Position, Beginning of Year</b>	<b>420,480</b>	<b>447,115</b>	<b>501,858</b>	<b>553,412</b>
35	Cumulative Effect of Change in Accounting Principle	-	21,077	-	-
36	<b>Net Position, Beginning of Year, Adjusted</b>	<b>420,480</b>	<b>468,192</b>	<b>501,858</b>	<b>553,412</b>
37	<b>Net Position, End of Period</b>	<b>\$ 447,115</b>	<b>\$ 501,858</b>	<b>\$ 553,412</b>	<b>\$ 575,938</b>

Overall, UMKC's operating margin is \$3.8 million, or 0.9%. The FY 2022 budget represents an improvement over a history of operating losses in FY 2020, FY 2019, and several preceding years.

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## Operating Revenues:

The biggest driver of the University's overall revenues related to the academic enterprise is enrollment which drives both teaching revenues and the majority of auxiliary enterprises. Lines 1-5 of from Schedule 6 above are summarized in Schedule 7 below with the key drivers. Other key areas of revenue for UMKC include:

- Institutional CARES Act Funding reflects the additional funding available from the Higher Education Emergency Relief Fund (HEERF) from the third round of stimulus passed in the Spring of 2021. Full guidance on this funding has not been issued by the Department of Education as of May 2021, and the University budgeted the full amount of funding in FY 2022. Depending on the funding restrictions, this amount could move across fiscal years. For financial statement presentation purposes student aid funded by the CARES Act is not included in the revenues as it is a direct flow through to students. These amounts total to \$2.9 million, \$3.5 million and \$11.4 million for fiscal years 2020, 2021, and 2022, respectively.
- Grants and Contracts are projected to increase by \$6 million over the prior year. UMKC is committed to improving research competitiveness and has planned to make investments in increasing and improving research infrastructure.
- Auxiliary Enterprises revenues are budgeted to return to pre-pandemic levels, as the UMKC campus repopulates in the fall.
- Net Patient Medical Service revenues are budgeted to remain flat for FY 2022. These revenues are contract services provided to the School of Medicine's hospital affiliates by UMKC medical residents
- State Appropriations are projected to increase by \$3.9 million over FY 2021 projection. The primary drivers of this increase include the reallocation of appropriations from UM System Administration to the campus and UMKC's participation in the \$5 million core increase provided to the University of Missouri.



**Schedule 7: UMKC Net Tuition Revenue Detail**

	<b>Actuals FY 2019</b>	<b>Actuals FY 2020</b>	<b>Projected FY 2021</b>	<b>Budget FY 2022</b>
<b>Enrollment - Full-time Equivalent</b>				
Undergraduate				
<i>Resident</i>	6,072	5,966	5,831	5,831
<i>Non-Resident</i>	1,781	1,777	1,622	1,622
Total Undergraduate	7,853	7,743	7,453	7,453
Graduate/Professional	3,571	3,592	3,621	3,632
<b>Gross Tuition and Fees \$'s in thousands</b>				
Undergraduate Tuition				
<i>Resident</i>	\$ 41,447	\$ 40,766	\$ 40,483	\$ 40,964
<i>Non-Resident</i>	31,223	32,398	29,263	29,734
Total Undergraduate Tuition	72,670	73,164	69,746	70,698
Graduate/Professional Tuition	93,133	97,804	101,019	103,763
Undergraduate Supplemental Fees	7,415	7,676	6,734	6,629
Graduate/Professional Supplemental Fees	3,768	4,802	5,113	5,311
Activity and Facility Fees	6,800	7,614	7,727	8,742
Continuing Education Fees	3,645	3,098	2,434	3,756
Other Educational Fees	2,268	2,225	2,239	2,427
<b>Total Tuition and Fees (Line 1)</b>	<b>\$ 189,699</b>	<b>\$ 196,383</b>	<b>\$ 195,012</b>	<b>\$ 201,326</b>
<b>Aid Awarded by Institution \$'s in thousands</b>				
Unrestricted				
<i>Undergraduate</i>	\$ (15,427)	\$ (15,135)	\$ (13,705)	\$ (14,818)
<i>Graduate/Professional</i>	(18,100)	(19,135)	(19,950)	(20,740)
Total Unrestricted Aid	(33,527)	(34,270)	(33,655)	(35,558)
Restricted Donor Aid				
<i>Undergraduate</i>	(5,340)	(5,573)	(6,581)	(5,325)
<i>Graduate/Professional</i>	(1,901)	(3,065)	(3,098)	(2,696)
Total Restricted Donor Aid	(7,241)	(8,638)	(9,679)	(8,021)
Restricted Non-Gift Aid/Waivers	(1,375)	(1,312)	(1,351)	(2,778)
Federal Pell Grant Aid	(13,599)	(12,949)	(13,000)	(12,800)
Government Scholarships	(4,079)	(4,061)	(4,000)	(4,000)
<b>Total Scholarship Allowances (Line 2)</b>	<b>\$ (59,821)</b>	<b>\$ (61,230)</b>	<b>\$ (61,685)</b>	<b>\$ (63,157)</b>
<b>Net Tuition and Fees (Line 3)</b>	<b>\$ 129,878</b>	<b>\$ 135,153</b>	<b>\$ 133,327</b>	<b>\$ 138,169</b>
<b>Federal Pell Grants (Line 4)</b>	<b>\$ 13,599</b>	<b>\$ 12,949</b>	<b>\$ 13,000</b>	<b>\$ 12,800</b>
<b>Government Scholarship Funding (Line 5)</b>	<b>\$ 4,079</b>	<b>\$ 4,061</b>	<b>\$ 4,000</b>	<b>\$ 4,000</b>

- The enrollment numbers above represent budgeted enrollment as of fall census. Overall, UMKC’s budget plans for flat enrollment over prior year.
- The gross tuition and fee budgeted amounts include the Board approved rates from May 2021. UMKC’s budget anticipates student’s course consumption remain at experienced spring 2021 level.

### Operating Expenses

Overall, UMKC’s operating expenses are projected to increase by 11% reflecting increased spending as the University emerges from the pandemic. Schedule 8 and 9 provides additional detail changes in Salaries and Wages and Supplies, Services and Other for the FY 2022 budget.

### Schedule 8: UMKC Salaries and Wages Detail (Dollars in Thousands)

	Actuals FY 2019	Actuals FY 2020	Projected FY 2021	Budget FY 2022
<b>Salaries and Wages</b>				
<i>Teaching and Research</i>				
Unrestricted	\$ 102,756	\$ 100,351	\$ 95,100	\$ 101,164
Restricted (Gifts & Grants)	11,591	12,315	12,638	15,864
Total Teaching and Research Salaries	114,347	112,666	107,738	117,028
<i>Staff and Supporting Services</i>				
Operations and Service Operations	57,184	58,843	53,810	60,821
Auxiliary Enterprises	10,914	10,814	9,621	11,547
Patient Services	608	496	278	989
Restricted (Gifts & Grants)	10,244	12,166	11,801	11,795
Total Staff and Supporting Services Salaries	78,950	82,319	75,510	85,152
<b>Total Salaries and Wages (Line 16)</b>	<b>\$ 193,297</b>	<b>\$ 194,985</b>	<b>\$ 183,248</b>	<b>\$ 202,180</b>

### Salaries and Wages

- All wages for FY 2022 budget include the effect of a 2% performance-based merit and market raise pool.
- *Teaching and Research (Unrestricted)* funded from tuition and state appropriations is budgeted to increase by \$6.1 million from FY 2021 projection.
- *Teaching and Research (Restricted)* funded from grants and gifts are anticipated to increase by \$3.2 million from FY 2021 projection, spending on these salaries is contingent upon available revenues.
- *Operations and Service Operations* are budgeted to increase by \$7.0 million from FY 2021 projection this increase is attributed to the UMKC Forward investments in student advising and career preparation.
- *Auxiliary Enterprises* are budgeted to increase by \$1.9 million over FY 2021 projections. As auxiliaries begin to operate a pre-pandemic levels funding is needed to support the increase in services provided.
- *Staff (Restricted)* funded from grants and gifts budgeted flat over prior projected year. This compensation will only be realized if there is related gift and grant revenues to fund the compensation.

**Schedule 9: UMKC Supplies Service and Other Operating Expenses Detail (Dollars in Thousands)**

	Actuals FY 2019	Actuals FY 2020	Projected FY 2021	Budget FY 2022
<b>Supplies, Services and Other Operating Expenses</b>				
Operations and Service Operations	\$ 56,508	\$ 48,022	\$ 45,005	\$ 68,963
Auxiliary Enterprises	19,674	17,188	13,680	15,180
Patient Services	1,229	892	1,098	1,079
Restricted (Gifts & Grants)	21,407	21,481	38,581	34,490
Plant	12,054	9,838	1	-
<b>Total Supplies, Services and Other Operating Expenses (Line 18)</b>	<b>\$ 110,872</b>	<b>\$ 97,420</b>	<b>\$ 98,365</b>	<b>\$ 119,712</b>

Supplies, Services and Other Operating Expenses

- *Operations and Service Operations* expenditures are budgeted to increase \$23.9 million over FY 2021 projection, \$2.3 million is related to UM System expense allocation which is offset by \$3.2 million reallocated revenues to UMKC. Investment of \$10 million for UMKC Forward is included in the FY 2022 budget to improve student success, faculty development, research, career expansion and community engagement.
- *Auxiliary Enterprises* expenditures are budgeted to increase by \$1.5 million from FY 2021 projection due to operations resuming back to pre-pandemic levels.
- *Patient Services* expenditures are budgeted flat over prior projected year. This represents contracted physician services for the University's Medical School.
- *Restricted* expenditures funded from grants and gifts are anticipated to decrease by \$4.1 million from FY 2021 projection. Projected restricted expenditures in FY 2021 trended \$17.1 million higher than prior fiscal years which is attributed to reopening the universities and infrastructure for remote learning funded by federal stimulus funding.
- *Plant* expenditures in FY 2019 and FY 2020 had significant unexpected M&R projects surrounding student housing facilities.

## Missouri S&T

Missouri S&T experienced a decline in enrollment stemming from the pandemic. International students represent a significant part of S&T's graduate student population. As pandemic restrictions are lifted, S&T anticipates non-resident enrollment to increase going into Fall 2021. S&T received \$300 million gift in the fall 2020 from June and Fred Kummer, which will be held separately with the Kummer Institute and provide a source of increased private gifts as the foundation distributes money to S&T. S&T will receive the following investments supported by the Kummer Institute:

- Students – scholarships and fellowships will be provided for highly qualified students through two new programs
  - Kummer Vanguard Scholars – provide \$1,000 - \$3,000 a year for four years to 350 to 400 STEM scholars each year
  - Kummer Innovation and Entrepreneurship Doctoral Fellows – provides a 12-month stipends and tuition remission for up to 100 STEM PhD. students a year.
- Faculty and Staff - to be a leader in innovation and entrepreneurial education recruitment of highly qualified faculty are needed.
  - S&T will immediately begin recruiting and hiring 20 new faculty - 10 professors and 10 chairs.
  - These faculty members will drive the work of the Institute: one will serve as the Institute's Executive Director, and the other four will serve as directors of the four Centers.
- Facilities - state-of-the-art facilities, which attract faculty, students and partners. Three new facilities are envisioned.
  - The Kummer Institute for Education and Research will be anchored by an expansion of S&T's Engineering Research Lab.
  - The Kummer Institute for Entrepreneurship and Economic Development will be anchored by a Systems Integration and Prototype Development Facility, located off campus.
  - The “Lighthouse” is a facility that integrates a full range of student programs and resources into a central campus location and is key to reimagining the student experience.

## Schedule 10: S&T FY 2022 Budget (Dollars in Thousands)

### Simplified View Statement of Revenues, Expenses, and Changes in Net Position - non-GAAP - Unaudited

Line No.		Actuals FY 2019	Actuals FY 2020	Projected FY 2021	Budget FY 2022
<b>Operating Revenues</b>					
1	Tuition and Fees	\$ 132,300	\$ 128,227	\$ 121,550	\$ 120,112
2	Less Scholarship Allowances	58,280	62,086	61,563	63,529
3	Net Tuition and Fees	74,020	66,141	59,987	56,583
4	Federal Pell Grants	7,310	6,412	6,800	5,800
5	Government Scholarship Funding	6,587	6,127	6,000	5,000
6	Institutional CARES Act Funding	-	1,960	14,622	7,168
7	Grants and Contracts	33,029	34,824	36,102	38,675
8	Auxiliary Enterprises	24,114	19,982	21,767	21,872
9	Patient Medical Services, Net	-	-	-	-
10	Other Operating Revenues	5,102	4,216	4,389	3,107
11	State Appropriations	50,186	43,543	50,375	53,407
12	Federal Appropriations	-	-	-	-
13	Private Gifts	7,815	3,398	6,610	14,712
14	Spendable Investment Income (Moody's)	14,809	15,559	15,503	17,095
15	<b>Total Operating Revenues</b>	<b>222,972</b>	<b>202,162</b>	<b>222,155</b>	<b>223,419</b>
<b>Operating Expenses</b>					
16	Salaries and Wages	106,061	102,582	98,817	103,334
17	Benefits	30,532	30,385	30,958	32,913
18	Supplies, Services and Other Operating Expenses	51,609	44,245	45,812	51,384
19	Depreciation	17,540	18,970	20,000	23,646
20	Interest Expense	5,357	5,067	5,150	5,184
21	<b>Total Operating Expenses</b>	<b>211,099</b>	<b>201,249</b>	<b>200,737</b>	<b>216,461</b>
22	<b>Net Operating Income</b>	<b>11,873</b>	<b>913</b>	<b>21,418</b>	<b>6,958</b>
23	<b>Net Operating Margin</b>	<b>5.3%</b>	<b>0.5%</b>	<b>9.6%</b>	<b>3.1%</b>
<b>Nonoperating Revenues (Expenses)</b>					
24	Investment Income (Losses), Net of Fees	11,613	3,637	19,288	18,461
25	Spendable Investment Income (Moody's)	(14,809)	(15,559)	(15,503)	(17,095)
26	Other Nonoperating Revenues (Expenses)	(73)	1,664	-	25
27	State Capital Appropriations	-	-	-	5,000
28	Capital Gifts and Grants	2,037	6,009	5,190	23,267
29	Private Gifts for Endowment Purposes	5,120	4,118	10,600	3,250
30	Mandatory Transfers	12	10	-	-
31	Non-Mandatory Transfers	3,109	4,491	106	1,885
32	<b>Net Nonoperating Revenues (Expenses)</b>	<b>7,009</b>	<b>4,370</b>	<b>19,681</b>	<b>34,793</b>
33	<b>Increase in Net Position</b>	<b>18,882</b>	<b>5,283</b>	<b>41,099</b>	<b>41,751</b>
34	<b>Net Position, Beginning of Year</b>	<b>502,229</b>	<b>520,946</b>	<b>526,586</b>	<b>567,685</b>
35	Cumulative Effect of Change in Accounting Principle	(165)	357	-	-
36	<b>Net Position, Beginning of Year, Adjusted</b>	<b>502,064</b>	<b>521,303</b>	<b>526,586</b>	<b>567,685</b>
37	<b>Net Position, End of Period</b>	<b>\$ 520,946</b>	<b>\$ 526,586</b>	<b>\$ 567,685</b>	<b>\$ 609,436</b>

Overall, S&T's operating margin is \$7.0 million, or 3.1%. S&T has a history of maintaining positive operating margins and financial performance.

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## Operating Revenues:

The biggest driver of the University's overall revenues is enrollment which drives both teaching revenues and the majority of auxiliary enterprises. Lines 1-5 of from Schedule 10 on the previous page are summarized in Schedule 11 on page 26 with the key drivers. Other key areas of revenue for S&T include:

- Institutional CARES Act Funding reflects the additional funding available from the Higher Education Emergency Relief Fund (HEERF) from the third round of stimulus passed in the Spring of 2021. Full guidance on this funding has not been issued by the Department of Education as of May 2021, and the University budgeted the full amount of funding in FY 2022. Depending on the funding restrictions, this amount could move across fiscal years. For financial statement presentation purposes student aid funded by the CARES Act is not included in the revenues as it is a direct flow through to students. These amounts total to \$1.9 million, \$2.6 million and \$7.2 million for fiscal years 2020, 2021, and 2022, respectively.
- Grants and Contracts are projected to increase by \$2.6 million over the prior year. S&T is committed to improving research competitiveness and has planned to make investments in increasing and improving research infrastructure, including those from the Kummer Institute.
- State Appropriations are projected to increase by \$3.0 million over FY 2021 projection. The primary drivers of this increase include the reallocation of appropriations from UM System Administration to the campus and S&T's participation in the \$5 million core increase provided to the University of Missouri.
- Auxiliary Enterprise revenues are budgeted to flat as undergraduate enrollment numbers are projected to decline.
- Private Gifts are projected to increase by \$8.1 million, largely driven by the increase in gift funding received by the Kummer Institute for new programming.

**Schedule 11 S&T Net Tuition Revenue Detail**

	Actuals FY 2019	Actuals FY 2020	Projected FY 2021	Budget FY 2022
<b>Enrollment - Full-time Equivalent</b>				
Undergraduate				
<i>Resident</i>	5,268	4,921	4,714	4,516
<i>Non-Resident</i>	855	818	757	820
Total Undergraduate	6,123	5,739	5,471	5,336
Graduate	1,113	986	874	863
<b>Gross Tuition and Fees \$'s in thousands</b>				
Undergraduate Tuition				
<i>Resident</i>	\$ 43,585	\$ 42,994	\$ 41,688	\$ 40,330
<i>Non-Resident</i>	21,850	22,628	20,752	23,257
Total Undergraduate Tuition	65,435	65,622	62,440	63,587
Graduate Tuition	19,898	17,611	14,850	14,653
Undergraduate Supplemental Fees	24,401	23,579	23,189	22,023
Graduate Supplemental Fees	3,472	3,186	3,000	3,072
Activity and Facility Fees	7,464	7,228	7,683	6,992
Continuing Education Fees	10,234	9,862	9,248	8,922
Other Educational Fees	1,396	1,139	1,140	863
<b>Total Tuition and Fees (Line 1)</b>	<b>\$ 132,300</b>	<b>\$ 128,227</b>	<b>\$ 121,550</b>	<b>\$ 120,112</b>
<b>Aid Awarded by Institution \$'s in thousands</b>				
Unrestricted				
<i>Undergraduate</i>	\$ (21,383)	\$ (23,507)	\$ (28,377)	\$ (28,800)
<i>Graduate/Professional</i>	(16,412)	(14,383)	(10,426)	(9,372)
Total Unrestricted Aid	(37,795)	(37,890)	(38,803)	(38,172)
Restricted Donor Aid				
<i>Undergraduate</i>	(3,205)	(8,480)	(8,087)	(7,147)
<i>Graduate/Professional</i>	(182)	(240)	(867)	(2,652)
Total Restricted Donor Aid	(3,387)	(8,720)	(8,954)	(9,799)
Restricted Non-Gift Aid/Waivers	(3,201)	(2,937)	(1,006)	(4,758)
Federal Pell Grant Aid	(7,310)	(6,412)	(6,800)	(5,800)
Government Scholarships	(6,587)	(6,127)	(6,000)	(5,000)
<b>Total Scholarship Allowances (Line 2)</b>	<b>\$ (58,280)</b>	<b>\$ (62,086)</b>	<b>\$ (61,563)</b>	<b>\$ (63,529)</b>
<b>Net Tuition and Fees (Line 3)</b>	<b>\$ 74,020</b>	<b>\$ 66,141</b>	<b>\$ 59,987</b>	<b>\$ 56,583</b>
<b>Federal Pell Grants (Line 4)</b>	<b>\$ 7,310</b>	<b>\$ 6,412</b>	<b>\$ 6,800</b>	<b>\$ 5,800</b>
<b>Government Scholarship Funding (Line 5)</b>	<b>\$ 6,587</b>	<b>\$ 6,127</b>	<b>\$ 6,000</b>	<b>\$ 5,000</b>

- The enrollment numbers presented in the schedule above reflect budgeted enrollment for fall census. With the lift of pandemic travel restrictions S&T is anticipating an

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increase in non-resident and international students both at the undergraduate and graduate level.

- The gross tuition and fee budgeted amounts include the Board approved rates.
- The increase in undergraduate unrestricted aid starting in FY 2020 is driven in large by expansion of merit and need-based programs.
- The increase in undergraduate restricted donor aid beginning in FY 2020 was a result of the S&T leadership managing and utilizing gift and endowment balances to recruit and retain exceptional students.

## Operating Expenses

Overall, S&T's operating expenses are projected to increase by 8% reflecting increased spending as the University emerges from the pandemic. Schedule 12 and 13 provides additional detail changes in Salaries and Wages and Supplies Services and Other for the FY 2022 budget.

### Schedule 12 S&T Salaries and Wages Detail (Dollars in Thousands)

	Actuals FY 2019	Actuals FY 2020	Projected FY 2021	Budget FY 2022
<b>Salaries and Wages</b>				
<i>Teaching and Research</i>				
Unrestricted	\$ 47,166	\$ 44,657	\$ 42,864	\$ 43,553
Restricted (Gifts & Grants)	11,320	11,578	11,578	12,090
Total Teaching and Research Salaries	58,486	56,235	54,442	55,643
<i>Staff and Supporting Services</i>				
Operations and Service Operations	40,791	40,308	39,426	40,517
Auxiliary Enterprises	3,743	2,930	2,265	2,364
Restricted (Gifts & Grants)	3,041	3,109	2,684	4,810
Total Staff and Supporting Services Salaries	47,575	46,347	44,375	47,691
<b>Total Salaries and Wages (Line 16)</b>	<b>\$ 106,061</b>	<b>\$ 102,582</b>	<b>\$ 98,817</b>	<b>\$ 103,334</b>

### Salaries and Wages

- All wages for FY 2022 budget include the effect of a 2% performance-based merit and market raise pool.
- *Teaching and Research (Unrestricted)* funded from tuition and state appropriations is budgeted to increase by 2% or \$690,000 from FY 2021 projection. This funding represents compensation increases for faculty.
- *Teaching and Research (Restricted)* funded from grants and gifts are anticipated to increase by 4% or \$511,000 from FY 2021 projection, this increase correlates with the budgeted revenue growth in grants and contracts and the faculty investment from the Kummer Institute.
- *Operations and Supporting Services* are budgeted to increase by \$1.1 million from FY 2021 projection this increase is to provide staff with market and equity adjustments.
- *Auxiliary Enterprises* wages are budgeted to increase to reflect a return to normal operations.
- *Staff (Restricted)* funded from grants and gifts are budgeted to increase by \$2.1 million to representing new faculty hired on support for the Kummer Centers.

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**Schedule 16 S&T Supplies Services and Other Operating Expense Detail (Dollars in Thousands)**

	Actuals FY 2019	Actuals FY 2020	Projected FY 2021	Budget FY 2022
<b>Supplies, Services and Other Operating Expenses</b>				
Operations and Service Operations	\$ 29,273	\$ 23,297	\$ 17,017	\$ 23,311
Auxiliary Enterprises	8,880	8,149	8,835	8,391
Restricted (Gifts & Grants)	9,043	7,254	15,761	13,132
Plant	4,413	5,545	4,199	6,550
<b>Total Supplies, Services and Other Operating Expenses (Line 18)</b>	<b>\$ 51,609</b>	<b>\$ 44,245</b>	<b>\$ 45,812</b>	<b>\$ 51,384</b>

Supplies, Services and Other Operating Expenses

- *Operations and Supporting Services* expenditures are budgeted to increase \$6.3 million over FY 2021 projection, \$1.2 million is related to UM System expense allocation which is offset by \$2.6 million reallocated revenues to S&T. With the increase in revenue sources, S&T plans to continue to invest in technology infrastructure throughout the campus.
- *Auxiliary Enterprises* expenditures are budgeted to decrease from FY 2021 projection by \$444 thousand.
- *Restricted expenditures* funded from grants and gifts are anticipated to decrease by \$2.6 million from the FY 2021 projection. Projected restricted expenditures in FY 2021 trended \$8.5 million higher than prior fiscal years which is attributed to expenses related to reopening the universities and supported infrastructure for remote learning funded by federal stimulus funding.
- *Plant* expenditures are budgeted to increase by \$2.3 million over FY 2021 projections due to planned M&R plant projects.

UMSL

UMSL's FY 2022 budget reflects a return to pre-pandemic operations. Generating enrollment growth is UMSL's highest priority. The FY 2022 budget includes funding for initiatives to increase enrollment including enhanced recruiting and advising, marketing, a branding initiative, and additional investment in eLearning. The University continues to review academic programs, including eliminating programs with low demand and identifying new areas of growth. To respond to the new expense base, UMSL has expanded shared services and is implementing a space consolidation plan to reduce its capital footprint.

## Schedule 17 UMSL FY 2022 Budget (Dollars in Thousands)

### Simplified View Statement of Revenues, Expenses, and Changes in Net Position - non-GAAP - Unaudited

Line No.		Actuals FY 2019	Actuals FY 2020	Projected FY 2021	Budget FY 2022
<b>Operating Revenues</b>					
1	Tuition and Fees	\$ 116,178	\$ 116,122	\$ 118,527	\$ 121,715
2	Less Scholarship Allowances	43,758	45,552	52,274	51,772
3	Net Tuition and Fees	72,420	70,570	66,253	69,943
4	Federal Pell Grants	13,984	12,598	12,000	13,500
5	Government Scholarship Funding	3,930	3,956	3,670	3,670
6	Institutional CARES Act Funding	-	1,901	19,833	10,668
7	Grants and Contracts	28,707	27,119	26,945	24,300
8	Auxiliary Enterprises	18,456	15,175	12,600	15,445
9	Patient Medical Services, Net	32	40	16	51
10	Other Operating Revenues	2,690	2,166	2,422	1,979
11	State Appropriations	55,817	48,436	55,940	60,507
12	Federal Appropriations	-	-	-	-
13	Private Gifts	12,601	10,749	9,445	11,131
14	Spendable Investment Income (Moody's)	9,090	9,577	9,813	11,196
15	<b>Total Operating Revenues</b>	<b>217,727</b>	<b>202,287</b>	<b>218,937</b>	<b>222,390</b>
<b>Operating Expenses</b>					
16	Salaries and Wages	105,659	107,866	97,930	101,843
17	Benefits	32,026	33,811	33,215	34,020
18	Supplies, Services and Other Operating Expenses	58,532	47,879	53,059	58,101
19	Depreciation	17,882	17,999	18,000	18,400
20	Interest Expense	5,985	5,776	5,557	5,328
21	<b>Total Operating Expenses</b>	<b>220,084</b>	<b>213,331</b>	<b>207,761</b>	<b>217,692</b>
22	<b>Net Operating Income</b>	<b>(2,357)</b>	<b>(11,044)</b>	<b>11,176</b>	<b>4,698</b>
23	<b>Net Operating Margin</b>	<b>-1.1%</b>	<b>-5.5%</b>	<b>5.1%</b>	<b>2.1%</b>
<b>Nonoperating Revenues (Expenses)</b>					
24	Investment Income (Losses), Net of Fees	6,378	3,512	14,117	10,010
25	Spendable Investment Income (Moody's)	(9,090)	(9,577)	(9,813)	(11,196)
26	Other Nonoperating Revenues (Expenses)	38	72	14	-
27	State Capital Appropriations	-	-	-	-
28	Capital Gifts and Grants	1,110	1,501	400	-
29	Private Gifts for Endowment Purposes	2,815	2,048	2,500	2,250
30	Mandatory Transfers	(139)	(94)	-	-
31	Non-Mandatory Transfers	1,994	1,563	552	1,270
32	<b>Net Nonoperating Revenues (Expenses)</b>	<b>3,106</b>	<b>(975)</b>	<b>7,770</b>	<b>2,334</b>
33	<b>Increase in Net Position</b>	<b>749</b>	<b>(12,019)</b>	<b>18,946</b>	<b>7,032</b>
34	<b>Net Position, Beginning of Year</b>	<b>367,615</b>	<b>368,364</b>	<b>356,526</b>	<b>375,472</b>
35	Cumulative Effect of Change in Accounting Principle	-	181	-	-
36	<b>Net Position, Beginning of Year, Adjusted</b>	<b>367,615</b>	<b>368,545</b>	<b>356,526</b>	<b>375,472</b>
37	<b>Net Position, End of Period</b>	<b>\$ 368,364</b>	<b>\$ 356,526</b>	<b>\$ 375,472</b>	<b>\$ 382,504</b>

Overall, UMSL's operating margin of \$4.7 million, or 2.1% exceeds breakeven. The FY 2022 budget represents an improvement over a history of operating losses in FY 2020 and FY 2019.

## Operating Revenues:

The primary driver of the University's overall revenues is enrollment which drives both teaching revenues and the majority of auxiliary enterprises. Lines 1-5 of from Schedule 17 on the prior page are summarized in Schedule 17 on the next page with the key drivers. Other key areas of revenue for UMSL include:

- Institutional CARES Act Funding reflects the additional funding available from the Higher Education Emergency Relief Fund (HEERF) from the third round of stimulus passed in the Spring of 2021. Full guidance on this funding has not been issued by the Department of Education as of May 2021, and the University budgeted the full amount of funding in FY 2022. Depending on the funding restrictions, this amount could move across fiscal years. For financial statement presentation purposes student aid funded by the CARES Act is not included in the revenues as it is a direct flow through to students. These amounts total to \$1.9 million, \$2.9 million, and \$10.8 million for fiscal years 2020, 2021, and 2022, respectively.
- Grants and Contracts are projected to decrease by \$2.6 million over the prior year.
- State Appropriations are projected to increase by \$4.6 million over FY 2021 projection. The primary drivers of this increase include the reallocation of appropriations from UM System Administration to the campus and UMSL's participation in the \$5 million core increase provided to the University of Missouri. Through the MOExcels program, UMSL was award \$1.5 million for the Nursing SIM Simulation Lab, in FY 2022.

**Schedule 18 UMSL Net Tuition Revenue Detail**

	<b>Actuals FY 2019</b>	<b>Actuals FY 2020</b>	<b>Projected FY 2021</b>	<b>Budget FY 2022</b>
<b>Enrollment - Full-time Equivalent</b>				
Undergraduate				
<i>Resident</i>	7,363	7,083	6,253	6,473
<i>Non-Resident</i>	502	485	476	507
<b>Total Undergraduate</b>	<b>7,865</b>	<b>7,568</b>	<b>6,729</b>	<b>6,980</b>
Graduate/Professional	1,623	1,633	1,549	1,615
<b>Gross Tuition and Fees \$'s in thousands</b>				
Undergraduate Tuition				
<i>Resident</i>	\$ 49,388	\$ 48,524	\$ 48,098	\$ 50,427
<i>Non-Resident</i>	13,189	12,768	11,686	13,320
<b>Total Undergraduate Tuition</b>	<b>62,577</b>	<b>61,292</b>	<b>59,784</b>	<b>63,747</b>
Graduate/Professional Tuition	31,819	33,417	31,449	32,261
Undergraduate Supplemental Fees	11,161	11,253	16,203	14,638
Graduate/Professional Supplemental Fees	3,584	3,879	4,619	4,359
Continuing Education Fees	4,659	4,342	4,065	4,678
Other Educational Fees	2,378	1,939	2,407	2,032
<b>Total Tuition and Fees (Line 1)</b>	<b>\$ 116,178</b>	<b>\$ 116,122</b>	<b>\$ 118,527</b>	<b>\$ 121,715</b>
<b>Aid Awarded by Institution \$'s in thousands</b>				
Unrestricted				
<i>Undergraduate</i>	\$ (15,700)	\$ (16,312)	\$ (24,736)	\$ (22,745)
<i>Graduate/Professional</i>	(6,075)	(6,682)	(7,381)	(7,530)
<i>Miscellaneous Aid</i>	(136)	(177)	(135)	(123)
<b>Total Unrestricted Aid</b>	<b>(21,911)</b>	<b>(23,171)</b>	<b>(32,252)</b>	<b>(30,398)</b>
Restricted Donor Aid				
<i>Undergraduate</i>	(2,284)	(2,400)	(2,419)	(2,962)
<i>Graduate/Professional</i>	(440)	(305)	(239)	(475)
<b>Total Restricted Donor Aid</b>	<b>(2,724)</b>	<b>(2,705)</b>	<b>(2,658)</b>	<b>(3,437)</b>
Restricted Non-Gift Aid/Waivers	(1,209)	(3,122)	(1,694)	(767)
Federal Pell Grant Aid	(13,984)	(12,598)	(12,000)	(13,500)
Government Scholarships	(3,930)	(3,956)	(3,670)	(3,670)
<b>Total Scholarship Allowances (Line 2)</b>	<b>\$ (43,758)</b>	<b>\$ (45,552)</b>	<b>\$ (52,274)</b>	<b>\$ (51,772)</b>
<b>Net Tuition and Fees (Line 3)</b>	<b>\$ 72,420</b>	<b>\$ 70,570</b>	<b>\$ 66,253</b>	<b>\$ 69,943</b>
<b>Federal Pell Grants (Line 4)</b>	<b>\$ 13,984</b>	<b>\$ 12,598</b>	<b>\$ 12,000</b>	<b>\$ 13,500</b>
<b>Government Scholarship Funding (Line 5)</b>	<b>\$ 3,930</b>	<b>\$ 3,956</b>	<b>\$ 3,670</b>	<b>\$ 3,670</b>

- The enrollment numbers presented in the schedule represent budgeted fall census. UMSL's student population differs from the other three institutions. Over half of UMSL undergraduate population is part-time and 70% of the graduate students are also

part-time. These students' consumption patterns are more sensitive to economic shifts and are more difficult to predict.

- The gross tuition and fee budgeted amounts include the rates approved by the Board in May 2021. Undergraduate students at UMSL take on average 11 credit hours per semester. Graduate students take 6 student credit hours on average per semester. These student credit hour trends were utilized when budget gross tuition.
- The decrease in supplemental fees is driven by on-line course fees charged to students. When nearly all instruction went on-line during the pandemic the students enrolled in those courses were charged a fee, UMSL provide aid to all of the student to cover this on-line course fee.
- The increase in undergraduate unrestricted aid starting in FY 2021 is driven by the aid to cover the on-line course fee charged when the university switched to fully virtual learning. UMSL will continue to offer this aid through FY 2022 as the campus transitions back to pre-pandemic operations.

### Operating Expenses

Overall, UMSL's operating expenses are projected to increase by 4% reflecting increased spending as the University emerges from the pandemic. Schedule 20 and 21 provides additional detail changes in Salaries and Wages and Supplies Services and Other for the FY 2022 budget.

### Schedule 19: UMSL Salaries and Wages Detail (Dollars in Thousands)

	Actuals FY 2019	Actuals FY 2020	Projected FY 2021	Budget FY 2022
<b>Salaries and Wages</b>				
<i>Teaching and Research</i>				
Unrestricted	\$ 45,851	\$ 45,149	\$ 41,380	\$ 42,949
Restricted (Gifts & Grants)	4,917	5,236	4,672	4,586
Total Teaching and Research Salaries	50,768	50,385	46,052	47,534
<i>Staff and Supporting Services</i>				
Operations and Service Operations	41,727	43,288	37,768	39,553
Auxiliary Enterprises	1,721	1,809	1,712	2,034
Restricted (Gifts & Grants)	11,443	12,384	12,398	12,721
Total Staff and Supporting Services Salaries	54,891	57,481	51,878	54,308
<b>Total Salaries and Wages (Line 16)</b>	<b>\$ 105,659</b>	<b>\$ 107,866</b>	<b>\$ 97,930</b>	<b>\$ 101,843</b>

### Salaries and Wages

- The FY 2022 budget includes targeted market adjustments but no raise pool for the University.
- *Teaching and Research (Unrestricted)* funded from tuition and state appropriations is budgeted to increase by 4% or \$1.6 million from FY 2021 projection. This increase is attributed to mandatory salary reductions implemented during the pandemic. These reductions ended in February 2021.
- *Teaching and Research (Restricted)* funded from grants and gifts are anticipated to remain flat from FY 2021 projections based on flat restricted funding growth.

- *Operations and Service Operations* are budgeted to increase by \$1.8 million from FY 2021 projection. This increase is attributed to mandatory salary reductions implemented during the pandemic. These reductions ended in February 2021. Additional resources to support for enrollment recruitment and retention initiatives are also include in the FY 2022 budget.
- *Staff (Restricted)* funded from grants and gifts are budgeted to remain flat from FY 2021 projections.

**Schedule 20: UMSL Supplies Services and Other Operating Expenses Detail (Dollars in Thousands)**

	Actuals FY 2019	Actuals FY 2020	Projected FY 2021	Budget FY 2022
<b>Supplies, Services and Other Operating Expenses</b>				
Operations and Service Operations	\$ 33,797	\$ 27,018	\$ 24,000	\$ 32,942
Auxiliary Enterprises	8,812	8,012	6,957	8,268
Restricted (Gifts & Grants)	14,328	12,134	21,450	13,601
Plant	1,595	715	652	3,290
<b>Total Supplies, Services and Other Operating Expenses (Line 18)</b>	<b>\$ 58,532</b>	<b>\$ 47,879</b>	<b>\$ 53,059</b>	<b>\$ 58,101</b>

Supplies, Services and Other Operating Expenses

- *Operations and Service Operations* expenditures are budgeted to increase \$8.9 million over FY 2021 projection, \$1.0 million is related to UM System expense allocation which is offset by \$2.6 million reallocated revenues to UMSL. The remaining increase in expenditures reflect the return to normal operations.
- *Auxiliary Enterprises* expenditures are budgeted to increase by \$1.3 million from FY 2021 projection as students repopulate the residential portions of campus and increase consumption on dining plans and within residence halls.
- *Restricted* expenditures funded from grants and gifts are anticipated decrease by \$7.8 million from FY 2021 projection. Projected restricted expenditures in FY 2021 trended \$7.8 million higher than prior fiscal years which is attributed to expenses related to reopening the universities and supporting infrastructure for remote learning funded by federal stimulus funding.
- *Plant* expenditures are budgeted to increase by \$2.6 million over FY 2021 projections due to planned M&R projects and space consolidation plans.

## MUHC

### Schedule 22: MU Healthcare FY 2022 Budget (Dollars in Thousands)

#### Simplified View Statement of Revenues, Expenses, and Changes in Net Position - non-GAAP - Unaudited

Line No.		Actuals FY 2019	Actuals FY 2020	Projected FY 2021	Budget FY 2022
<b>Operating Revenues</b>					
1	Tuition and Fees	\$ -	\$ -	\$ -	\$ -
2	Less Scholarship Allowances	-	-	-	-
3	<b>Net Tuition and Fees</b>	-	-	-	-
4	Federal Pell Grants	-	-	-	-
5	Government Scholarship Funding	-	-	-	-
6	Institutional CARES Act Funding	-	-	-	-
7	Grants and Contracts	159	137	84	130
8	Auxiliary Enterprises	23,631	23,255	21,718	23,461
9	Patient Medical Services, Net	1,062,023	1,060,215	1,157,025	1,195,684
10	Other Operating Revenues	159	2	(20)	(30)
11	State Appropriations	-	-	-	-
12	Federal Appropriations	-	-	-	-
13	Private Gifts	1,878	1,564	872	705
14	Spendable Investment Income (Moody's)	-	-	-	-
15	<b>Total Operating Revenues</b>	<b>1,087,849</b>	<b>1,085,173</b>	<b>1,179,679</b>	<b>1,219,950</b>
<b>Operating Expenses</b>					
16	Salaries and Wages	323,980	333,810	345,554	363,375
17	Benefits	105,964	110,721	119,208	126,775
18	Supplies, Services and Other Operating Expenses	506,987	525,676	576,683	581,906
19	Depreciation	46,935	48,164	53,577	59,781
20	Interest Expense	12,134	11,190	11,184	10,376
21	<b>Total Operating Expenses</b>	<b>995,999</b>	<b>1,029,560</b>	<b>1,106,207</b>	<b>1,142,214</b>
22	<b>Net Operating Income</b>	<b>91,850</b>	<b>55,613</b>	<b>73,473</b>	<b>77,736</b>
23	<b>Net Operating Margin</b>	<b>8.4%</b>	<b>5.1%</b>	<b>6.2%</b>	<b>6.4%</b>
<b>Nonoperating Revenues (Expenses)</b>					
24	Investment Income (Losses), Net of Fees	1,715	(6,412)	19,030	7,735
25	Spendable Investment Income (Moody's)	-	-	-	-
26	Other Nonoperating Revenues (Expenses)	(1,040)	19,153	6,511	-
27	State Capital Appropriations	-	-	-	-
28	Capital Gifts and Grants	2,998	3,845	4	6
29	Private Gifts for Endowment Purposes	10	42	41	15
30	Mandatory Transfers	-	-	-	-
31	Non-Mandatory Transfers	(26,607)	(28,229)	(24,886)	(30,460)
32	<b>Net Nonoperating Revenues (Expenses)</b>	<b>(22,923)</b>	<b>(11,600)</b>	<b>700</b>	<b>(22,704)</b>
33	<b>Increase in Net Position</b>	<b>68,927</b>	<b>44,012</b>	<b>74,172</b>	<b>55,032</b>
34	<b>Net Position, Beginning of Year</b>	<b>781,881</b>	<b>850,808</b>	<b>894,820</b>	<b>968,993</b>
35	Cumulative Effect of Change in Accounting Principle	-	-	-	-
36	<b>Net Position, Beginning of Year, Adjusted</b>	<b>781,881</b>	<b>850,808</b>	<b>894,820</b>	<b>968,993</b>
37	<b>Net Position, End of Period</b>	<b>\$ 850,808</b>	<b>\$ 894,820</b>	<b>\$ 968,993</b>	<b>\$ 1,024,025</b>

This presentation format matches the higher education presentation of revenues and expenses. The health system follows the healthcare convention in their presentations to the Health Affairs Committee. The main difference is the classification of gift revenues (line 13) and interest expense (line 20) which is an operating revenue in higher education and a non-operating item in healthcare.

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Leadership from MU Health Care, MU School of Medicine and University Physicians have collaborated in developing core patient volumes for the plan, based upon historical performance, market assessments and internal growth plans. MU Health Care continues to identify and implement stewardship initiatives to offset inflation and downward pressures from third party payors.

This year in particular, there are significant challenges to reimbursement related to the shift of payment methodology for Medicaid outpatient services, reduction in Managed Medicaid reimbursement rates, the uncertainty of Medicaid Expansion funding and the push from commercial payors to move outpatient services to non-hospital settings. MU Health Care is expecting volume growth related to strategies in primary care, cardiovascular and surgical specialties. To manage within the projected revenues, MUHC leadership is taking significant action to reduce supply chain spend by \$11M through better contracting and standardization, as well as plans to reduce an additional \$3M related to variations in care. Additional efficiency savings will be achieved this fall, as facility consolidation begins with the move of pediatrics to the main campus. MUHC continues to establish staffing levels consistent with national benchmarks and ensures that variable staffed units flex their staffing to operating volumes. MUHC has consistently demonstrated the ability to manage budgets within available resources.



## UM System Administration

The UM System Business Unit includes the administrative and support functions including service centers that provide unduplicated support to the four campuses and health system. As described in the Report to the Board on Administrative Efficiencies from the November 2020 Board Meeting:

“Instead of funding administration with state appropriations and investment income, these services will be funded via a cost allocation to the Universities based upon their share of total operating expenses or other cost drivers. The cost allocation for services will also force administrative units to justify the scale and cost of their function to the Universities they support.”

The model has been structured to deliver the right support services, at the right level of the organization efficiently and effectively while supporting the mission. FY 2022 budget reflects these changes in the funding structure. The funding structure moved state appropriations and investment income out to the Universities, then charged a related amount to have each University pay system administration for the services provided.

The net results of the change in costing will result in an increase in available funding for each University, as the state appropriations and investment income from System Administration are larger than allocated costs:

**Table 1:** FY 2021 Change in Budget by University due to System Admin Costing Model

	MU	UMKC	S&T	UMSL	MUHC	Total
State Appropriations (line 11)	5,735	2,073	1,403	1,555	-	10,766
Investment Income (line 14)	9,083	1,180	1,256	1,071	3,410	16,000
Services Expense (line 18)	(11,832)	(2,344)	(1,183)	(1,040)	(3,453)	(19,852)
<b>Gain/(Loss)</b>	<b>2,986</b>	<b>909</b>	<b>1,476</b>	<b>1,586</b>	<b>(43)</b>	<b>6,914</b>

The impact of the implementation of the new funding structure on UM System Administration had the following impacts:

- Decreased State Appropriations by \$10.7 M (line 11, schedule 23)
- Decreased Spendable Investment Income by \$16.0M (line 14, schedule 23)
- Decreased Supplies, Services, and Other Expense by \$19.9M (line 18, schedule 23)

## Schedule 23: UM System Administration FY 2022 Budget (Dollars in Thousands)

### Simplified View Statement of Revenues, Expenses, and Changes in Net Position - non-GAAP - Unaudited

Line No.	Actuals FY 2019	Actuals FY 2020	Projected FY 2021	Budget FY 2022
<b>Operating Revenues</b>				
1	\$ -	\$ -	\$ -	\$ -
2	118	156	108	50
3	(118)	(156)	(108)	(50)
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	136	512	-	-
8	26,104	22,148	24,800	20,613
9	-	-	-	-
10	11,288	5,887	4,970	4,478
11	11,326	10,612	12,289	1,812
12	-	-	-	-
13	669	109	100	113
14	17,985	21,800	21,905	6,905
15	<b>67,390</b>	<b>60,912</b>	<b>63,956</b>	<b>33,871</b>
<b>Operating Expenses</b>				
16	33,435	34,617	33,400	34,484
17	11,192	11,336	11,581	11,997
18	20,179	8,155	15,496	(15,218)
19	4,326	3,871	3,500	2,574
20	-	-	-	-
21	<b>69,132</b>	<b>57,979</b>	<b>63,977</b>	<b>33,837</b>
22	<b>(1,742)</b>	<b>2,933</b>	<b>(21)</b>	<b>34</b>
23	<b>-2.6%</b>	<b>4.8%</b>	<b>0.0%</b>	<b>0.1%</b>
<b>Nonoperating Revenues (Expenses)</b>				
24	43,132	14,738	25,604	10,130
25	(17,985)	(21,800)	(21,905)	(6,905)
26	(637)	(31)	2	2
27	-	-	-	-
28	-	-	-	-
29	-	-	-	-
30	-	-	-	-
31	63,270	(38,348)	(642)	(1,198)
32	<b>87,780</b>	<b>(45,441)</b>	<b>3,059</b>	<b>2,029</b>
33	<b>86,038</b>	<b>(42,508)</b>	<b>3,038</b>	<b>2,063</b>
34	<b>167,106</b>	<b>253,144</b>	<b>211,269</b>	<b>214,307</b>
35	-	633	-	-
36	<b>167,106</b>	<b>253,777</b>	<b>211,269</b>	<b>214,307</b>
37	<b>\$ 253,144</b>	<b>\$ 211,269</b>	<b>\$ 214,307</b>	<b>\$ 216,370</b>

The primary revenue source remaining at UM System is from MOREnet which provides high speed internet service to schools, higher education, and libraries across the state. MOREnet submitted a balanced budget in FY 2022, including reductions to match reductions in revenue. In total, the remainder System Administration's budget expenses grew in line with overall revenue growth and include a 2% performance-based market and merit raise pool. The negative \$15 million in Supplies, Services, and Other reflects the collections from the other Universities and Hospital on charges for services. UM System

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Administration's spending increased by 2.5%, largely driven by the implementation of a merit and market 2% raise pool. Savings were realized by the combination of the President and Chancellor roles, elimination of leased space, and reductions to academic support functions at System Administration. Areas of increased spending include institutional effectiveness and eLearning.

### **University-wide Units**

University-wide Business Units are used to hold resources and deliver programs that are utilized by the entire institution. These include the endowed chair programs that were established with recurring state appropriation to match endowment distributions, self-insurance related to health, welfare and risk management programs, and activities of the central bank. Most of the activity in the University-wide units relates to consolidating entries for non-operating items that is not spread to the other Universities, primarily related to the benefit plans, insurance and investments.

While the units show a positive net operating income, this is primarily driven by investment income distribution adjustments. \$25 million of income relates to a difference in the healthcare and higher education methodology for Moody's; the hospital's portion of investment income is non-operating for healthcare operations but gets counted as an operating income on the consolidated statement. For the consolidated analysis, the University gets credit for the hospital's investment balances in the Moody's methodology and makes the adjustment in these holding units. The remainder of activity primarily relates to benefits, insurance, and investments and generally flows through non-operating. The growth in non-operating expenses generally reflects the growth in benefit liabilities, which will continue to raise contributions and benefit charges to the operating units on a forward basis. The University will evaluate both the investment income distribution and the benefit liabilities in the process of updating financial performance targets.

## Schedule 24: University-wide Units FY 2022 Budget (Dollars in Thousands)

### Simplified View Statement of Revenues, Expenses, and Changes in Net Position - non-GAAP - Unaudited

Line No.		Actuals FY 2019	Actuals FY 2020	Projected FY 2021	Budget FY 2022
<b>Operating Revenues</b>					
1	Tuition and Fees	\$ -	\$ -	-	-
2	Less Scholarship Allowances	33	29	33	33
3	<b>Net Tuition and Fees</b>	<b>(33)</b>	<b>(29)</b>	<b>(33)</b>	<b>(33)</b>
4	Federal Pell Grants	-	-	-	-
5	Government Scholarship Funding	-	-	-	-
6	Institutional CARES Act Funding	-	-	-	-
7	Grants and Contracts	-	-	-	-
8	Auxiliary Enterprises	-	-	-	-
9	Patient Medical Services, Net	-	-	-	-
10	Other Operating Revenues	(253)	523	557	(97)
11	State Appropriations	9,467	9,467	9,466	9,467
12	Federal Appropriations	9,828	9,871	9,826	9,912
13	Private Gifts	1	2	2	2
14	Spendable Investment Income (Moody's)	51,006	55,173	66,009	66,558
15	<b>Total Operating Revenues</b>	<b>70,016</b>	<b>75,007</b>	<b>85,827</b>	<b>85,809</b>
<b>Operating Expenses</b>					
16	Salaries and Wages	(564)	(77)	-	-
17	Benefits	9,806	11,321	(6,101)	(12,002)
18	Supplies, Services and Other Operating Expenses	(8,988)	(14,880)	(1,767)	6,097
19	Depreciation	4,767	4,766	2,732	-
20	Interest Expense	3,010	3,056	5,330	11,104
21	<b>Total Operating Expenses</b>	<b>8,031</b>	<b>4,186</b>	<b>194</b>	<b>5,200</b>
22	<b>Net Operating Income</b>	<b>61,985</b>	<b>70,821</b>	<b>85,633</b>	<b>80,609</b>
23	<b>Net Operating Margin</b>	<b>88.5%</b>	<b>94.4%</b>	<b>99.8%</b>	<b>93.9%</b>
<b>Nonoperating Revenues (Expenses)</b>					
24	Investment Income (Losses), Net of Fees	55,104	(11,213)	23,460	20,205
25	Spendable Investment Income (Moody's)	(51,006)	(55,173)	(66,009)	(66,558)
26	Other Nonoperating Revenues (Expenses)	(94)	(24,529)	(99)	-
27	State Capital Appropriations	-	-	-	-
28	Capital Gifts and Grants	-	2,205	-	-
29	Private Gifts for Endowment Purposes	2	1	1	1
30	Pension and OPEB Impact on Income Statement	(96,094)	(104,906)	(80,000)	(100,000)
31	Mandatory Transfers	41	4,722	-	-
32	Non-Mandatory Transfers	(70,970)	(8,669)	(7,900)	(1,648)
33	<b>Net Nonoperating Revenues (Expenses)</b>	<b>(163,015)</b>	<b>(197,562)</b>	<b>(130,547)</b>	<b>(148,000)</b>
34	<b>Increase in Net Position</b>	<b>(101,032)</b>	<b>(126,741)</b>	<b>(44,914)</b>	<b>(67,390)</b>
35	<b>Net Position, Beginning of Year</b>	<b>(381,386)</b>	<b>(482,418)</b>	<b>(609,238)</b>	<b>(654,152)</b>
36	Cumulative Effect of Change in Accounting Principle	-	(79)	-	-
37	<b>Net Position, Beginning of Year, Adjusted</b>	<b>(381,386)</b>	<b>(482,497)</b>	<b>(609,238)</b>	<b>(654,152)</b>
38	<b>Net Position, End of Period</b>	<b>\$ (482,418)</b>	<b>\$ (609,238)</b>	<b>\$ (654,152)</b>	<b>\$ (721,553)</b>

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## **Next Steps: Financial Plans and New Tuition Models**

After the FY 2022 budget process, the University will spend the fall completing the five-year financial plans for each university and the health system including benchmarking to peers. Financial plans will reflect, that increased investment requires a period of improved financial performance to fund the investments. The university's leadership team will utilize the financial planning process to quantify necessary investments to both improve academic excellence and revenue growth and balance those investments against available resources. This long-term financial plan will serve as the basis for the FY 2023 budget process.

The upcoming process will allow the University to re-evaluate the performance targets set three years ago during the implementation of the financial management framework with the Board. Enterprise level targets will be approved by the Board with appropriate competitive market context as the University works to reset five-year financial plans, as codified in Collected Rule 140.025. The financial plan presented to the Board in February will align with the capital plan and will incorporate the universities' key strategies with related funding.

Throughout the next year, each university will also work with their constituents to develop the specifics of the new proposed tuition models. These sessions will provide feedback from students and other impacted parties on the items to consider in the change process, and the details that need to be determined as a part of a transition plan. Each university will also complete modeling to determine the impact on both price setting and the related outcome metrics including retention and graduation. The modeling will help determine how to price consolidated fees and the tuition plateau in a manner to support program quality for students. Each University will have a proposal by the end of February with model changes and specific pricing inputs for discussion.

Through the feedback and modeling process, each university will develop a specific implementation plan for their new tuition strategy. The detailed plan will delineate the specific pricing variables and ranges of the plateaus, based upon actual student data and feedback. The universities will also work on their specific transition and implementation plans, with a planned presentation to the Board for approval in the spring of 2022. The first possible semester of implementation for any model changes would be fall of 2023, but some universities may desire to wait longer to allow for further communications and planning for students recruited into the new model.

Fiscal Year 2023 State Appropriations Request for Operations  
UM

The University's FY 2023 operations appropriation request is due to the Missouri Department of Higher Education and Workforce Development (MDHEWD) each year by August 1. The Board of Curators will consider and approve items to send in that request at the June 24, 2021 Board meeting.

The University's request details are discussed in the body of this paper but will be limited to securing stable continuing operations funding sources to support the University's future.

No. 3

Recommended Action - Fiscal Year 2023 State Appropriations Request for Operations, UM

It was recommended by Vice President Ryan Rapp, endorsed by President Mun Y. Choi, recommended by the Finance Committee, moved by Curator \_\_\_\_\_ and seconded by Curator \_\_\_\_\_, that the following recommendations be approved:

The President is authorized to file a request for state appropriations for operations as follows:

- (1) Funding the Core Operations at current levels plus an equity adjustment continuing at equivalent level to prior year;
- (2) Submit new requests for any higher education directives that might be identified prior to submission;
- (3) Submit Other Curator Programs Requests which includes core funding continuing at the same amounts and new requests for State Historical Society; and
- (4) Submit requests in Accordance with Legislative Requirements.

Any material deviations from estimates in the paper will be reviewed with the Board.

Roll call vote Finance Committee	YES	NO
Curator Graves		
Curator Hoberock		
Curator Layman		
Curator Williams		

The motion \_\_\_\_\_.

Roll call vote Full Board:	YES	NO
Curator Brncic		
Curator Chatman		
Curator Graham		
Curator Graves		
Curator Hoberock		
Curator Holloway		
Curator Layman		
Curator Wenneker		
Curator Williams		

The motion \_\_\_\_\_.

June 24, 2021

Fiscal Year 2023 State Appropriations Request for Operations  
UM

State Appropriations represent a significant contribution to the University's overall budget, representing over \$440 million in funding for the University of Missouri. Higher Education remains the largest funding element of the State's non-mandatory budget. In FY2021, Missouri's budget picture improved with federal stimulus funding and increased tax revenues. The enacted FY2022 State budget contained increases for higher education. The key questions looking forward to the FY2023 budget facing the state include the cost of Medicaid expansion and the durability of tax revenue increases realized through FY2021.

For the FY2023 Appropriations Request, the University will employ a flexibly strategy to try and maximize the amount of funding from the state. The budget picture with the federal stimulus likely means there will be some level of one-time funding available for the Universities, which would be best directed towards capital needs. On the operating appropriations, the University will seek to first protect the recurring funding, increase recurring funding to equalize increases from past appropriations provided to other four-year institutions, and then participate in any other increases or changes proposed by the Missouri Department of Higher Education and Workforce Development.

The priorities listed within this request have been decided on by the Council and proposed for the Board for approval. The outline of the appropriations request also follows the format and requests proposed by the Coordinating Board for Higher Education as the order of priority for the requests for the Governor for the FY2023 state budget.

**Summary of FY2022 TAFP Appropriations**

For FY2022, the University of Missouri received 1.3% core increase over FY2021. Additionally, the University received two new special programs (MU Veteran's Law Clinic and MU Fischer Delta Research Center).



**Table 1: Summary of TAFP Appropriations for FY 2022**

<b>Item</b>	<b>Amount</b>
<b>UM Core Operations</b>	
Appropriation Core	\$416.24
Precision Medicine Initiative	10.00
Core Increase	5.41
<b>FY22 Total Core</b>	<b>\$431.65</b>
<b>Other Programs</b>	
MU Law Veterans Clinic	\$0.33
MU Fischer Delta Research Center	1.00
MU Greenley Research Center	0.27
S&T Project Lead the Way	0.25
UMSL International Collaboration	0.55
Missouri Kidney Program Core	1.75
Missouri Telehealth Network Core	0.44
Show-Me Extension for Community Healthcare Outcomes	1.50
State Historical Society of Missouri Core	3.36
<b>Total Other Programs</b>	<b>\$9.45</b>
<b>Legislative Requirements</b>	
Debt Offset Tax Authority	\$1.40
Spinal Cord Injury Research	1.50
Seminary Fund	0.28
Alzheimer's Research (One-time)	0.00
Missouri Returning Heroes (One-time)	0.00
<b>Total Legislative Requirements</b>	<b>\$3.18</b>
<b>Total FY 2022 Operating Appropriations</b>	<b>\$444.28</b>

Dollars in Millions

In addition to the \$5.41M core increase, the FY2022 appropriations:

- Included the precision health initiative in the Core instead of as a recurring line item
- Maintained funding for MU Greenley Research Center and S&T Project Lead the Way
- Increased funding for the UMSL International Collaboration
- Requested funding was not provided for Alzheimer's Research and Missouri Returning Heroes.

June 24, 2021

## FY2023 Priorities

The funding priorities for FY2023 will cover the following areas, per the Department of Higher Education and Workforce Development (DHEWD) and the Coordinating Board for Higher Education (CBHE):

- 1) Core Appropriations (with an inflationary increase)
- 2) Maintenance & Repair Funding
- 3) MoExcels Project Proposals
- 4) Federal Stimulus Funding Projects

*1) Funding Core Operations;* For FY2022, the University received a \$5.4 million increase in appropriations, with a \$10M previous line-item from PHI rolled into the core. The first priority requested by the University of Missouri System is an equity request for full participation in the 3.7% increase received by all other four-year institutions in FY2022:

**Table 2: Equity Request Calculation**

FY22 Appropriation Core	\$426.24
3.7% Increase on FY22 Core	15.77
Less: Increase Received in FY22	(5.41)
<b>FY2023 Equity Increase Request</b>	<b>\$10.36</b>

Dollars in Millions

Beyond the equity request, the University plans to participate in the core appropriations increase requested by DHEWD. For FY2023 forward, the University as a System will ensure both DHEWD and legislators understand the System is composed of four universities that generate over half of the four-year degrees issued in the state's public higher education System. Advocacy will continue to focus on the scale and the unique capabilities of the four universities under one umbrella.

*2) Maintenance & Repair Funding;* DHEWD's second priority is addressing Maintenance and Repair funding across public higher education. The University of Missouri received \$36.9 million in Maintenance and Repair funding in FY2021. The amount and nature of the request has not been defined by DHEWD, and the University plans to participate in the process. Additional information on the priority is necessary from DHEWD before specific projects can be identified. Each University will participate in the process and a collective \$100M in potential needs have already been identified.

*3) MoExcels Project Proposals;* MoExcels funding facilitates development and expansion of employer-driven education and training programs and initiatives to substantially increase educational attainment. Funding recommended through MoExcels is available for a single fiscal year. If full funding of a project requires a multi-year phase in, each year's funding should stand on its own in the event that funds are not appropriated in subsequent years. The UM Office of Academic Affairs will coordinate the submission of MoExcels proposals through the DHEWD's process. The call for proposals likely won't be started

until the fall. The four universities have identified potential projects to submit and will follow the process defined by DHEWD.

4) *Federal Stimulus Funding Projects / New Decision Items*; For FY2023, there remains potential for one-time needs depending on enacted legislation at the federal level. If one time funding is available, it will likely be directed towards capital priorities. Funding will be allocated via the state’s budget process during the 2022 legislative session. In FY2022, the University received \$21M in capital appropriations for the Veterinary Medicine Diagnostic Lab, the Fischer Delta Center, and the Missouri S&T Center for Advanced Manufacturing. The UM Government Relations team will spend the summer working with Legislators and the executive branch to determine how to match the University’s needs with the restrictions on available funding and the desires of the state. Potential uses for funding will be filtered through both the restrictions on the available funds and the priorities of the legislative and executive branches of state government.

**Request for Core Operations**

The FY2023 operating appropriations request will largely depend on the financial condition of the State of Missouri. Through FY2021, tax collections have been much better than expected, resulting in releases of all withholding for FY2021. The durability of this growth will be the key question for FY2022 and FY2023, especially when coupled with potential Medicaid expansion. The amount of available core increases will be dependent on how these factors play out at the state level. For FY2023, the University will focus on securing an equity increase first and then participating equitably in any core increases for the rest of higher education, which are at a to-be-determined amount.

**Table 3: New Core Requests - FY22**

<b>Total FY2022 Core Appropriations</b>	<b>\$431.65</b>
FY2023 Equity Increase Request	10.36
Participation in DHWED Increase	TBD
<b>Total FY 2023 Core Request</b>	<b>\$442.01</b>

Dollars in Millions

**Request for Other Programs**

The University also submits appropriation requests for other programs as identified in Table 2. As with the other operating appropriations, the first goal in the FY 2023 appropriations request is to maintain FY 2022 core appropriations funded from General Revenue if state revenue is sufficient.

Because the State Historical Society of Missouri (SHSMO) funding is derived almost entirely from state General Revenue, appropriation increases must be requested to cover employee salary and benefit cost increases. SHSMO requests recurring funds increase of \$389,000 to provide: a 3% performance salary increases with associated benefits, additional historians, increased communications support, and an additional research assistant.

**Table 4: FY2023 Other Programs Request**

MU Law Veterans Clinic	\$0.33
MU Fischer Delta Research Center	1.00
MU Greenley Research Center	0.27
S&T Project Lead the Way	0.25
UMSL International Collaboration	0.55
Missouri Kidney Program Core	1.75
Missouri Telehealth Network Core	0.44
Show-Me Extension for Community Healthcare Outcomes	1.50
State Historical Society of Missouri Core	3.36
State Historical Society of Missouri Increase	0.39
<b>Total Other Programs</b>	<b>\$9.84</b>

Dollars in Millions

### **Request for Legislative Requirements**

The University has certain appropriation requests made annually as one-time or recurring requests in accordance with legislative authority. The University will request these appropriations continue in FY 2023, as summarized in Table 5. The first three rows have special fund sources that cannot be used for any other purpose and have been annually appropriated. The Spinal Cord Injury Fund balance is decreasing so the full \$1.5 million may not be available for research grants.

Missouri statutory language requires the University request annually, the last two shown, Alzheimer's Research and Missouri Returning Heroes from General Revenue. Neither of these have been appropriated in recent years. The Returning Heroes request is higher than in past years due to legislation that expands the returning heroes' opportunities to those pursuing master's and non-professional doctoral degrees.

**Table 5: FY2023 Legislative Requirements**

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Debt Offset Tax Authority	\$1.40
Spinal Cord Injury Research	1.50
Seminary Fund	3.30
Alzheimer's Research (One-time)	0.60
Missouri Returning Heroes (One-time)	1.00
<b>Total Legislative Requirements</b>	<b>\$7.80</b>

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Dollars in Millions

## Appendix A

This appendix provides background information on each appropriation line item.

### UM Core Operations

The \$431.65 million **Core Operating Appropriation** contributes 13% of the University's total operating revenues used for student instruction, research, public service, and supporting activities. Continued core funding is required to provide high quality student instruction, improvement in academic productivity, expansion of research and creative works, outreach and engagement with the citizens of Missouri, and continued focus on student access and success.

### Other Programs

The **MU Veteran's Law Clinic** supports veterans in their claims requests with the Department of Veteran's Affairs (VA). The clinic provides law students with experiential learning opportunities to represent clients in their claims. This additional funding supports an expansion of the clinic's services to ensure it does not turn away veteran's who need help in filing and adjudicating their claims with the VA.

The **MU Delta Research Center** is a longstanding agricultural research enterprise with five sites encompassing over 1,100 acres in the Missouri bootheel. This direct funding will be utilized by the center to expand research initiatives to meet the needs of Missouri farmers in southeast Missouri.

The **MU Lee Greenly Jr Memorial Research Center** evaluates efficient and profitable crop production while emphasizing soil conservation, water quality and energy efficiency. It is involved in developing a systems approach for irrigation and drainage using drain tile and studying paired watersheds to evaluate the impact of agroforestry practices on water quality.

The **Missouri S&T Project Lead the Way** appropriation permits S&T to partner with Southern Ozarks Alliance for Rural Development (SOAR) to increase the number of school districts utilizing Project Lead the Way (PLTW). The goal of PLTW is to help students understand STEM education is relevant in their lives and see potential for future careers. This appropriation helps school districts offset costs of STEM programs and to provide state match for potential federal grant money. This funding provides grants to school districts within the targeted 10 county area for their needs in teaching STEM curriculums.

The purpose of the **UMSL International Collaboration** appropriation is to increase international collaboration and promote economic opportunity that helps attract and retain new economic activity to the St. Louis region. University of Missouri-St. Louis works with BioSTL, a regional nonprofit dedicated to advancing prosperity in St. Louis through the growth of biosciences and other targeted innovation clusters. The centerpiece of the program is the GlobalSTL program, which connects the economies of St. Louis and targeted international locations (including Israel, Ireland, and other countries) with a robust pipeline that engages and links experienced professionals to identify international companies who are likely to be attracted by St. Louis' convergence of corporate, university,

and entrepreneurial strengths. Specific business strategies will partner prospective international companies with St. Louis and Missouri resources that might lead to recruitment of a presence in St. Louis. BioSTL provides matching funds.

The **Missouri Kidney Program (MoKP)** is a state funded program, administered by the University of Missouri School of Medicine. MoKP provides financial assistance with transportation to and from dialysis, medication assistance, and insurance premium assistance to eligible Missourians who have kidney failure and are on dialysis, or have received a kidney transplant. The program supports education and research, partners with dialysis centers and transplant centers statewide, and has longstanding expertise in health insurance coverage for kidney disease, including MO HealthNet (Medicaid) and Medicare. All participants must meet residency, citizenship, financial eligibility and medical conditions.

The **Missouri Telehealth Network (MTN)** gives patients in underserved areas access to University of Missouri Health Care specialists without leaving their communities. The network saves patients transportation, discomfort and emotional costs. While all states have at least one telehealth network, Missouri has one of the most developed telehealth networks in the country.

**Show-Me Extension for Community Healthcare Outcomes (ECHO)** provides comprehensive, best-practice care to patients with complex health conditions, in their local community. Show-Me ECHO facilitates collaboration between specialty and primary care that expands access to best-practice medical care across Missouri. It links expert specialist teams at an academic ‘hub’ with primary care clinicians in local communities – the ‘spokes’ of the model. Together, they participate in regularly scheduled Show-Me ECHO clinics, which are virtual grand rounds, combined with mentoring and patient case presentations and discussions. The state provides this general revenue funding for creating and implementing programs in Asthma, Autism, Community Health Work, Child Psychology, Chronic Pain Management, Dermatology, Healthcare Ethics, Hepatitis C, and Opioid Use Disorder and the topics are increasing.

The **State Historical Society of Missouri (SHSMO)** is the premier research center for the study of Missouri state and local history. Founded in May 1898 by the Missouri Press Association and established as a trustee of the state by the legislature a year later, SHSMO collects, preserves, and publishes materials that enhance research and support learning opportunities in the study of Missouri and the Midwest. The general revenue core appropriation supports the operations for the SHSMO and the University is a fiscal agent for the SHSMO. The total SHSMO new request is \$389,000 recurring funding for raises, benefits and new positions.

### **Requests in Accordance with Legislative Requirements**

The University annually makes certain requests, one-time or recurring, in accordance with legislative authority.

The **Debt Offset Tax Authority** appropriation is to cover unpaid debts owed to the institution by state taxpayers. This reduces bad debt expense to the institution by capturing

state income tax refunds to pay overdue accounts owed to the University. The appropriation request is for \$1.4 million, from the Debt Offset Escrow Fund.

The **Spinal Cord Injury Fund** supports research in Missouri in the area of spinal cord injuries and congenital or acquired disease processes. The Spinal Cord Injury Fund was established by legislature in 2001 and is funded from a two-dollar surcharge on all county ordinance, criminal and traffic violation cases. State statute stipulates the Board of Curators shall request annually an appropriation for research awards and award administration from the Spinal Cord Injury Fund. Research awards are a maximum of \$250,000 per award. An appropriation of \$1.5 million is needed to ensure the new and existing awards can be funded. In future years, the award timing will need to be adjusted or this appropriation will need to decrease due to the declining fund balance.

The state **Seminary Fund** provides income for the general operation of University of Missouri – Columbia’s College of Agriculture and Missouri Science and Technology’s School of Mines and Metallurgy. This fund consists primarily from the sale of land grant property and other moneys donated on behalf of the University to the State of Missouri. Per state statute, the Seminary monies belong to the University but the state must hold the securities. A request must be made to the state annually for earnings, estimated at \$275,000, from the monies to be distributed to the University.

State statute (section 172.801, RSMo) requires the Board of Curators to annually request an appropriation to fund **Alzheimer’s Research**. The statute indicates the amount of the request be computed annually and be not less than \$200,000 adjusted for inflation. In addition, the request is to include administrative costs not to exceed ten percent of the appropriation for research. The estimated amount in FY 2023 is \$600,000. No appropriations have been provided for this program since FY 2005.

The **Missouri Returning Heroes Act** limits the amount of tuition charged to combat veterans who meet certain criteria but allows institutions to request the tuition waived in the following year’s appropriation request. MDHEWD requests this item annually for all institutions and includes the amount in the budget request provided to the Governor. The University is requesting an appropriation equivalent to tuition waived in FY 2021 estimated at \$1 million. This request has not been funded in previous years, FY 2009 through FY 2020, but has benefited over 2,400 unduplicated students at an estimated \$6.6 million. The legislation has been expanded from undergraduate degrees to allow returning heroes opportunities to pursue master’s and non-professional doctoral degrees. The impact for the FY 2023 request is estimated to be \$1 million.



Fiscal Year 2023 State Capital Appropriation Request  
UM

Included herein is the FY 2023 State Capital Appropriations Request. The Capital Plans for each University were approved at the April Board of Curators meeting. The projects included in the State Capital Appropriations Request are: Facilities Needs and Operations Reduction Project at MU, Spencer Chemistry & Biological Science Renovation - Phase II at UMKC, Schrenk Hall Addition and Renovation - Phase III (Biosciences Building) at Missouri S&T, and Space Consolidation Plan at UMSL.

Also included are two projects that are eligible for the Higher Education Capital Fund (HECF), also known as the 50/50 Match Program. With this program, the university seeks private donations or grants for at least fifty percent of the cost of the project. The university can then apply for matching state funds for the remaining half. The projects include Missouri S&T's Engineering Research Laboratory Renovation and Addition and Systems Integration and Prototype Development Facility.

Each University will be prepared with scalable Maintenance and Repair projects should special requests arise during the year from the State.

University of Missouri Appropriations Request for Capital Items							
Facility Name	<i>Capital Improvement Summary</i>				<i>Economic Impact Factors</i>		
	Campus	State Request	University Amount	Total	Impact on Overall Economy	Earnings Generated	Jobs Generated
<i>State Appropriations Projects</i>							
Facilities Needs and Operations Reduction Project	MU	\$56,000,000	\$0	\$56,000,000	\$120,876,000	\$39,026,000	818
Spencer Chemistry & Biological Science Renovation - Phase II	UMKC	\$37,657,000	\$0	\$37,657,000	\$81,283,000	\$26,243,000	550
Schrenk Hall Addition and Renovation - Phase III (Biosciences Building)	S&T	\$49,562,500	\$0	\$49,562,500	\$106,981,000	\$34,540,000	724
UMSL Consolidation Plan	UMSL	\$28,500,000	\$0	\$28,500,000	\$61,517,000	\$19,862,000	416
<b>Total State Appropriations Projects</b>		<b>\$171,719,500</b>	<b>\$0</b>	<b>\$171,719,500</b>	<b>\$370,657,000</b>	<b>\$119,671,000</b>	<b>2,508</b>

**Facilities Needs and Operations Reduction Project**  
*University of Missouri – Columbia*

This project will provide critical exterior repairs to Jesse Hall, Hill Hall, and Tucker Hall; critical mechanical systems replacements for Hill Hall, Tucker Hall, and Medical Science Building; and will demolish ten buildings (Columbia Professional Building, Loeb Hall, London Hall, Mizzou North, Neff Annex, Noyes Hall, Old Student Health Building, Parker Hall, Pickard Hall, and Read Hall) that are in very poor condition. The project will eliminate over \$100 million of facilities needs and allow the University to reinvest approximately \$2.5 million annual operating cost savings.

Jesse Hall has stood as a heart of the iconic campus fabric for more than a century. The building has a FCNI of 0.26 with facility needs over \$13 million. The project will repair the exterior deteriorating brick and stone masonry and ornamental and structural painted metal and replace the original wood windows which are in various stages of deterioration.

Hill Hall is a core campus building, located near Jesse Hall, has a FCNI of 0.40 and nearly \$5 million in facility needs. The project will replace the antiquated mechanical system with a new code compliant system; replace the roof and windows; and provide selective masonry tuckpointing.

Tucker Hall is a core campus laboratory building, located near Life Sciences Building, has an FCNI of 0.26 and over \$11 million in facility needs. The project will replace the mechanical system, including laboratory exhaust system, waterproof the foundation and provide selective masonry tuckpointing.

The Medical Science Building is strategically located adjacent to the University Hospital and provides space for research laboratories related to the Health Sciences, particularly the School of Medicine. The building has a FCNI of 0.46 with facility needs of over \$47 million. This project would replace ten air handling units that are 50+ years old, add two new air handling units to eliminate window air conditioning units, replace ten aged fume hoods, replace steam radiators with a modern mechanical system, and extend the fire suppression system throughout the building.

The project cost of \$56,000,000 will be funded from the State.

**Spencer Chemistry and Biological Sciences Renovation - Phase II**  
*University of Missouri - Kansas City*

This project would continue the renovation of the 153,827 gross square feet (gsf) Biological Sciences Building and Spencer Chemistry Building. The second phase will renovate approximately 75,000 gsf in both Spencer Chemistry and the Biological Sciences Building and will complete the renovation of these facilities. This project will build upon the first phase, which renovated about 79,000 gsf and was completed in 2018 and funded by the State with the Board of Public Buildings Bond as the primary funding source. The

Phase II renovation will address \$26.4 million of additional facilities needs, research spaces, teaching spaces, and other facility deficiencies that were beyond reach of the Phase I budget. The renovation will provide state of the art teaching laboratories and support spaces, while providing improved laboratory systems to support research activities, support student retention, meet current laboratory standards, and encourage student collaborative learning.

The Spencer Chemistry and Biological Sciences Buildings were originally constructed in 1968 and had not been renovated or updated since the 1980's prior to the Phase One renovation which was completed in 2018. These buildings serve Chemistry and Biology undergraduate and graduate majors, as well as those who go into professional schools or graduate studies in medical and dental. They also serve as part of the teaching mission for our Pharmacy, Medicine, and Nursing Programs. The facility is outdated, provides inadequate space for teaching, and does not meet current safety codes and standards. The chemistry department was recently merged into the School of Biological Sciences to create a larger School of Biological and Chemical Sciences.

Funding for the \$37,657,000 project will be from the State.

### **Schrenk Hall Addition and Renovation - Phase III** ***Missouri University of Science and Technology***

The Schrenk Hall Addition and Renovation – Phase III will renovate Schrenk Hall (1938 & 1973) to accommodate the Chemistry and Biological Sciences departments. This will be the final phase with the renovation of 17,600 gross square feet (gsf) of the west wing and the replacement of the east wing with a new 90,400 gsf facility and atrium. This project will provide new teaching laboratories, research laboratories, and support space. The project also takes into consideration growth and consolidation of department entities that are spread over multiple buildings on campus.

This project is the final phase of an interdisciplinary complex dedicated to providing world-class education and research in biological sciences, chemistry, and chemical and biochemical engineering. Equipped with expanded research space, open-concept research labs and improved accessibility, this facility will leverage Missouri S&T's strengths in computational science, environmental engineering, and materials science and engineering to advance medical, environmental, and biomedical research. The building will also be home to an interdisciplinary Center for Research in Biomaterials, where students and faculty will conduct research in bio-active, bio-inspired, and bio-mimetic materials for a variety of applications. The facility will be an integral component of the student experience at Missouri S&T, since almost every student will take at least one course in one or more important foundational area of biological sciences or chemistry.

The existing 1938 Schrenk Hall East should be demolished due to its very poor condition, and the structural system is not conducive to modern building systems. The Facilities Condition Needs Index (FCNI) is 0.57 with over \$19 million in facilities needs. Missouri S&T is committed to moving this challenging project forward in a phased approach and investing when possible to address immediate campus needs. Recently, \$4 million was

added to the Phase 2A budget of the west wing renovation for Biological Sciences Research Laboratories in addition to the already planned Chemistry Research and Instructional Laboratories. Another commitment by the campus, to construct general classrooms, that were planned for this facility, but are being built as an addition to the Computer Science Building Student Classroom Learning Center. Since 2016, demand for larger classrooms has increased due to growth. This investment results in more efficient instruction serving more students that will allow them to complete their degrees faster. Both investments have reduced the project budget and overall scope of this project by \$9 million

This project will eliminate \$19 million in facilities needs and will increase annual operating cost by \$187,772. Funding for the \$49,562,500 project will be from the State.

### **UMSL Consolidation Plan** *University of Missouri - St. Louis*

Renovation of General Services Building (GSB), Social Science Building (SSB) and Patient Care Center (PCC) will include constructing offices, laboratories, classrooms and common core areas to consolidate space for the following programs: Fine Arts, Sculpture and Ceramics, Music, Optometry and Education. The project provides new infrastructure (HVAC, electrical switchgear), classrooms, teaching labs and the associated technology required to teach and learn in today's modern-day world. The project will also include extensive renovation to common use areas to allow students to study and collaborate. This project will address ADA deficiencies with building access that include entryways, elevators and restrooms. Exterior improvements include replacement/upgrade of signage, sidewalks, accessible routes and steps.

This project is aligned with UMSL's ten-year Master Plan, Space Survey, and ISES Report by addressing two major findings. First, all studies have identified UMSL having excessive space when compared to the campus demands and therefore causing operating expenses that are not sustainable. Second, the Master Plan has identified UMSL lacking common areas where students can study, learn and collaborate with the peers and causing UMSL to lose enrolment to competitive state schools. This consolidation effort is vital to UMSL's survivability that will reduce UMSL's overall footprint, lower operational expenses and addressing deferred maintenance across seven buildings while adding collaboration space to help retain and attract student enrollment.

General Services Building is an underutilized building located on North Campus near the core of UMSL. The school of Music, Fine Arts and Sculpture and Ceramics programs are currently operating in separate buildings outside of the core where they are either not designed for their space or have high FCNI numbers. Renovating GSB will allow UMSL to consolidate the School of Music, Fine Arts and Sculpture & Ceramics to the GSB and demolish the Music Building and the Sculpture and Ceramics Building while repurposing the Fine Arts Building. As a result, this consolidation will reduce UMSL's footprint by 60,000 gross square feet (gsf), reduce operation expenses by \$350,000 annually and reduce the deferred maintenance \$9 million.

Optometry and the College of Education are primarily operating in two buildings (South Campus Classroom Building and Marillac) where the FCNI index exceeds campus requirements and where these buildings are at the end of life. Renovating underutilized space at the Patient Care Center (South Campus) and SSB Building (North Campus) will allow UMSL to consolidate these two colleges and reduce UMSL's footprint by an additional 87,000 gsf, reduce operating expenses by \$450,000 annually, reduce deferred maintenance by \$27 million and demolish the South Campus Classroom Building and Marillac Hall.

Funding for the \$28,500,000 project will be requested from the State.

<b>University of Missouri Appropriations Request for Higher Education Capital Fund</b>							
	<i>Capital Improvement Summary</i>				<i>Economic Impact Factors</i>		
<b>Facility Name</b>	<b>Campus</b>	<b>State Request</b>	<b>University Amount</b>	<b>Total</b>	<b>Impact on Overall Economy</b>	<b>Earnings Generated</b>	<b>Jobs Generated</b>
<i>State Appropriations Projects</i>							
Engineering Research Laboratory Renovations and Addition	S&T	\$21,513,000	\$21,513,000	\$43,026,000	\$92,872,000	\$29,985,000	629
Systems Integration and Prototype Development Facility	S&T	\$25,000,000	\$25,000,000	\$50,000,000	\$107,925,000	\$34,845,000	731
<b>Total State Appropriations Projects</b>		<b>\$46,513,000</b>	<b>\$46,513,000</b>	<b>\$93,026,000</b>	<b>\$200,797,000</b>	<b>\$64,830,000</b>	<b>1,360</b>

## **Engineering Research Lab (ERL) Addition and Renovation**

*Missouri University of Science and Technology*

The Engineering Research Laboratory (ERL) Addition and Renovation project will construct approximately 86,470 gross square feet (gsf) on the east side of ERL and connect to the north side the Straumanis-James Hall. This will create a research center of approximately 162,540 gsf that will aesthetically anchor the northeast corner of the campus. The project will also address life safety code issues, energy conservation measures and associated cost savings, accessibility issues, as well as upgrade systems in the ERL.

This building will provide additional interdisciplinary research space which has been identified as a high priority in both the Strategic Plan and Campus Master Plan. Since this project will house interdisciplinary research, its impact will be felt campus-wide and affects all degree programs. ERL's Facilities Condition Needs Index (FCNI) is 0.49 with over \$13 million in facilities needs. Additional operating costs are estimated to be \$517,090 annually and funded by the Campus operating budget. The estimated number of students impacted annually will be 1300.

The \$43,026,000 project budget will be funded by \$21,513,000 in gifts and \$21,513,000 from the State.

## **Systems Integration and Prototype Development Facility**

*Missouri University of Science and Technology*

The new Systems Integration and Prototype Development Facility will be the first building in the research and development (R&D) park. The new building of approximately 84,300 gross square feet (gsf) will incorporate a mix of flexible high-bay spaces, laboratory spaces, offices and meeting areas. The R&D Park will be located on Collegiate Boulevard where the General Services Building is currently located and will provide convenient vehicular access and critical visibility from I-44. This project includes the demolition of Compressible Flow Laboratory, Dangerous Materials Storage Facility, Temporary Research Facility, Maintenance Shed #1, Transit Depot, and the General Services Building. The project will also construct a new General Service Building on Fraternity Circle adjacent to the existing Grounds Equipment Storage Building to accommodate offices and shop space for the facilities services unit.

The Systems Integration and Prototype Development Facility will integrate experts, innovators, small and large businesses, entrepreneurs, educators, and policy-makers to provide advanced manufacturing resources to Missouri manufacturers. Key components to this project include creating jobs, increasing the availability and work-readiness of Missouri's future high-tech workforce, and strengthening domestic supply chains that rely on small manufacturers in Missouri and the region.

The first new building of the R&D park is organized around the four fundamental disciplines of the manufacturing ecosystem itself: materials, manufacturing & methods;

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pre-production testing & development; the forge – steel and advanced metallurgy; cyber-physical systems security, testing & development.

Each of these individual discipline areas is characterized by and will be designed around current and evolving needs for both space and equipment in both the office/lab suites and high-bay research and production facilities, with a loose-fit flexibility to accommodate the continual evolution of the work, the technology, and the relationships. The facility includes high bay space, laboratories, collaborative workspace, and administrative space.

This new facility will be a place to forge and explore partnerships between academic research, entrepreneurial start-ups and established companies.

This project will eliminate \$5.3 million in facilities needs. The \$50,000,000 project budget will be funded by \$25,000,000 in gifts and \$25,000,000 from the State.

No. 4

Recommended Action - Fiscal Year 2023 State Capital Appropriations, UM

It was recommended by President Choi, Chancellor Agrawal, Chancellor Dehghani, and Chancellor Sobolik, recommended by the Finance Committee, moved by Curator \_\_\_\_\_ and seconded by Curator \_\_\_\_\_, that the following action be approved:

That President Choi be authorized to submit to the appropriate state offices as follows:

- (1) University's Fiscal Year 2023 State Capital Appropriations Request as shown on the accompanying schedules.
- (2) Submit new requests for any higher education capital funding directives from the State

Any new requests will be reviewed with the Board.

Roll call vote Finance Committee                      YES                      NO

Curator Graves  
Curator Hoberock  
Curator Layman  
Curator Williams

The motion \_\_\_\_\_.

Roll call vote Full Board:                      YES                      NO

Curator Brncic  
Curator Chatman  
Curator Graham  
Curator Graves  
Curator Hoberock  
Curator Holloway  
Curator Layman  
Curator Wenneker  
Curator Williams

The motion \_\_\_\_\_.

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Amend  
Collected Rules and Regulations 100.020 Patent and Plant Variety Regulations  
and Collected Rules and Regulations 100.030 Copyright Regulations  
UM

In November, 2019, President Mun Choi created a University of Missouri System (UM) task force to develop a proposal to sustainably fund and distribute revenue from technology transfer activities. For the past several years the Technology Transfer Office (TTO) patent budgets and office operations have been funded via large revenues from a blockbuster drug. With this technology going off-patent, this is no longer a viable model moving forward.

The task force met two times and follow-up meetings were held with each of the University of Missouri System Vice Chancellors for Research and TTO Directors. The task force came up with the following overarching recommendations:

1. Align Expenses and Revenue - The University generating the expense will be responsible for paying that expense. In parallel, the University that generates the revenue will receive that revenue, after sharing with inventors. The task force is recommending that one-third of the revenue, after paying out-of-pocket expenses be distributed to inventors and the remaining two-thirds distributed to the appropriate University
2. IP-Related Expenses - Expenses related to protecting and managing intellectual property should be deducted from revenues before sharing with inventors.
3. Consistent Policy - The above recommendations for revenue, expense, and distribution shall apply to all forms of intellectual property.

General Counsel's office has been engaged to redraft the Collected Rules and Regulations to align with the recommendations above. A red-line and clean-copy version are included for consideration. Faculty Council has reviewed and approved these recommendations.

No. 5

Recommended Action - Amend CRR 100.020 Patent and Plant Variety Regulations and CRR 100.030 Copyright Regulations - UM

It was recommended Vice President Rapp, endorsed by President Choi, recommended by the Finance Committee, moved by Curator \_\_\_\_\_ and seconded by Curator \_\_\_\_\_, that the following action be approved:

Existing Collected Rules and Regulations, Section 100.020 Patent and Plant Variety Regulations and Collected Rules and Regulations 100.030, Copyright Regulations be amended as noted in the attached document.

Roll call vote Finance Committee                      YES                      NO

Curator Graves  
Curator Hoberock  
Curator Layman  
Curator Williams

The motion \_\_\_\_\_.

Roll call vote Full Board:                              YES                              NO

Curator Brncic  
Curator Chatman  
Curator Graham  
Curator Graves  
Curator Hoberock  
Curator Holloway  
Curator Layman  
Curator Wenneker  
Curator Williams

The motion \_\_\_\_\_.

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# 100.020 Invention and Patent ~~and Plant Variety~~ Regulations

Bd. Min. 6-25-71, p. 35,974, Amended 9-17-92, 4-25-96, 4-8-05, 11-29-07, 7-23-10, XX-XX-21.

**A. Purpose** – These regulations are adopted by The Curators of the University of Missouri in order to:

~~A.~~

- Secure for the people of the State of Missouri and the United States the full benefits of research and investigation ~~made by~~ performed at the University of Missouri;
- Establish the ~~definite~~-rights and obligations of Employees with respect to any Invention made or ~~Plant Variety made developed~~ by them during employment by the University and to establish the definite rights and obligations of ~~s~~Students with respect to any Invention made or ~~plant Variety made developed~~ by them during their period of enrollment with the University;
- Establish a uniform ~~procedure~~ process by which these rights and obligations may be equitably determined in each case; ~~and~~
  - Provide for a Patent Committee to assist the University with policy recommendations and to operate as a mechanism to advise on resolving disputes;
  - Encourage and recognize individual and cooperative achievement in research and investigation; ~~and~~
    - Provide and support a technology transfer office to manage the day-to-day technology transfer activities at each campus of the University.

**B. Application of Regulations** -- ~~With respect to Employees, these patent and plant variety regulations form a part of the employment contract. These regulations constitute a (1) a term and condition of employment of all Employees of the University, and form a part of the employment contract, and (2) a term and condition of enrollment and attendance at the University by Students. These regulations shall be effective as to all Inventions and Plant Varieties made disclosed during any period of employment, enrollment, or attendance from and after the date of their adoption. The rights and obligations of students who do not fall within the definition of Employee found in Section 100.020C.2.b. are addressed in Section 100.020D.6 hereof. If a patent or Plant Variety Protection application is filed upon an Invention or Plant Variety which has been made by an Employee of the University within the general scope of her/his duties as defined in Section 100.020 D.1 hereof, but~~

which has not been reported to the Patent Committee pursuant to these regulations, title to such Invention or Plant Variety shall immediately vest in the University and the contract of employment shall be considered as an assignment of such rights, and each Employee as a condition of employment agrees to execute any assignments requested by the University.

### C. Definitions

1. "Chancellor" means the Chancellor of a University campus, and shall include, when applicable, the interim Chancellor or acting Chancellor.
- C.2. "Dean" as used herein means the Dean of the college or school having jurisdiction over the Employee or Student, and in case of those Employees not under jurisdiction of any Dean, the Employee's Supervisor shall perform the duties herein prescribed for the Dean.
1. "University" as used herein shall be deemed to mean The Curators of the University of Missouri. Any action or consent on the part of the University herein shall be an action or consent duly taken or given by the Board of Curators, or its authorized officer.
- 2.3. "Employee" as used herein shall be deemed to mean (a1) any person receiving compensation from the University for services rendered, regardless of whether the Employee be full-time or part-time, (b2) any person receiving compensation paid through the University from any funds placed in its hands for distribution, or (c3) any person that who has voluntarily elected to enter into a written agreement with the University in exchange for the University's agreement to treat such person as an Employee for purposes of these regulations, or (d) any person with adjunct, courtesy, emeritus or "no salary" appointment (e.g., unpaid leave or unpaid sabbatical) if such person is participating in research and investigation with Substantial Use of University Resources except where the University and such person have a written agreement whereby the person is paying the University for use of such Substantial Use of University Resources. For purposes of the definition of Employee and for the avoidance of doubt, Sstudent financial aid including, but not limited to, scholarships, grants, loans, tuition waivers and educational fee reductions, generally available to University sStudents and unrelated to any provision of services by the Sstudent to the University shall not be interpreted as compensation. Also, for purposes of this policy, full-time studentsthese regulations. Students (including graduate research assistants and graduate teaching assistants) receiving compensation for services rendered to/from the University which services are unrelated to shall be considered "Employees" if their actual duties and responsibilities include research or and investigation and are unrelated to or the creation of computer software that lead to the Invention – regardless of the position title, shall not be considered to fit within the foregoing definition of Employee.
3. "Supervisor" shall mean any Employee of the University in charge of a project under the supervision of the head of a department or some superior officer.
4. "Gross Proceeds" as used herein means money received by the University from third parties (on a cash basis, as opposed to an accrual basis) from the sale, assignment, lease, licensing, optioning, or other transfer of rights in an Invention to such third parties, including but not limited to license fees, option fees, earned royalties, minimum royalties, and milestone payments. Gross Proceeds also includes money recovered (on a cash basis, as opposed

to an accrual basis) by the University from lawsuits or dispute resolutions involving infringement by third parties with respect to the applicable Invention. Equity, convertible notes, or other similar ownership interests (or portions thereof) obtained by the University shall not be considered Gross Proceeds unless and until the University receives money for the equity, convertible notes, or other similar ownership interest (or portions thereof); provided that in the event that such equity is readily liquidable (for example, in the case of an IPO), then such equity may be considered Gross Proceeds for purposes of distributing the Inventor Share such that the Inventors may receive such equity. For clarity, Gross Proceeds does not include:

- a. The reimbursement by third parties to the University of any costs, expenses, or fees associated with the preparation, filing, prosecution, or maintenance of any Patents or PVP certificates owned in whole or in part by the University (whereby such reimbursement may include an equity, convertible note, or other similar ownership interest in the third party in consideration and in lieu of the University not seeking monetary reimbursement, in whole or in part, of such costs, expenses, or fees associated with the preparation, filing, prosecution, or maintenance of any Patents or PVP certificates); or
  - b. The reimbursement by third parties to the University of any costs, expenses or fees associated with investigating, defending, or enforcing a claim or potential claim with respect to the Invention or associated license agreement, including but not limited to infringement/non-infringement, invalidity/validity, unenforceability/enforceability, and including those before any court, administrative tribunal (e.g., United States Patent and Trademark Office), or dispute resolution forum (e.g., arbitration or mediation), whether U.S. or foreign; or
  - c. Money received by the University for the negotiated indirect cost rate (facilities and administration costs) associated with a research agreement or grant from which an Invention, was conceived, reduced to practice, or otherwise made; or
  - d. Money received by the University for equity, convertible notes, or other similar ownership interest (or portions thereof) obtained from third parties in exchange for the University making a case investment in the third party or foregoing, in whole or in part, the right to obtain reimbursement from the third party for costs, expenses, or fees associated with the preparation, filing, prosecution, or maintenance of any Patents or PVP certificates owned in whole or in part by the University. Such exchange will be treated as an investment in the third party and any proceeds to the University from such investment will not be included in Gross Proceeds.
5. "Head of the Department" shall mean as used herein means the person having charge of the department of the Employee reporting the Invention, and in case there be no such head of the department, the Dean, or on campuses with no schools and colleges, the Provost shall perform the duties herein provided for the Hhead of the Ddepartment.
6. "Invention" as used herein means any invention, design, process, machine, manufacture, composition of matter, tangible research materials (e.g., cell lines, virus isolates, antibodies, prototype devices), whether or not patentable, together with any associated or supporting technology, data, know-how, or show-how necessary or useful for the protection,

development or application of the same, and also includes all Patents or PVP certificates derived therefrom. A "Plant Variety" is a type of Invention.

7. "Inventor" as used herein means an Employee who individually or jointly with others makes an Invention. More specifically:
  - a. Inventions Covered by a Patent. For Inventions that are the subject of a Patent, "Inventor" refers to those Employees who meet the criteria for inventorship under United States patent law and are thus named on the applicable Patent. For an Invention covered by a Patent, the Inventors may change over time due to the prosecution of the Patent and the possible addition or deletion of Inventors from such Patent. Inventorship is a legal determination.
  - b. Plant Varieties Covered by a PVP Certificate. For Inventions which are Plant Varieties which are not the subject of a Patent but which are covered by a PVP certificate, "Inventor" refers to those Employees who meet the criteria for being a plant breeder under United States PVP law.
  - c. Unpatented Technologies. For Inventions that are not the subject of a Patent or PVP certificate, "Inventor" refers to those Employees who have jointly executed the Invention Disclosure Form and contributed to the making or development of the Invention. If one or more Employees cannot agree that they are all "Inventors," the matter may be referred to the Patent Committee by the Patent Administrator.
8. "Net Proceeds" as used herein means Gross Proceeds minus the following out-of-pocket expenses, costs, fees or other and payments incurred by the University that are associated with the applicable Invention:
  - a. costs, expenses and fees related to the evaluation, licensing, and protection of the Invention, including, but not limited to, those paid to government agencies (e.g., U.S. Patent and Trademark Office, European Patent Office) or the University's outside legal counsel associated with the preparation, filing, prosecution and maintenance of Patents or PVP certificates for the Invention; and
  - b. payments made to joint owners or external sponsors of an Invention pursuant to an agreement with the joint owners or external sponsors. For the avoidance of doubt, such payments may include (1) revenue sharing payments due the joint owner or external sponsor and/or (2) the reimbursement to the joint owner or external sponsor of the costs, expenses, or fees related to (a) the preparation, filing, prosecution, or maintenance of a Patent or PVP certificate covering the applicable Invention; or (b) the investigation, defense, or enforcement of a claim or potential claim with respect to the applicable Invention; and
  - c. costs, expenses, and fees for investigating, defending or enforcing a claim or potential claim with respect to the Invention, including but not limited to infringement/non-infringement, invalidity/validity, unenforceability/enforceability, and including those before any court, administrative tribunal (e.g., United States Patent and Trademark Office), or dispute resolution forum (e.g., arbitration or mediation), whether U.S. or foreign.



9. **"Patent"** as used herein means any pending patent application (including an unexpired provisional patent application) or issued patent anywhere in the world. The term includes both United States patent applications and issued patents, as well as patent applications and issued patents from other regional patent offices (e.g., a European patent application) or national patent offices (e.g., a Canadian patent application). The term also includes pending or issued plant patents under 35 U.S.C. § 161 (which covers asexually reproduced plants, excluding tuber propagated plants), and pending or issued utility (non-provisional) patents directed to a Plant Variety. The term also includes design patents under 35 U.S.C. § 171.
10. **"Patent Committee"** as used herein means the committee referred to in Section G. The Patent Committee may also be referred to as the "Patent and Copyright Committee" when dealing with copyright matters pursuant to CRR 100.030.
11. **"Plant Variety"** as used herein means a plant (including germplasm) which is sexually reproduced or tuber propagated and that is eligible from a subject matter standpoint for protection under a PVP certificate, regardless of whether PVP protection is actually filed or not. A Plant Variety is a type of Invention.
12. **"PVP"** as used herein means plant variety protection through a pending application or issued certificate under the United States Plant Variety Protection Act or similar protection in a foreign country.
- 3.
4. ~~**"Dean"** shall mean the Dean of the college or school having jurisdiction over the Employee, and in case of those Employees not under jurisdiction of any Dean, the business manager shall receive the reports and perform the duties herein prescribed for the Dean.~~
5. ~~**"Patent Committee"** shall mean the committee herein provided in Section 100.020 E.~~
6. ~~**"Invention"** is comprised of:~~
- - Conception of the idea (mental element); and
  - 
  - Reduction to practice of the inventive concept (physical element).
  -
- ~~As used in these regulations, the term "Invention" means existence of either the completed mental element or both the mental and physical elements, whichever situation first occurs. (See footnote 1 at end of Section 100.020.)~~
7. ~~**"Plant Variety"** shall mean seed varieties that can be protected under a Certificate of Plant Variety Protection. Such varieties are self-pollinated plant varieties.~~
13. ~~**"President"** as used herein shall be deemed to mean~~ the President of the University of Missouri or her/his designee and shall include, when applicable, the "Interim" President or "Acting" President.
14. "Student" as used herein means a person enrolled in the University. The term includes full-time and part-time students and both graduate and undergraduate students. The term includes a student enrolled for credit and not-for-credit.

15. "Substantial Use of University Resources" means more than incidental use of University resources, facilities, financing, or time by Employees. The following are non-limiting examples of Substantial Use of University Resources (in the absence of written agreement or written approval from the President or his/her designee that explicitly states they will not be deemed to be considered Substantial Use of University Resources or otherwise addresses ownership):

- a. use of funds from an external sponsor;
- b. use of funds from an internal (University) sponsor or account;
- c. use of University-owned intellectual property (unless licensed or otherwise transferred from the University to the person or entity using such University-owned intellectual property);
- d. use of University information not available to the public;
- e. use of University support staff;
- f. use of University research, clinical, production, laboratory, studio, specialized computing, or other equipment without payment of fees, where such fees are equivalent to those normally paid by third parties; and
- g. reduction in levels of teaching, service, or other typical activities (e.g., course load, student advising responsibilities, division/department meetings, office hours, administrative responsibilities).

Substantial Use of University Resources does not typically include use of office supplies, computers, telephones, utilities, or minimal administrative/clerical support. Substantial Use of University Resources does not typically include use of University libraries on a basis similar to scholars who have no association with the University.

16. "Supervisor" as used herein means any Employee of the University in charge of an Employee under the supervision of the Head of the Department or some other superior officer.

17. "TTO" means the technology transfer office, department, unit, or other organization designated by the President or his/her designee to manage the day-to-day technology transfer activities at each campus of the University.

18. "University" as used herein means The Board of Curators of the University of Missouri. Any action or consent on the part of the University herein shall be an action or consent duly taken or given by the Board of Curators, or its authorized officer.

8.

~~D.a.~~ **Inventions by Employees of the University**

1. **Rights of University and of Employees**

- a. Assignment by Employees. The University, ~~as the employer and as the representative of the people of the state,~~ shall have the ownership and control of any Invention ~~or Plant Variety~~ developed in the course of the Employee's service to the University. Each Employee ~~of hereby irrevocably assigns to~~ the University all rights, title is required and shall upon request assign to The Curators of the University of Missouri all domestic interest in and foreign rights to any Invention or Plant Variety Inventions made by the Employee within the general scope of ~~her/his duties as Employee of the University, unless such requirement is waived in writing by the University his/her duties as an Employee, and ownership of such~~ Inventions shall immediately vest in the University. Further, the

University may elect to have Employees, as a condition of hiring or continued employment (as well as a condition of persons with “no salary” appointments participating in research investigation as set forth in Section C.3), to sign a written assignment or written acknowledgment of the Invention and Patent Regulations (CRR 100.020) and Copyright Regulations (CRR 100.030) prepared by the Office of the General Counsel in consultation with the Patent Committee. The written assignment or written acknowledgement may contain assignment language directed to Inventions (and associated Patents, and PVP protection) owned by the University in accordance with these regulations. The failure of an Employee to sign the written assignment or written acknowledgement does not relieve the Employee of the Employee’s obligations under these regulations and such Employee remains bound by the regulations. Each Employee is further required to execute any and all documents the University deems reasonably necessary to evidence such University ownership, including but not limited to any confirmatory assignments requested by the University. - Remuneration to the Employee for such assignment(s) is detailed in Section ~~100.020 E.2.c and E.2.d.~~

- b. Scope of Duties. An Invention ~~or Plant Variety~~ shall be considered as having been made within the general scope of the Employee’s duties for the University if either of the following conditions are met:
- i. Whenever the Employee’s duties include research or investigation, and the Invention ~~or Plant Variety~~ arose in the course of such research or investigation and is relevant to the Employee’s general field of ~~an~~ inquiry ~~to which the Employee was assigned~~; or
  - ii. ~~Whenever the Invention or Plant Variety was in a substantial degree made or developed through the use of University facilities or financing, or on University time, or through the aid of University information not available to the public.~~ Substantial Use of University Resources. In assessing Section D.1.b.i, the University may take into account the Employee’s department/college, other appointments (like joint appointments), classes taught, fields in which the Employee advises Students, publications/presentations made by the Employee, conferences attended by the Employee, journals/publication in which the Employee provides peer review, sponsored projects involving the Employee, grants submitted by the Employee through the University, and other relevant factors.

- ~~ii.~~
- a.c. Inventions Made Outside the Scope of Duties. An Employee of the University shall be entitled to all rights resulting from any Invention ~~or Plant Variety~~ which was made by ~~her/him/her/him~~ outside the general scope of ~~her/his/his/her~~ University duties, as defined in Section ~~100.020 D.1.ab.~~ For example, subject to the Inventor’s compliance with the Conflict of Interest Policy set forth in Collected Rule and Regulation 330.015 (including any applicable Conflict of Interest Management Plan), the University shall have no rights to Inventions or Plant Varieties developed in the course of ~~summer or consulting employment by an employer~~ activities for third parties other than the University of Missouri, and not resulting from ~~research or information obtained from~~ Substantial Use of University ~~services~~ Resources.

~~b.—If the University finds that an Invention or Plant Variety made by an Employee of the University outside of the general scope of her/his University duties is used or liable to be used in the public interest and executes a certificate of that effect, the Employee may, if he/she wishes to do so, request that an application for a patent or Certificate of Plant Variety Protection be filed and prosecuted at the expense of the University. Under such circumstances the Invention or Plant Variety may be manufactured and used by or for the University, State of Missouri, or the government of the United States for governmental purposes without the payment of any royalty.~~

~~e.d. Disposition Rights. Except as provided herein, the President or his/her designee may approve the following:~~

~~i. (1) Assignment of Inventions or Plant Varieties owned by the University;~~

~~ii. (2) Optioning of Inventions owned by the University;~~

~~iii. Licensing of Inventions or Plant Varieties owned by the University;~~

~~iv. (3) Non-Assertion of Rights in Inventions (see Section D.3.);~~

~~v. Waiver (re-assignment) of the Inventions by the University back to the Inventor (see Section D.4.); or~~

~~vi. Any other transfer or disposition of Inventions owned by the University.~~

~~In determining whether to grant such assignment or license approve the foregoing i-vi, the President or his/her designee shall consider all relevant factors including, but not limited to, those factors stated in Section 100.020 D.1.f.~~

~~The requirement relative to the assignment of domestic and foreign patent and Certificate of Plant Variety Protection rights, as set forth in Section 100.020 D.1.a. may be waived in whole or in part in writing by satisfied the University as to any Invention or Plant Variety as to which it finds that action will reasonably and substantially discharge the interests obligations of the University do not require full assignment of such rights consistent with the University's missions.~~

~~d.e. Patent and PVP Filings. An Employee of the University shall not file (or assist others in filing) in any domestic or foreign jurisdiction any patent application or Plant Variety Protection Application Patent or PVP certificate relating to an Invention or Plant Variety made within the general scope of his/her University duties unless (see Section D.1.b.) without the University has waived in writing prior written consent of the requirement that rights be assigned to the University President or his/her designee. The decision on the University's consent to file shall not constitute a waiver should be made within a reasonable time following the request for waiver of or otherwise affect the University's ownership interest in the Patent or PVP certificate.~~

~~e.—The patent rights and/or Certificate of Plant Variety Protection of the University provided under these regulations may be waived, assigned or licensed by the President of the University if the President is satisfied that the patent and Plant Variety provision will reasonably and substantially discharge the obligations of the University of Missouri consistent with the~~

University's interest. In making such determination, the President shall consider all relevant factors including, but not limited to the following:

- (1) The amount of royalty or other consideration offered in exchange for such waiver, assignment or license.
- (2) The amount of support being provided by any sponsor.
- (3) The originator of the research concept.
- (4) Whether the research supports work by students who will use the research findings to fulfill educational requirements in their chosen academic programs.
- (5) The potential commercial value of the patentable or Plant Variety findings which are likely to result.
- (6) The likelihood of patentable or Plant Variety findings resulting from the research.
- (7) The recommendation of the principal investigator, the head of her/his department and her/his dean, or on campuses with no schools or colleges, the Provost.
- (8) The extent of utilization of University resources and facilities in the development of the Invention or Plant Variety.
- (9) The amount of indirect costs provided by any sponsor.
- (10) The extent to which the University reserves the right to use any patented or patentable products, materials, processes, or Plant Variety.
- (11) The extent to which the University can reserve its right to publish all data of fundamental value to science and technology.
- (12) The identity and nature of the sponsor of the research and any contractual restrictions on waiver, assignment and licensing of research results.

~~2. **Reports of Inventions and Plant Varieties** (See footnote 2 at the end of Section 100.020)~~

~~a. **For Inventions:**~~

- (1) Every Invention made by an Employee of the University shall be reported by such Employee to the President. The Patent Committee may prescribe the form and manner of execution of the Invention disclosure report, and such Invention reports shall be treated as restricted reports of the University.

2. (2) The report **Invention Disclosures.**

- a. Every Invention made by an Employee of the University shall be reported by such Employee to the TTO in an Invention Disclosure Form, except such report shall not be required in situations in which the Employee has a reasonable belief that the Invention was made clearly and demonstrably outside the general scope of the Inventor's duties as set forth in D.1.b, but such exception shall not apply if (a) the Inventor has any reason to believe that the University may have cause to assert ownership of such Invention or (b) the University has requested disclosure of the Invention so that the University may make a determination of ownership. Even if an Employee does not believe that reporting is required, the Employee shall nonetheless (i) promptly notify the TTO whenever any patent application is filed on such Invention naming the Employee as an Inventor and (ii) if

requested by the TTO, promptly provide the TTO with a complete copy of such patent application and any patent office correspondence regarding the patent application, if requested by the Employee the University may agree to treat an unpublished patent application confidential if such circumstances are warranted. The Patent Committee shall prescribe the form and manner of execution of the Invention Disclosure Form, and such Invention Disclosure Form shall be treated as restricted/confidential reports of the University. The Invention Disclosure Form may include, among other things, confirmatory assignment language and recital of the obligations for the Inventors to cooperate with the University in filing, prosecuting, and maintaining a Patent or PVP certificate on the Invention. The Invention Disclosure Form may also contain language for the Inventors to allocate the Inventor Share among Inventors in accordance with Section J.3. The Invention Disclosure Form may also be different for different types of Inventions (e.g., engineering vs. software vs. Plant Varieties).

b. The Invention Disclosure Form shall be made as promptly as possible, taking into consideration such factors as possible publication, public use, or sale and the necessity for protecting the inventor's and the University's rights in the Invention. If an inventive concept the Invention is reduced to practice, modified, or improved upon after the Invention report Disclosure Form is filed, the patent administrator must be notified forthwith submitted by the Inventor, the Inventor should promptly notify the TTO and update the Invention Disclosure Form, adding any new information, data or developments.-

c. (3) For the protection of the rights of the inventor and of the University, laboratory notebook-diaries, invention reports, seed Invention Disclosure Forms, Plant Variety development data and memoranda or correspondence concerning them are to be considered University restricted data/confidential information, and should be so marked by the Inventor.

**b. For Plant Varieties:**

Every Plant Variety made by an Employee of the University shall be reported by such Employee to the Employee's head of department (or Dean). The Agricultural Experiment Station may prescribe the form and manner of filing for Certificates of Plant Variety Protection. The report of Plant Variety and all related documents shall be filed with the Patent Administrator prior to the licensing or release (whichever occurs first) of the Plant Variety.

**3. Inventor Requests for Waiver Request for Non-Assertion of University Rights in Invention (Invention Ownership Determination).**

a. Request of Non-Assertion of University Rights—

i. Basis for the Request. If the inventor an Inventor reasonably believes that the Invention or Plant Variety was made outside an Invention is not subject to the University's ownership rights under these regulations because the Invention was not made or developed within the general scope of her/his University the Employee's duties, and if he/she is unwilling to assign the rights in the Invention or Plant Variety to the University, he/she shall, in her/his Invention or Plant Variety

~~report, (see Section D.1.b.), then the Inventor may request that the Patent Committee determine the respective a determination as to whether the University will assert ownership rights of the to the Invention. The initial request should be made by the Inventor to the TTO in writing.~~

~~ii. Terms and Conditions for Non-Assertion of University Rights. The University and the inventor may condition agreement to a request for a non-assertion of rights in an Invention on certain terms and conditions as determined by the President or his/her designee.~~

~~iii. Scope: Enabled Inventions. If the University makes a determination that the Invention described in the Invention Disclosure Form pursuant to Section D.2. is not "enabled" such that one skilled in the art can make and use the Invention without undue experimentation under U.S. patent law or that the Invention or Plant Variety, and shall also include in her/his Invention or Plant Variety report Disclosure Form is premature or incomplete, then the University may, in its discretion, elect to (1) defer an ownership dispute resolution process under this Section D.3. until such Invention is enabled or more mature/complete or (2) proceed with the ownership dispute resolution process under this Section D.3.~~

~~b. Burden of Proof in making the Request of Non-Assertion of University Rights. The Inventor asserting that the Invention should not be subject to University ownership shall have the burden of showing the same by clear and convincing evidence.~~

~~3.c. Documentation for the Request of Non-Assertion of University Rights. In connection with the request, the Inventor must provide the TTO with all reasonable information on the following points needed or requested to determine ownership (for example, emails, workbooks, laboratory notebooks). Such information may include but is not limited to:~~

~~i. a summary of the The circumstances under which leading to the conception, reduction to practice and development of the Invention;~~

~~ii. a summary of any individuals, facilities, equipment, materials, background intellectual property, -or Plant Variety was made other resources used to conceive, reduce to practice, or develop the Invention;~~

~~iii. a listing of any possible co-inventors and developed their contact information;~~

~~a. -~~

~~iv. The Employee's official the Inventor's duties at the time of the making of the Invention or developing the Plant Variety~~

~~b. -;~~

~~v. Whether he/she wishes a whether the Invention was conceived, reduced to practice, or developed under an internal funding agreement or funding agreement with an external sponsor; patent or~~

~~vi. a copy of any applicable patent application (in accordance with D.2.a); and~~

~~vii. whether any third parties have a co-ownership interest in the Invention.~~

~~a. Process.~~

- i. After receipt of the information set forth in Section D.3.c, the TTO, in consultation with at least the Head of the Department and the Dean, will make a recommendation in writing on whether or not the University should assert ownership rights in such Invention. The recommendation shall be provided to the President's designee, who shall make a decision on whether or not the University will grant the request.
  - ii. If the President's designee makes a decision that is adverse to the Inventor, the Inventor may appeal the decision in Section D.3.d.i to the Patent Committee by submitting an appeal request to the Patent Administrator. If the Inventor elects to appeal, the Inventor shall be afforded the opportunity to appear before the Patent Committee to present evidence and any information the Patent Committee may request. The Patent Committee, at its discretion, may make an independent investigation of the ownership claim. The Patent Committee shall provide its findings and recommendations in writing to the President for appropriate action. The Inventor shall be afforded a copy of the Patent Committee findings and recommendations and shall have an opportunity to respond to the findings of the Patent Committee by filing a timely written argument with the President. The President shall make the final non-appealable determination with respect to ownership and whether the University will assert rights in the Invention.
  - iii. In all cases, a decision regarding the non-assertion of rights in an Invention is at the sole discretion of the University.
  - iv. In the event that the President makes a final determination that the University owns the Invention, the refusal of an Inventor to execute a confirmatory assignment to the University of such Invention may result in sanctions against the Inventor (see Section K).
- b. Duty to Disclose. For clarity, the Inventor must still disclose the Invention in accordance with Section D.2 and provide the requested documentation in accordance with D.3.c of these regulations. However, the Inventor need not execute any assignment language in the Invention Disclosure Form for so long as there is a legitimate ownership dispute and the Inventor has filed a request for non-assertion of rights. In the event that the President makes a final determination requesting assignment, then the Inventor shall promptly execute the assignment language in the Invention Disclosure Form and any confirmatory assignments requested by the University.
- c. Commercialization Restrictions.
- i. An Inventor who has any reason to believe that that the University has an ownership interest in an Invention or the University may assert ownership of the Invention shall not attempt to commercialize (e.g., license, sell, lease, assign or otherwise transfer) such Invention or file (or assist others to file) a Patent or PVP certificate covering the Invention without a final resolution of ownership as set forth in Section D.3 of these regulations, unless prior written approval is obtained from the President or his/her designee. In such a case of receiving such prior written approval, the Inventor must provide the University with a copy of any such patent applications and any patent office



- correspondence regarding the patent application as set forth in Section D.2.a. The University's consent to file shall not constitute a waiver of or otherwise affect the University's ownership in the Invention.
- ii. When an Invention is owned by an Employee, the Inventor shall not further create, develop, or commercialize an Invention with Substantial Use of University Resources unless pursuant to a written agreement with the University executed by the President or his/her designee that sets forth the terms and conditions of such Substantial Use of University Resources. A term or condition of the written agreement may involve, for example, University ownership of the Invention, University/Inventor co-ownership of the Invention, or other revenue sharing with the University if such further creation, development, or commercialization of the Invention involves Substantial Use of University Resources. By way of example, if an Employee in the school of music files a patent application directed to a new engine that is not subject to University ownership under Section D.1.b, and the Employee is then desirous of obtaining federal funding through the University to build and test the new engine, the University and the Employee should enter into a written agreement which provides for University ownership of the patent application and Invention so that the University may satisfy its obligations to the federal government in accordance with the Bayh-Dole Act. The Substantial Use of University Resources should also be reported to the Conflict of Interest Committee and subject to a Management Plan in accordance with Collected Rule and Regulation 330.015.
- iii. Initiation of Non-Assertion of University Rights in Invention by University. Although the Inventor will typically initiate a request for non-assertion of University rights in an Invention, the University may elect to not assert rights without such a request if the University finds it is in the University's interest to do so.
- d. Inventor Requests for Waiver (Re-Assignment) of University Rights.
1. Scope.
- i. If the University determines it will not pursue or maintain all Patents or PVPs certificate on an Invention and/or will not pursue commercialization of an Invention subject to the University's ownership under these regulations or the University otherwise finds it is in the interest of the University, the University may consider a written request by the Inventor to waive/re-assign the University's ownership interest in the Invention (and any Patents or PVP certificates covering only the Invention) arising solely from the Inventor who has made the request. Not all Inventors are required to join in the request.
- ii. To the extent that the TTO elects to pursue patent protection on an Invention in some countries but not others (for example, the University elects to file and maintain a patent application in the United States but elects to forego or abandon foreign filings), the TTO may summarily deny a request for waiver from an Inventor directed to Patents in countries where the University has not pursued or maintained protection, and the process in Section D.4.d does not apply. If the University makes a determination that an Invention is not

"enabled" such that one skilled in the art can make and use the Invention without undue experimentation under U.S. Patent law or that the Invention Disclosure Form is premature or incomplete, then the University may, in its discretion, elect to (1) defer the waiver/re-assignment process under this Section D.4 until such Invention is enabled or more mature/complete or (2) proceed with the waiver/re-assignment process under this Section D.4.

2. The Request for Waiver/Re-Assignment.

i. Agreement as to the Request by Multiple Inventors. In those instances in which there are multiple Inventors, all Inventors do not need to be in agreement and be a party to such a request to waive/re-assign the University's ownership interest in the Invention arising solely from the Inventor who has made the request. The Inventor making the request should make reasonable attempts to seek unanimous approval of all of the Inventors to make the request. If all Inventors do not agree to make the request, then the University may, at its discretion, waive/re-assign only an undivided interest to the Inventor who has made the request, and if the University does so, the University shall retain an undivided interest in the Invention by virtue of the Inventors who have not agreed to the request such that the Invention shall be co-owned by the University and the Inventor making the request. In such a case, any Net Proceeds received by the University shall be shared with the Inventors who have not joined in the request (and not the Inventor making the request) as set forth in Section J of these regulations. The University shall have no obligation to market, protect, or license the Invention where rights have been waived/re-assigned to less than all of the Inventors.

ii. Terms and Conditions for Waiver/Re-assignment. The University may condition waiver/re-assignment of an Invention to the Inventor making the request on certain terms and conditions as determined by the President or his/her designee. At a minimum, (1) the University must retain an irrevocable non-exclusive, perpetual, worldwide, royalty free license to make, use, and otherwise practice the Invention for educational, research, and academic purposes; (2) the waiver/re-assignment must comply with applicable law; (3) the waiver/re-assignment must be subject to preexisting rights of third parties (including the right to approve such waiver/re-assignment where applicable), where such third parties may include external sponsors or co-owners of the Invention; and (4) the Inventor making the request must assume future expenses and costs related to the patenting and commercialization of the Invention.

3. Documentation for the Request for Waiver (Re-assignment) of Invention from University to Inventor. In connection with the request, the Inventor must provide the TTO with all reasonable information needed or requested to assess the patentability and commercialization potential of the Invention.

4. Process.

i. After receipt of the information set forth in Section D.4.c, the TTO, in consultation with at least the Head of the Department and the Dean, will make a recommendation in writing on whether or not to waive/re-

assign rights in the Invention to the Inventor making the request. The recommendation shall be provided to the President's designee, who shall make a decision on whether or not the University will grant the request in reasonable period of time.

ii. If the President's designee makes a decision that is adverse to the Inventor making the request, the Inventor may appeal the decision in Section D.4.d.i of these regulations to the Patent Committee by submitting an appeal request to the Patent Administrator. If the Inventor elects to appeal, the Inventor shall be afforded the opportunity to appear before the Patent Committee to present evidence and any information the Patent Committee may request. The Patent Committee, at its discretion, may make an independent investigation of the issue. The Patent Committee shall provide its appropriate findings and recommendations in writing to the President of the University for appropriate action. The Inventor shall be afforded a copy of the Patent Committee findings and recommendations and shall have an opportunity to respond to the findings of the Patent Committee by filing a timely written argument with the President. The President shall make the final non-appealable determination with respect to the requested waiver/re-assignment of rights.

iii. In all cases, decisions regarding the waiver/re-assignment in Inventions are at the sole discretion of the University.

~~e.—5. Publication, Public Use and Sale. If an Invention is described in a printed publication, is in public use, is on sale, or is otherwise available to the public before a Patent or PVP certificate is filed, the patentability or protection under the Plant Variety Protection Act may be affected. In order to preserve possible Patent protection or protection under the Plant Variety Protection application to be prosecuted, if it should be determined that an assignment of the Invention or Plant Variety to the University is not required under Section 100.020-D.1; and~~

~~d.—The extent to which he/she would be willing voluntarily to assign the rights inAct in the Invention or Plant Variety to, the University if it should be determined that an assignment of the Invention or Plant Variety to the University is not required under Section 100.020-D.1.~~

**4. ~~Publication, Public Use and Sale~~**—Publication, public use, or sale of an Invention or Plant Variety constitutes a statutory bar to the granting of a United States patent or Plant Variety Protection for the Invention or Plant Variety unless a patent or Plant Variety Protection application is filed within one year of the date of such publication, public use, or sale. Publication, public use, or sale also can be an immediate bar to patentability in certain foreign countries. In order to preserve rights in unpatented Inventions or Plant Varieties, it shall be the duty of the inventor, or of her/his supervisor if the ~~i~~Inventor (or the Supervisor of the Inventor if the Inventor is not is not available) to make such report, to report forthwith to the Patent Administrator must notify the TTO of any publication, use, or sale (other than experimental) of an Invention or Plant Variety, such events irrespective of whether an Invention or Plant Variety report Disclosure Form has previously been filed. If an Invention or Plant Variety report Disclosure Form has not been filed, such a report, including information concerning the public use, publication, or sale shall be filed the Inventor shall file the Invention Disclosure Form at once. If

an Invention is disclosed to any person who is not employed by the University ~~or working in cooperation with the University upon that Invention or Plant Variety a record shall be kept of, the Employee making such disclosure shall provide the TTO with~~ the date and extent of the disclosure, the name and address of the person to whom the disclosure was made, and the purpose of the disclosure.

#### ~~5.~~ **Action by Supervisor or Department Head**

~~a.~~—The preparation of an Invention or Plant Variety report and other official correspondence on patent and Certificate of Plant Variety Protection matters is one of the regular duties of an Employee who has made an Invention or developed a Plant Variety, and the supervisor or department head shall see that he/she is allowed sufficient time from her/his other duties to prepare such documents. The supervisor or department head shall ascertain that the Invention or Plant Variety report and other papers are prepared in conformity with these regulations; shall check its accuracy and completeness, especially with respect to the circumstances in which the Invention or Plant Variety was developed; and shall forward whatever comments he/she may deem to be necessary or desirable to the Patent Administrator. The supervisor or department head shall add to the file whatever information he/she may have concerning the governmental and commercial value of the Invention or Plant Variety, and the foreign countries in which it is likely that the Invention or Plant Variety would be the most useful and would have the greatest commercial value.

~~b.~~—If the Employee inventor specifically requests that the University determine her/his rights in the Invention or Plant Variety, the head of the department shall state her/his conclusions with respect to such rights.

#### ~~6.E.~~ **Rights of University and Students**

1. **General Rule.** In general, ~~s~~students of the University of Missouri will be entitled to own any Invention ~~or Plant Variety~~ made during their enrollment as a ~~s~~Student of the University and will generally not be required to assign his or her ownership to the University; ~~provided,~~ however, the foregoing general rule does not apply and the ~~s~~Student will be required to assign his or her ownership interest to the University in any circumstance in which the ~~s~~Student meets the definition of ~~Employee Employee~~, as defined in Section ~~100.020C.23~~. hereof provided such Invention ~~or Plant Variety~~ was developed in the course of the ~~s~~Student-Employee's service to the University. Should faculty wish to have a non-Employee Student work on a research project where University ownership of resulting Inventions is desired, faculty are encouraged to work with the TTO to obtain written agreements from the Student that address ownership of Inventions made by Student pursuant to Section E.5.
2. **Examples of Student-Owned Inventions.** Without limiting the language of the foregoing general rule or the language of the foregoing exceptions to the general rule, the following are examples of fact situations in which, in the absence of a written agreement providing otherwise, the University will not claim ownership of an Invention ~~or Plant Variety~~ made by a ~~s~~Student of the University:
  - (1)~~a.~~ The Invention ~~or Plant Variety~~ was developed by a ~~s~~Student as part of a University class project using no greater University resources than those

generally available to all other ~~s~~Students within the class or than those available to the ~~s~~Student as part of his/her enrollment with the University.

~~(2)b.~~ The Invention ~~or Plant Variety~~ was developed by a ~~s~~Student as part of a University approved ~~S~~student competition using no greater University resources than those generally available to all other ~~s~~Students within the competition or than those available to the ~~S~~student as part of his/her enrollment with the University. The ~~s~~Student shall be entitled to receive any monetary or other prize awarded to the ~~s~~Student for his/her performance under such competition in accordance with the rules of the competition and such prize shall not be considered compensation under Section ~~100.020, C.23,~~ hereof.

~~(3)c.~~ The Invention ~~or Plant Variety~~ was developed by a ~~s~~Student as part of a University approved extracurricular activity, using no greater University resources than those generally available to all other ~~s~~Students participating in the activity or than those available to the ~~s~~Student as part of his/her enrollment with the University.

~~d.~~ The Invention ~~or Plant Variety~~ was developed by a ~~s~~Student on his/her own free time, outside of any University class or sponsored activity, and using no greater University resources than those generally available to all other ~~s~~Students as part of their enrollment with the University~~7.~~

~~e.~~ In determining whether the invention was developed using no greater University resources than those generally available to all other Students within the class/competition/activity or than those available to the Student as part of his/her enrollment with the University, factors that the University may consider as part of this assessment include:

- ~~i.~~ Whether the University established eligibility criteria for participation;
- ~~ii.~~ Whether the University selects the participants from among those eligible;
- ~~iii.~~ Degree of presence or lack of presence at the project site by a faculty advisor, University supervisor, or other University employee;
- ~~iv.~~ Extent of supervision exercised by a faculty advisor, University supervisor, or other University employee;
- ~~v.~~ Degree to which University-provided tools, equipment, and supplies were utilized in the development of the invention;
- ~~vi.~~ Degree to which University-provided funds were used in the development of the invention;
- ~~vii.~~ Whether a University faculty member or other Employee is co-inventor;
- ~~viii.~~ Existence and terms of any signed agreement required as a condition of participation; and
- ~~ix.~~ Any other relevant factors.

**3. Examples of University-Owned Inventions.** The following are examples of fact situations in which the University may claim ownership of an Invention made by a Student of the University:

a. The Invention was developed as part of a graduate school thesis/dissertation project by a Student-Employee paid under a graduate

teaching assistantship. Because the Student is an Employee, this section is not applicable and the ownership standards set forth in Section D.1.b shall apply.

b. If a faculty member provides a Student (who is not otherwise an Employee) with a volunteer opportunity to work on a project sponsored by an external sponsor (e.g. a governmental or industry sponsor) and the Student uses greater University resources than those available to other Students enrolled at the University as part of the sponsored project, then the University may assert ownership of the Invention made by such Student in order for the University to fulfill its contractual obligations to the external sponsor.

4. **Non-Assertion.** A Student may, but is not obligated to, make a request for non-assertion of University rights in an invention using the procedures generally set forth in Section D.3.

5. **Treatment of Student as an Employee.**

a. In the event that the University asserts ownership in an Invention made or developed by a Student under the foregoing standards set forth in this Section E and the Student is not otherwise an Employee under Section C.3(a)-(b), then the University and Student shall typically enter into an agreement whereby the Student is treated as an Employee under Section C.3(c), wherein such agreement addresses, among other things, the sharing of Net Proceeds (if any) with the Student (along with other Inventor-Employees) under Section J.

b. A Student having ownership over an Invention may, with University consent, elect to assign the Student's rights in the Invention to the University. In such a case, the University and Student shall typically enter into an agreement whereby the Student is treated as an Employee under Section C.3(c), wherein such agreement addresses, among other things, the sharing of Net Proceeds (if any) with the Student (along with other Inventor-Employees) under Section J.

(4)6. **Student Policy Information.** The Patent Administrator shall implement reasonable procedures designed to make sStudents aware of this Section ~~100.020 E~~, and to provide one or more avenues for sStudents to receive information regarding ~~to~~ the University's interpretation of the sStudent's rights and obligations with respect to Inventions ~~and Plant Varieties~~ in which ~~they a Student~~ may be an iInventor or co-iInventor

F. **Visitors: Rights of Other Institutions.** In general, Inventions made or developed by Inventors who are not Employees or Students but are otherwise visiting from another institution or company (e.g., visiting scientists, visiting scholars) will be treated as having been made or developed by an Employee within the general scope of his/her duties for the University. However, the University recognizes that such Inventors often are subject to intellectual property polices of their home institutions or employers. Accordingly, where it is anticipated that there is a reasonable possibility that a visitor will conceive, reduce to practice or develop an Invention while working at or under the auspices of the University, the TTO should be contacted so an agreement with the visitor's home institution or employer may be executed prior to the start of the visit. In cases in which there are conflicts between the University and the home institution or employer of a non-Employee Inventor visitor, such conflicts will be resolved

through good faith negotiations between the University and such home institution or employer.

**E.G. The Patent Committee**

**a.1. Appointment**

- a. Notwithstanding other regulations affecting University committees, the President of the University shall ~~annually~~ appoint a Patent Committee, which shall include representative voting members from each of the campuses. The Patent Administrator or other person designated by the ~~Vice-President for Academic Affairs~~ shall be an *ex officio* member of the ~~committee~~ Patent Committee and shall provide a secretary to the Patent Committee. The General Counsel or ~~her/his/his/her~~ delegate shall also be an *ex officio* member of the Patent eCommittee. The TTO director(s) shall also be ex officio member(s) of the Patent Committee.
- b. The President of the University shall designate the chair of the Patent said eCommittee.
- c. The Patent Committee shall make and keep, ~~in a book to be provided for that purpose,~~ minutes of all its meetings.

**2. Duties**

- a. The Patent Committee shall ~~review all Invention~~ assist with policy analysys and ~~Plant Variety reports referred~~ development relating to it by the these regulations.
- a.b. ~~The Patent Administrator~~ Committee shall assist with drafting amendments to these regulations resulting from technological, and make recommendations thereon ~~legislative changes affecting Inventions, Patents,~~ and forward the same to the President of the University for appropriate action ~~or PVP rights.~~
- b.c. ~~The Patent Committee shall review, report and make recommendations on all matters affecting patents and Plant Varieties~~ Inventions as may be referred to ~~or come before the committee.~~
- c. ~~If an Employee inventor shall claim an Invention or Plant Variety as her/his own, the Patent Administrator shall refer such claims to the Patent Committee. The Patent Committee shall afford the Employee inventor the opportunity to appear before the committee to present such evidence relating thereto as he/she may have or the committee may desire and the committee may make an independent investigation of said claim. Based on these findings, the committee shall make appropriate recommendations in writing to the President of the University for appropriate action. The inventor shall be afforded a copy of the findings and recommendations of the Patent Committee and shall have an opportunity to review the findings of the committee by filing a written argument with the President.~~
- d. Subject to the approval of the President and upon being advised by the Patent Administrator that he/she has been unable to reach agreement with the inventor, I the Patent Committee shall seek to reach agreement with the Employee inventor upon division of the financial returns from the patent by the Patent Administrator (see Section H.2.d.).
- e. ~~The Patent Committee may, when circumstances warrant, i.e., when the Invention or Plant Variety was not made in the regular course of the Employee's duties or as a part of her/his ordinary assigned or assumed functions or when the University contribution in terms of equipment or~~

~~facilities is either non-existent or minimal, recommend additional remuneration to the inventor from royalties received by the University from income realized from patent rights or Certificate of Plant Variety Protection. Such recommendation shall be made to the President for appropriate action.~~

- ~~f.e. The Patent Committee will consider such other matters regarding the Employee-Inventor's claims, interest or right to patentable findings, as may be referred to it by the Patent Administrator.~~
- ~~g. The Patent Committee shall give consideration as to whether it will be to the best interest of the University and the inventor to place the matter with an entity organized for marketing of patent rights for development by such entity in accordance with its contract with the Curators of the University of Missouri and its general procedure, or for the University to make application for the patent or Plant Variety Protection in its own name.~~
- ~~h. In those cases in which the inventor acknowledges all patent or Plant Variety Protection rights are vested in the Curators of the University of Missouri and where the committee has recommended that the same be referred to an entity organized for marketing of patent or Plant Variety Protection rights with which the Curators have approved a continuing contract, the President of the University, upon approving such reports, in her/his discretion may order the same submitted to such entity. It shall be the duty of the Patent Administrator to carry out orders and directions with reference to the patent or Plant Variety Protection, and he/she shall see that all necessary steps are taken to protect the interests of the University and of the Employee-inventor.~~
- ~~i. In the event the report of the Invention or Plant Variety is submitted to an entity organization for marketing of patent rights with which the Curators have approved a continuing contract and that entity advises that it is not to the best interests of the University to seek a patent thereon, the President shall within a reasonable time seek other means of obtaining a patent or release the rights of the Invention to the Employee-inventor.~~

**B.H. The Patent Administrator**

1. **Appointment of Patent Administrator** – The Patent Administrator will be appointed ~~to serve as a member of~~by the staff under the supervision of the Vice-President for Academic Affairs.
2. **Duties of Patent Administrator -**
  - ~~a. It shall be the duty of the Patent Administrator to establish a liaison with the faculties of the four campuses of the University to assist the faculty in identifying potentially patentable and commercially viable findings, the filing of reports of such findings, to receive such reports, to advise the faculty regarding steps to be taken to establish record of conception, disclosures, and publication restrictions. The research Coordinators of each campus will assist the Patent Administrator in the fulfillment of these duties on their respective campuses.~~

It shall be the duty of the The duties of the Patent Administrator shall be prescribed by the President or his/her designee from time to time. The duties of the Patent Administrator shall include, but not be limited to, a duty to:

  - a. Assist with policy analysis and development relating to these regulations;



- b. Assist with drafting amendments to these regulations resulting from technological and legislative changes affecting Inventions, Patents, and/or PVP rights;
- c. Implement procedures to advise Students of their intellectual property rights in accordance with Section E.6 of these regulations;
- d. Refer matters to the Patent Committee in accordance with these regulations.
  - i. If there is a dispute about inventorship, the Patent Administrator ~~to~~ review and make recommendations ~~to~~ shall refer such claims to the Patent Committee in accordance with Section C.7.c.
  - ii. If an Inventor shall claim an Invention as her/his own, the Patent Administrator shall refer such claims to the Patent Committee in accordance with Section D.3.d.
  - iii. If an Inventor shall claim that an Invention should be waived/re-assigned to the Inventor, the Patent Administrator shall refer such claims to the Patent Committee in accordance with Section D.4.d.
  - ~~b. If there is a dispute about the distribution of the President upon all Invention and Plant Variety reports, except as noted in Inventor Share of the paragraph below.~~
  - iv. The Patent Administrator shall refer to the Patent Committee all matters concerning the Employee-inventor(s) participation in the financial return from the patents, any conflicting claims to protectable findings, Employee-inventor claims to ownership Net Income, the Patent Administrator shall refer such claims to patent and Plant Variety rights and such the Patent Committee in accordance with Section J.3.
  - v. The Patent Administrator may refer other matters to the Patent Committee as he/she deems necessary to protect the interests or rights of the ~~Employee-i~~Inventor and the University.

#### **I. TTOs.**

The duties of the TTO shall be prescribed by the President or his/her designee from time to time. The duties of the TTO shall include, but not be limited to, receiving Invention Disclosure Forms, determining whether to file or maintain any Patents directed to University-owned Inventions, and making commercialization decisions with respect to such University-owned Inventions.

~~c.~~

- ~~d. Publicity concerning Inventions: In order that the public may obtain the greatest possible benefit from the Inventions in which the University has transferable interest, the Patent Administrator shall see that Inventions assigned to the University shall be publicized to the greatest possible extent. Where patents are obtained by the University, it shall be the duty of the Patent Administrator, upon being advised of the issuance of the patent, to take steps toward listing the patent as available to those who may be interested in securing the use of the patent rights or otherwise marketing the same.~~

~~**G. Notification of Abandonment**—In the event a decision is reached not to file a patent or Plant Variety Protection application or to abandon a filed application, notice shall be given to the inventor and to the sponsor if the sponsor's contract with the University so provides.~~

~~**J. Use Of Funds of Net Proceeds Received By University Relating To Inventions, Patents And Plant Varieties**—Whenever the University receives~~

money from any source for the sale, waiver, assignment or licensing of University-owned patents, Inventions, discoveries, or Plant Varieties, the entire amount of such money (except that money received for reimbursement of U.S. Patent and Trademark Office Fees, foreign patent and trademark office fees, external attorneys fees or other external expenses incurred by the University in connection with reexamination of the patent, patent infringement, other defense of the patent or the enforcement or defense of a license agreement, that portion which is for the negotiated indirect cost rate associated with the research project from which the patent, Plant Varieties, Invention, or discovery resulted, and except that portion of money

**1. General Rule.**

a. Net Proceeds received by the University and paid by the from commercializing a University-owned Invention or the copyright in materials subject to the co-owner of a joint invention) Copyright Policy 100.030 shall be divided, distributed and allocated as follows or, in the case of inventions made jointly by University employee:

- i. 33.3 percent shall go to the Inventor(s) for Inventions and authors for copyrightable works ("Inventor share");
- ii. 66.7 percent to the campus from which the Invention originated ("Campus Share").

b. To the extent required by applicable law, use of the Campus Share is restricted to support scientific research or education. Each campus shall develop a plan for expenditures related to the Campus Share. Such plans will be approved by the Chancellor with input from appropriate faculty representatives with experience in technology transfer, the campus research office, and the TTO.

c. In the event the Campus Share exceeds \$5 million in any given fiscal year, a separate plan shall be made for the funds in excess of \$5 million and approved by both the Chancellor and the President.

For clarity, the distribution protocols outlined do not apply to personally owned Inventions and copyrightable materials but only to those Inventions and copyrightable materials owned by the University.

**H- 2. Department of Veteran's Affairs.** In the case of Inventions made jointly by University Employee(s(s) and individual(s) employed by the United States Department of Veteran's Affairs, with or without compensation, the President of the University has executed or his/her designee may execute a written agreement with the United States Department of Veteran's Affairs which provides for different division, distribution and allocation of funds Gross Proceeds or Net Proceeds as provided herein.÷

For Inventions and Discoveries

- a. Thirty three and one third (33 1/3) percent shall go to the inventor.
- b. After reimbursement of the University or research sponsor for reasonable costs of procuring and defending the patent rights and reducing the Invention to practice and payment of the inventor's share, all monies derived by the University shall be allocated as follows:

-

~~(1) 66.7 percent to the campus from which the patent, Invention or discovery originated, half of which the campus must allocate to the originating department.~~

~~(2) 33.3 percent shall go to the University.~~

~~c. Funds allocated to the departments, campuses and the University are restricted to the support of research, development and other scholarly activities.~~

~~For Plant Varieties~~

~~a. Ten (10) percent shall go to the inventor.~~

~~b. After reimbursement of the University or research sponsor for reasonable costs of procuring and defending Plant Variety rights and payment of the inventor's share, all monies derived by University shall be allocated as follows:~~

~~-~~

~~(1) Ninety five (95) percent to the breeding program from which the Plant Variety originated.~~

~~(2) Five (5) percent to the University.~~

### **Footnotes to Patent Regulations**

**Footnote 1**—~~The elements of Invention, and their interrelationship may be described generally as follows:~~

**Conception of the idea**—~~This involves complete performance of the mental part of the inventive act. All that remains is to convert the idea into reality by reducing it to practice. Both what is to be accomplished and how it is to be accomplished are necessary. Knowledge of a desirable result alone is not enough; nor is a means for an unknown result. Additional statutory requirements for an Invention to be found patentable, such as novelty and utility, are exceedingly complex concepts and beyond the scope of this summary. Similarly, other patentability bars, such as prior use or disclosure of the Invention more than one year prior to patent application, are not presented due to complexity of the matters involved.~~

**Reduction to Practice**—~~This involves creating either actual or constructive proof that the idea actually works, can exist, or the like. Purely actual reduction to practice is creating a physical embodiment of the idea, although complete perfection is not required. Purely constructive reduction to practice results when a patent application covering the completed concept is accepted by the patent office. The theory is that an acceptable filing is both conclusive proof of practicality and a sufficient disclosure of the concept in the application papers that one with ordinary skills in the arts involved would be able to practice the Invention. Most often, sufficient reduction to practice is neither purely actual nor purely constructive.~~

**Interrelation between Mental and Physical Elements**—~~As between inventors with essentially the same idea, the date of conception controls priority for the right to a patent; provided that he/she who first conceived the idea used reasonable diligence in perfecting and reducing her/his~~

conception to practice. However, if the inventor who first conceived the idea is the second to reduce it to practice, he/she bears a heavy burden to prove her/his priority. The uncorroborated testimony of the inventor on either element is insufficient alone. Therefore, sufficient records to prove both the earliest possible date of conception and diligence in assuring the concept is workable are essential.

Accordingly, any project work or research out of which Invention rights may arise should be documented by contemporaneous maintenance of a laboratory notebook diary in which periodic entries are made describing the work accomplished. Each entry should be dated and signed by the persons actually doing the work recited. The notebook diary also should be read and signed periodically as "witnessed" by one or more associates of the inventor who are not engaged in the work but who are capable of understanding the descriptions recited and can testify as to their understanding of the concepts therein disclosed at the time of their signatures. Such a witnessed record may be vital in obtaining or defending the rights of the inventor and of the University should others assert prior Invention. The next best evidence would be a timely, complete, and accurate Invention report in accordance with these Patent Regulations.

**Footnote 2**—Disclosure of Invention form (UMUW 16B and 16C) is available from the Graduate Deans' and Research Coordinators' offices on each campus, or from the Office of Technology Commercialization and Economic Development.

**Footnote 3**—The elements of Plant Variety Protection may be described generally as protection available for self-pollinating seeds and plants. Such seeds or plants cannot have been offered for sale or sold for a period of more than one year prior to filing an application under the Plant Variety Protection Act. Disclosure of Plant Variety form (UMUW 16D) is available from the Graduate Dean's and Research Coordinator's offices on each campus, or from the Office of Technology Commercialization and Economic Development.

### 3. Inventor Revenue Distribution Agreement.

If more than one Inventor is to share in the Inventor Share provided in Section J.1 of these regulations, the Inventors entitled to receive payments should decide among themselves their respective shares and provide the TTO with a written agreement signed by all Inventors. This written agreement may be provided as part of the Invention Disclosure Form or may be a separate written agreement. Such written agreement among the Inventors should be provided promptly to the TTO after receiving a written request from the TTO for such an agreement, at a minimum, and the written agreement should be provided prior to distribution of the Net Proceeds. Any such written agreement will be irrevocable unless it is modified in writing by all Inventors. In the absence of a written agreement, the University may (1) hold the Inventor Share for a reasonable period of time to permit the inventors to come to an agreement; or (2) after a reasonable period of time, divide the Inventor Share equally among the Inventors. If a written agreement cannot be reached after good faith efforts by the Inventors, an Inventor may request that the matter be referred by the

Patent Administrator to the Patent Committee for an equitable recommendation to the President. The Inventor shall be provided a copy of the Patent Committee's recommendation and shall have an opportunity to respond by filing a timely written argument to the President. The President shall make the final non-appealable determination with respect to the distribution of the Inventor Share. The University is not liable for any distribution of Inventor Share made in good faith but that was later found to be in error.

#### **4. Assignment of Inventor Share.**

An Inventor Share payable to an Inventor cannot be assigned by the Inventor to third parties unaffiliated with the University. Notwithstanding the foregoing, prior to the receipt of Gross Proceeds by the University, an Inventor may elect in writing to (a) forego his/her portion of the Inventor Share such that the University retains the same for general use by the University; (b) forego his/her portion of the Inventor Share and direct the same to a University account related to further research and development of the Invention; or (c) redirect all or a part of his/her portion of the Inventor Share to an Employee or non-Employee Student who made a significant, but non-inventive contribution to the development of the Invention and would not otherwise be entitled to share in the Inventor Share. With respect to (c) such redirection may be made as part of the Inventor Revenue Distribution Agreement referenced in Section J.3 of these regulations.

#### **5. Compliance with the Regulations.**

- a. This distribution of the Inventor Share to an applicable Inventor shall be contingent upon the Inventor's compliance with these regulations. For example, in order to qualify for the Inventor Share, an Employee must have executed any confirmatory assignments requested by the University and must reasonably assist the University with the University's efforts to commercialize the Invention (including but not limited to reasonable input on the filing, prosecution, and maintenance of any Patents or PVP certificates related thereto).
- b. In the event that an Inventor does not comply with these regulations (for example, the Inventor refuses to sign such a confirmatory assignment and/or does not provide such reasonable assistance to the University), no Inventor Share will be allocated to that Inventor and the Inventor Share shall be allocated to the other Inventors, and the corresponding Campus Share shall be likewise adjusted as if the non-cooperating Inventor did not exist.

#### **K. Sanctions.**

Conduct by an Employee that violates these regulations shall constitute a breach of the employment contract and may lead to disciplinary action. The Patent Committee may make a determination of a violation of this policy and will report such violation to the Chancellor. After the finding of a violation, the Chancellor of each campus may apply sanctions, including but not limited to, one or more of the following:

1. Letter of warning or admonishment,
2. Suspension or termination of research compliance committee approvals,
3. Suspension or termination of the privilege to submit sponsored activity proposals,

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4. Suspension or termination of sponsored research activity spending authority,
5. Demotion or removal from assigned administrative roles,
6. Ineligibility for waivers/re-assignments,
7. Ineligibility to receive an Inventor Share,
8. Referral to campus Committee on Tenure or other appropriate committee for discipline or dismissal for cause of faculty,
9. Suspension or termination of employment (pursuant and subject to CRR 310.060, Procedures in Case of Dismissal for Cause, for those faculty covered by that rule).

# 100.020 Invention and Patent Regulations

Bd. Min. 6-25-71, p. 35,974, Amended 9-17-92, 4-25-96, 4-8-05, 11-29-07, 7-23-10, XX-XX-21.

- A. **Purpose** – These regulations are adopted by The Curators of the University of Missouri in order to:
- Secure for the people of the State of Missouri and the United States the full benefits of research and investigation performed at the University of Missouri;
  - Establish the rights and obligations of Employees with respect to any Invention made or developed by them during employment by the University and to establish the definite rights and obligations of Students with respect to any Invention made or developed by them during their period of enrollment with the University;
  - Establish a uniform process by which these rights and obligations may be equitably determined in each case;
  - Provide for a Patent Committee to assist the University with policy recommendations and to operate as a mechanism to advise on resolving disputes;
  - Encourage and recognize individual and cooperative achievement in research and investigation; and
  - Provide and support a technology transfer office to manage the day-to-day technology transfer activities at each campus of the University.
- B. **Application of Regulations** – These regulations constitute (1) a term and condition of employment of all Employees of the University and form a part of the employment contract, and (2) a term and condition of enrollment and attendance at the University by Students. These regulations shall be effective as to all Inventions disclosed during any period of employment, enrollment, or attendance from and after the date of their adoption.
- C. **Definitions**
1. **“Chancellor”** means the Chancellor of a University campus, and shall include, when applicable, the interim Chancellor or acting Chancellor.
  2. **“Dean”** as used herein means the Dean of the college or school having jurisdiction over the Employee or Student, and in case of those Employees not under jurisdiction of any Dean, the Employee’s Supervisor shall perform the duties herein prescribed for the Dean.
  3. **“Employee”** as used herein means (a) any person receiving compensation from the University for services rendered, regardless of whether the

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Employee be full-time or part-time, (b) any person receiving compensation paid through the University from any funds placed in its hands for distribution, (c) any person who has voluntarily elected to enter into a written agreement with the University in exchange for the University's agreement to treat such person as an Employee for purposes of these regulations, or (d) any person with adjunct, courtesy, emeritus or "no salary" appointment (e.g., unpaid leave or unpaid sabbatical) if such person is participating in research and investigation with Substantial Use of University Resources except where the University and such person have a written agreement whereby the person is paying the University for use of such Substantial Use of University Resources. For purposes of the definition of Employee and for the avoidance of doubt, Student financial aid including, but not limited to, scholarships, grants, loans, tuition waivers and educational fee reductions, generally available to Students and unrelated to any provision of services by the Student to the University shall not be interpreted as compensation. Also, for purposes of these regulations. Students (including graduate research assistants and graduate teaching assistants) receiving compensation from the University shall be considered "Employees" if their actual duties and responsibilities include research and investigation or the creation of computer software that led to the Invention – regardless of the position title.

4. **"Gross Proceeds"** as used herein means money received by the University from third parties (on a cash basis, as opposed to an accrual basis) from the sale, assignment, lease, licensing, optioning, or other transfer of rights in an Invention to such third parties, including but not limited to license fees, option fees, earned royalties, minimum royalties, and milestone payments. Gross Proceeds also includes money recovered (on a cash basis, as opposed to an accrual basis) by the University from lawsuits or dispute resolutions involving infringement by third parties with respect to the applicable Invention. Equity, convertible notes, or other similar ownership interests (or portions thereof) obtained by the University shall not be considered Gross Proceeds unless and until the University receives money for the equity, convertible notes, or other similar ownership interest (or portions thereof); provided that in the event that such equity is readily liquidable (for example, in the case of an IPO), then such equity may be considered Gross Proceeds for purposes of distributing the Inventor Share such that the Inventors may receive such equity. For clarity, Gross Proceeds does not include:
  - a. The reimbursement by third parties to the University of any costs, expenses, or fees associated with the preparation, filing, prosecution, or maintenance of any Patents or PVP certificates owned in whole or in part by the University (whereby such reimbursement may include an equity, convertible note, or other similar ownership interest in the third party in consideration and in lieu of the University not seeking monetary reimbursement, in whole or in part, of such costs, expenses, or fees associated with the preparation, filing, prosecution, or maintenance of any Patents or PVP certificates); or
  - b. The reimbursement by third parties to the University of any costs, expenses or fees associated with investigating, defending, or enforcing a claim or potential claim with respect to the Invention or associated license agreement, including but not limited to infringement/non-infringement, invalidity/validity, unenforceability/enforceability, and including those



- before any court, administrative tribunal (e.g., United States Patent and Trademark Office), or dispute resolution forum (e.g., arbitration or mediation), whether U.S. or foreign; or
- c. Money received by the University for the negotiated indirect cost rate (facilities and administration costs) associated with a research agreement or grant from which an Invention, was conceived, reduced to practice, or otherwise made; or
  - d. Money received by the University for equity, convertible notes, or other similar ownership interest (or portions thereof) obtained from third parties in exchange for the University making a case investment in the third party or foregoing, in whole or in part, the right to obtain reimbursement from the third party for costs, expenses, or fees associated with the preparation, filing, prosecution, or maintenance of any Patents or PVP certificates owned in whole or in part by the University. Such exchange will be treated as an investment in the third party and any proceeds to the University from such investment will not be included in Gross Proceeds.
5. **"Head of the Department"** as used herein means the person having charge of the department of the Employee reporting the Invention, and in case there be no such head of the department, the Dean, or on campuses with no schools and colleges, the Provost shall perform the duties herein provided for the Head of the Department.
  6. **"Invention"** as used herein means any Invention, design, process, machine, manufacture, composition of matter, tangible research materials (e.g., cell lines, virus isolates, antibodies, prototype devices), whether or not patentable, together with any associated or supporting technology, data, know-how, or show-how necessary or useful for the protection, development or application of the same, and also includes all Patents or PVP certificates derived therefrom. A "Plant Variety" is a type of Invention.
  7. **"Inventor"** as used herein means an Employee who individually or jointly with others makes an Invention. More specifically:
    - a. Inventions Covered by a Patent. For Inventions that are the subject of a Patent, "Inventor" refers to those Employees who meet the criteria for inventorship under United States patent law and are thus named on the applicable Patent. For an Invention covered by a Patent, the Inventors may change over time due to the prosecution of the Patent and the possible addition or deletion of Inventors from such Patent. Inventorship is a legal determination.
    - b. Plant Varieties Covered by a PVP Certificate. For Inventions which are Plant Varieties which are not the subject of a Patent but which are covered by a PVP certificate, "Inventor" refers to those Employees who meet the criteria for being a plant breeder under United States PVP law.
    - c. Unpatented Technologies. For Inventions that are not the subject of a Patent or PVP certificate, "Inventor" refers to those Employees who have jointly executed the Invention Disclosure Form and contributed to the making or development of the Invention. If one or more Employees cannot agree that they are all "Inventors," the matter may be referred to the Patent Committee by the Patent Administrator.
  8. **"Net Proceeds"** as used herein means Gross Proceeds minus the following out-of-pocket expenses, costs, fees or other and payments incurred by the University that are associated with the applicable Invention:

- a. costs, expenses and fees related to the evaluation, licensing, and protection of the Invention, including, but not limited to, those paid to government agencies (e.g., U.S. Patent and Trademark Office, European Patent Office) or the University's outside legal counsel associated with the preparation, filing, prosecution and maintenance of Patents or PVP certificates for the Invention; and
  - b. payments made to joint owners or external sponsors of an Invention pursuant to an agreement with the joint owners or external sponsors. For the avoidance of doubt, such payments may include (1) revenue sharing payments due the joint owner or external sponsor and/or (2) the reimbursement to the joint owner or external sponsor of the costs, expenses, or fees related to (a) the preparation, filing, prosecution, or maintenance of a Patent or PVP certificate covering the applicable Invention; or (b) the investigation, defense, or enforcement of a claim or potential claim with respect to the applicable Invention; and
  - c. costs, expenses, and fees for investigating, defending or enforcing a claim or potential claim with respect to the Invention, including but not limited to infringement/non-infringement, invalidity/validity, unenforceability/enforceability, and including those before any court, administrative tribunal (e.g., United States Patent and Trademark Office), or dispute resolution forum (e.g., arbitration or mediation), whether U.S. or foreign.
9. "**Patent**" as used herein means any pending patent application (including an unexpired provisional patent application) or issued patent anywhere in the world. The term includes both United States patent applications and issued patents, as well as patent applications and issued patents from other regional patent offices (e.g., a European patent application) or national patent offices (e.g., a Canadian patent application). The term also includes pending or issued plant patents under 35 U.S.C. § 161 (which covers asexually reproduced plants, excluding tuber propagated plants), and pending or issued utility (non-provisional) patents directed to a Plant Variety. The term also includes design patents under 35 U.S.C. § 171.
  10. "**Patent Committee**" as used herein means the committee referred to in Section G. The Patent Committee may also be referred to as the "Patent and Copyright Committee" when dealing with copyright matters pursuant to CRR 100.030.
  11. "**Plant Variety**" as used herein means a plant (including germplasm) which is sexually reproduced or tuber propagated and that is eligible from a subject matter standpoint for protection under a PVP certificate, regardless of whether PVP protection is actually filed or not. A Plant Variety is a type of Invention.
  12. "**PVP**" as used herein means plant variety protection through a pending application or issued certificate under the United States Plant Variety Protection Act or similar protection in a foreign country.
  13. "**President**" as used herein means the President of the University and shall include, when applicable, the "Interim" President or "Acting" President.
  14. "**Student**" as used herein means a person enrolled in the University. The term includes full-time and part-time students and both graduate and undergraduate students. The term includes a student enrolled for credit and not-for-credit.

15. **"Substantial Use of University Resources"** means more than incidental use of University resources, facilities, financing, or time by Employees. The following are non-limiting examples of Substantial Use of University Resources (in the absence of written agreement or written approval from the President or his/her designee that explicitly states they will not be deemed to be considered Substantial Use of University Resources or otherwise addresses ownership):
- a. use of funds from an external sponsor;
  - b. use of funds from an internal (University) sponsor or account;
  - c. use of University-owned intellectual property (unless licensed or otherwise transferred from the University to the person or entity using such University-owned intellectual property);
  - d. use of University information not available to the public;
  - e. use of University support staff;
  - f. use of University research, clinical, production, laboratory, studio, specialized computing, or other equipment without payment of fees, where such fees are equivalent to those normally paid by third parties; and
  - g. reduction in levels of teaching, service, or other typical activities (e.g., course load, student advising responsibilities, division/department meetings, office hours, administrative responsibilities).

Substantial Use of University Resources does not typically include use of office supplies, computers, telephones, utilities, or minimal administrative/clerical support. Substantial Use of University Resources does not typically include use of University libraries on a basis similar to scholars who have no association with the University.

16. **"Supervisor"** as used herein means any Employee of the University in charge of an Employee under the supervision of the Head of the Department or some other superior officer.
17. **"TTO"** means the technology transfer office, department, unit, or other organization designated by the President or his/her designee to manage the day-to-day technology transfer activities at each campus of the University.
18. **"University"** as used herein means The Board of Curators of the University of Missouri. Any action or consent on the part of the University herein shall be an action or consent duly taken or given by the Board of Curators, or its authorized officer.

#### D. **Inventions by Employees of the University**

##### 1. **Rights of University and of Employees**

- a. Assignment by Employees. The University shall have the ownership and control of any Invention developed in the course of the Employee's service to the University. Each Employee hereby irrevocably assigns to the University all rights, title and interest in and to Inventions made by the Employee within the general scope of his/her duties as an Employee, and ownership of such Inventions shall immediately vest in the University. Further, the University may elect to have Employees, as a condition of hiring or continued employment (as well as a condition of persons with "no salary" appointments participating in research investigation as set forth in Section C.3), to sign a written assignment or written

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acknowledgment of the Invention and Patent Regulations (CRR 100.020) and Copyright Regulations (CRR 100.030) prepared by the Office of the General Counsel in consultation with the Patent Committee. The written assignment or written acknowledgement may contain assignment language directed to Inventions (and associated Patents, and PVP protection) owned by the University in accordance with these regulations. The failure of an Employee to sign the written assignment or written acknowledgement does not relieve the Employee of the Employee's obligations under these regulations and such Employee remains bound by the regulations. Each Employee is further required to execute any and all documents the University deems reasonably necessary to evidence such University ownership, including but not limited to any confirmatory assignments requested by the University. Remuneration to the Employee for such assignment(s) is detailed in Section J.

- b. Scope of Duties. An Invention shall be considered as having been made within the general scope of the Employee's duties for the University if either of the following conditions are met:
- i. Whenever the Employee's duties include research or investigation, and the Invention arose in the course of such research or investigation and is relevant to the Employee's general field of inquiry; or
  - ii. Whenever the Invention was made or developed through the Substantial Use of University Resources.

In assessing Section D.1.b.i, the University may take into account the Employee's department/college, other appointments (like joint appointments), classes taught, fields in which the Employee advises Students, publications/presentations made by the Employee, conferences attended by the Employee, journals/publication in which the Employee provides peer review, sponsored projects involving the Employee, grants submitted by the Employee through the University, and other relevant factors.

- c. Inventions Made Outside the Scope of Duties. An Employee of the University shall be entitled to all rights resulting from any Invention which was made by him/her outside the general scope of his/her University duties as defined in Section D.1.b. For example, subject to the Inventor's compliance with the Conflict of Interest Policy set forth in Collected Rule and Regulation 330.015 (including any applicable Conflict of Interest Management Plan), the University shall have no rights to Inventions developed in the course of consulting activities for third parties other than the University, and not resulting from Substantial Use of University Resources.
- d. Disposition Rights. Except as provided herein, the President or his/her designee may approve the following:
- i. Assignment of Inventions owned by the University
  - ii. Optioning of Inventions owned by the University;
  - iii. Licensing of Inventions owned by the University;
  - iv. Non-Assertion of Rights in Inventions (see Section D.3.);
  - v. Waiver (re-assignment) of the Inventions by the University back to the Inventor (see Section D.4.); or

vi. Any other transfer or disposition of Inventions owned by the University.

In determining whether to approve the foregoing i-vi, the President or his/her designee shall consider all relevant factors and be satisfied the action will reasonably and substantially discharge the obligations of the University consistent with the University's missions.

e. Patent and PVP Filings. An Employee of the University shall not file (or assist others in filing) in any domestic or foreign jurisdiction any Patent or PVP certificate relating to an Invention made within the general scope of his/her University duties (see Section D.1.b.) without the prior written consent of the President or his/her designee. The University's consent to file shall not constitute a waiver of or otherwise affect the University's ownership interest in the Patent or PVP certificate.

## 2. **Invention Disclosures.**

a. Every Invention made by an Employee of the University shall be reported by such Employee to the TTO in an Invention Disclosure Form, except such report shall not be required in situations in which the Employee has a reasonable belief that the Invention was made clearly and demonstrably outside the general scope of the Inventor's duties as set forth in D.1.b, but such exception shall not apply if (a) the Inventor has any reason to believe that the University may have cause to assert ownership of such Invention or (b) the University has requested disclosure of the Invention so that the University may make a determination of ownership. Even if an Employee does not believe that reporting is required, the Employee shall nonetheless (i) promptly notify the TTO whenever any patent application is filed on such Invention naming the Employee as an Inventor and (ii) if requested by the TTO, promptly provide the TTO with a complete copy of such patent application and any patent office correspondence regarding the patent application, if requested by the Employee the University may agree to treat an unpublished patent application confidential if such circumstances are warranted. The Patent Committee shall prescribe the form and manner of execution of the Invention Disclosure Form, and such Invention Disclosure Form shall be treated as restricted/confidential reports of the University. The Invention Disclosure Form may include, among other things, confirmatory assignment language and recital of the obligations for the Inventors to cooperate with the University in filing, prosecuting, and maintaining a Patent or PVP certificate on the Invention. The Invention Disclosure Form may also contain language for the Inventors to allocate the Inventor Share among Inventors in accordance with Section J.3. The Invention Disclosure Form may also be different for different types of Inventions (e.g., engineering vs. software vs. Plant Varieties).

b. The Invention Disclosure Form shall be made as promptly as possible, taking into consideration such factors as possible publication, public use, or sale and the necessity for protecting the Inventor's and the University's rights in the Invention. If the Invention is reduced to practice, modified, or improved upon after the Invention Disclosure Form is submitted by the Inventor, the Inventor should promptly notify the TTO and update the Invention Disclosure Form, adding any new information, data or developments.

- c. For the protection of the rights of the Inventor and of the University, laboratory notebook-diaries, Invention Disclosure Forms, Plant Variety development data and memoranda or correspondence concerning them are to be considered University restricted/confidential information, and should be so marked by the Inventor.
3. **Request for Non-Assertion of University Rights in Invention (Invention Ownership Determination).**
- a. Request of Non-Assertion of University Rights
    - i. Basis for this Request. If an Inventor reasonably believes an Invention is not subject to the University's ownership rights under these regulations because the Invention was not made or developed within the general scope of the Employee's duties (see Section D.1.b.), then the Inventor may request a determination as to whether the University will assert ownership rights to the Invention. The initial request should be made by the Inventor to the TTO in writing.
    - ii. Terms and Conditions for Non-Assertion of University Rights. The University may condition agreement to a request for a non-assertion of rights in an Invention on certain terms and conditions as determined by the President or his/her designee.
    - iii. Scope: Enabled Inventions. If the University makes a determination that the Invention described in the Invention Disclosure Form pursuant to Section D.2. is not "enabled" such that one skilled in the art can make and use the Invention without undue experimentation under U.S. patent law or that the Invention Disclosure Form is premature or incomplete, then the University may, in its discretion, elect to (1) defer an ownership dispute resolution process under this Section D.3. until such Invention is enabled or more mature/complete or (2) proceed with the ownership dispute resolution process under this Section D.3.
  - b. Burden of Proof in making the Request of Non-Assertion of University Rights. The Inventor asserting that the Invention should not be subject to University ownership shall have the burden of showing the same by clear and convincing evidence.
  - c. Documentation for the Request of Non-Assertion of University Rights. In connection with the request, the Inventor must provide the TTO with all reasonable information needed or requested to determine ownership (for example, emails, workbooks, laboratory notebooks). Such information may include but is not limited to:
    - i. a summary of the circumstances leading to the conception, reduction to practice and development of the Invention;
    - ii. a summary of any individuals, facilities, equipment, materials, background intellectual property, or other resources used to conceive, reduce to practice, or develop the Invention;
    - iii. a listing of any possible co-Inventors and their contact information;
    - iv. the Inventor's duties at the time of making the Invention;
    - v. whether the Invention was conceived, reduced to practice, or developed under an internal funding agreement or funding agreement with an external sponsor;
    - vi. a copy of any applicable patent application (in accordance with D.2.a); and

- vii. whether any third parties have a co-ownership interest in the Invention.
- d. Process.
  - i. After receipt of the information set forth in Section D.3.c, the TTO, in consultation with at least the Head of the Department and the Dean, will make a recommendation in writing on whether or not the University should assert ownership rights in such Invention. The recommendation shall be provided to the President's designee, who shall make a decision on whether or not the University will grant the request.
  - ii. If the President's designee makes a decision that is adverse to the Inventor, the Inventor may appeal the decision in Section D.3.d.i to the Patent Committee by submitting an appeal request to the Patent Administrator. If the Inventor elects to appeal, the Inventor shall be afforded the opportunity to appear before the Patent Committee to present evidence and any information the Patent Committee may request. The Patent Committee, at its discretion, may make an independent investigation of the ownership claim. The Patent Committee shall provide its findings and recommendations in writing to the President for appropriate action. The Inventor shall be afforded a copy of the Patent Committee findings and recommendations and shall have an opportunity to respond to the findings of the Patent Committee by filing a timely written argument with the President. The President shall make the final non-appealable determination with respect to ownership and whether the University will assert rights in the Invention.
  - iii. In all cases, a decision regarding the non-assertion of rights in an Invention is at the sole discretion of the University.
  - iv. In the event that the President makes a final determination that the University owns the Invention, the refusal of an Inventor to execute a confirmatory assignment to the University of such Invention may result in sanctions against the Inventor (see Section K).
- e. Duty to Disclose. For clarity, the Inventor must still disclose the Invention in accordance with Section D.2 and provide the requested documentation in accordance with D.3.c of these regulations. However, the Inventor need not execute any assignment language in the Invention Disclosure Form for so long as there is a legitimate ownership dispute and the Inventor has filed a request for non-assertion of rights. In the event that the President makes a final determination requesting assignment, then the Inventor shall promptly execute the assignment language in the Invention Disclosure Form and any confirmatory assignments requested by the University.
- f. Commercialization Restrictions.
  - i. An Inventor who has any reason to believe that that the University has an ownership interest in an Invention or the University may assert ownership of the Invention shall not attempt to commercialize (e.g., license, sell, lease, assign or otherwise transfer) such Invention or file (or assist others to file) a Patent or PVP certificate covering the Invention without a final resolution of ownership as set forth in Section D.3 of these regulations, unless prior written approval is obtained from

the President or his/her designee. In such a case of receiving such prior written approval, the Inventor must provide the University with a copy of any such patent applications and any patent office correspondence regarding the patent application as set forth in Section D.2.a. The University's consent to file shall not constitute a waiver of or otherwise affect the University's ownership in the Invention.

- ii. When an Invention is owned by an Employee, the Inventor shall not further create, develop, or commercialize an Invention with Substantial Use of University Resources unless pursuant to a written agreement with the University executed by the President or his/her designee that sets forth the terms and conditions of such Substantial Use of University Resources. A term or condition of the written agreement may involve, for example, University ownership of the Invention, University/Inventor co-ownership of the Invention, or other revenue sharing with the University if such further creation, development, or commercialization of the Invention involves Substantial Use of University Resources. By way of example, if an Employee in the school of music files a patent application directed to a new engine that is not subject to University ownership under Section D.1.b, and the Employee is then desirous of obtaining federal funding through the University to build and test the new engine, the University and the Employee should enter into a written agreement which provides for University ownership of the patent application and Invention so that the University may satisfy its obligations to the federal government in accordance with the Bayh-Dole Act. The Substantial Use of University Resources should also be reported to the Conflict of Interest Committee and subject to a Management Plan in accordance with Collected Rule and Regulation 330.015.
- g. Initiation of Non-Assertion of University Rights in Invention by University. Although the Inventor will typically initiate a request for non-assertion of University rights in an Invention, the University may elect to not assert rights without such a request if the University finds it is in the University's interest to do so.

#### **4. Inventor Requests for Waiver (Re-Assignment) of University Rights.**

- a. Scope.
  - i. If the University determines it will not pursue or maintain all Patents or PVPs certificate on an Invention and/or will not pursue commercialization of an Invention subject to the University's ownership under these regulations or the University otherwise finds it is in the interest of the University, the University may consider a written request by the Inventor to waive/re-assign the University's ownership interest in the Invention (and any Patents or PVP certificates covering only the Invention) arising solely from the Inventor who has made the request. Not all Inventors are required to join in the request.
  - ii. To the extent that the TTO elects to pursue patent protection on an Invention in some countries but not others (for example, the University elects to file and maintain a patent application in the United States but elects to forego or abandon foreign filings), the TTO may summarily deny a request for waiver from an Inventor directed to

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Patents in countries where the University has not pursued or maintained protection, and the process in Section D.4.d does not apply. If the University makes a determination that an Invention is not "enabled" such that one skilled in the art can make and use the Invention without undue experimentation under U.S. Patent law or that the Invention Disclosure Form is premature or incomplete, then the University may, in its discretion, elect to (1) defer the waiver/re-assignment process under this Section D.4 until such Invention is enabled or more mature/complete or (2) proceed with the waiver/re-assignment process under this Section D.4.

- b. The Request for Waiver/Re-Assignment.
  - i. Agreement as to the Request by Multiple Inventors. In those instances, in which there are multiple Inventors, all Inventors do not need to be in agreement and be a party to such a request to waive/re-assign the University's ownership interest in the Invention arising solely from the Inventor who has made the request. The Inventor making the request should make reasonable attempts to seek unanimous approval of all of the Inventors to make the request. If all Inventors do not agree to make the request, then the University may, at its discretion, waive/re-assign only an undivided interest to the Inventor who has made the request, and if the University does so, the University shall retain an undivided interest in the Invention by virtue of the Inventors who have not agreed to the request such that the Invention shall be co-owned by the University and the Inventor making the request. In such a case, any Net Proceeds received by the University shall be shared with the Inventors who have not joined in the request (and not the Inventor making the request) as set forth in Section J of these regulations. The University shall have no obligation to market, protect, or license the Invention where rights have been waived/re-assigned to less than all of the Inventors.
  - ii. Terms and Conditions for Waiver/Re-assignment. The University may condition waiver/re-assignment of an Invention to the Inventor making the request on certain terms and conditions as determined by the President or his/her designee. At a minimum, (1) the University must retain an irrevocable non-exclusive, perpetual, worldwide, royalty free license to make, use, and otherwise practice the Invention for educational, research, and academic purposes; (2) the waiver/re-assignment must comply with applicable law; (3) the waiver/re-assignment must be subject to preexisting rights of third parties (including the right to approve such waiver/re-assignment where applicable), where such third parties may include external sponsors or co-owners of the Invention; and (4) the Inventor making the request must assume future expenses and costs related to the patenting and commercialization of the Invention.
- c. Documentation for the Request for Waiver (Re-assignment) of Invention from University to Inventor. In connection with the request, the Inventor must provide the TTO with all reasonable information needed or requested to assess the patentability and commercialization potential of the Invention.
- d. Process.

- i. After receipt of the information set forth in Section D.4.c, the TTO, in consultation with at least the Head of the Department and the Dean, will make a recommendation in writing on whether or not to waive/re-assign rights in the Invention to the Inventor making the request. The recommendation shall be provided to the President's designee, who shall make a decision on whether or not the University will grant the request in reasonable period of time.
  - ii. If the President's designee makes a decision that is adverse to the Inventor making the request, the Inventor may appeal the decision in Section D.4.d.i of these regulations to the Patent Committee by submitting an appeal request to the Patent Administrator. If the Inventor elects to appeal, the Inventor shall be afforded the opportunity to appear before the Patent Committee to present evidence and any information the Patent Committee may request. The Patent Committee, at its discretion, may make an independent investigation of the issue. The Patent Committee shall provide its appropriate findings and recommendations in writing to the President of the University for appropriate action. The Inventor shall be afforded a copy of the Patent Committee findings and recommendations and shall have an opportunity to respond to the findings of the Patent Committee by filing a timely written argument with the President. The President shall make the final non-appealable determination with respect to the requested waiver/re-assignment of rights.
  - iii. In all cases, decisions regarding the waiver/re-assignment in Inventions are at the sole discretion of the University.
5. **Publication, Public Use and Sale.** If an Invention is described in a printed publication, is in public use, is on sale, or is otherwise available to the public before a Patent or PVP certificate is filed, the patentability or protection under the Plant Variety Protection Act may be affected. In order to preserve possible Patent protection or protection under the Plant Variety Protection Act in the Invention, the Inventor (or the Supervisor of the Inventor if the Inventor is not available) must notify the TTO of any such events irrespective of whether an Invention Disclosure Form has previously been filed. If an Invention Disclosure Form has not been filed, the Inventor shall file the Invention Disclosure Form at once. If an Invention is disclosed to any person who is not employed by the University, the Employee making such disclosure shall provide the TTO with the date and extent of the disclosure, the name and address of the person to whom the disclosure was made, and the purpose of the disclosure.

#### E. **Rights of University and Students**

1. **General Rule.** In general, Students will be entitled to own any Invention made during their enrollment as a Student of the University and will generally not be required to assign his or her ownership to the University; however, the foregoing general rule does not apply and the Student will be required to assign his or her ownership interest to the University in any circumstance in which the Student meets the definition of Employee, as defined in Section C.3. hereof provided such Invention was developed in the course of the Student-Employee's service to the University. Should faculty wish to have a non-Employee Student work on a research project where University

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ownership of resulting Inventions is desired, faculty are encouraged to work with the TTO to obtain written agreements from the Student that address ownership of Inventions made by Student pursuant to Section E.5.

2. **Examples of Student Owned Inventions.** Without limiting the language of the foregoing general rule or the language of the foregoing exceptions to the general rule, the following are examples of fact situations in which, in the absence of a written agreement providing otherwise, the University will not claim ownership of an Invention made by a Student of the University:
  - a. The Invention was developed by a Student as part of a University class project using no greater University resources than those generally available to all other Students within the class or than those available to the Student as part of his/her enrollment with the University.
  - b. The Invention was developed by a Student as part of a University approved Student competition using no greater University resources than those generally available to all other Students within the competition or than those available to the Student as part of his/her enrollment with the University. The Student shall be entitled to receive any monetary or other prize awarded to the Student for his/her performance under such competition in accordance with the rules of the competition and such prize shall not be considered compensation under Section C.3. hereof.
  - c. The Invention was developed by a Student as part of a University approved extracurricular activity, using no greater University resources than those generally available to all other Students participating in the activity or than those available to the Student as part of his/her enrollment with the University.
  - d. The Invention was developed by a Student on his/her own free time, outside of any University class or sponsored activity, and using no greater University resources than those generally available to all other Students as part of their enrollment with the University.
  - e. In determining whether the Invention was developed using no greater University resources than those generally available to all other Students within the class/competition/activity or than those available to the Student as part of his/her enrollment with the University, factors that the University may consider as part of this assessment include:
    - i. Whether the University established eligibility criteria for participation;
    - ii. Whether the University selects the participants from among those eligible;
    - iii. Degree of presence or lack of presence at the project site by a faculty advisor, University supervisor, or other University employee;
    - iv. Extent of supervision exercised by a faculty advisor, University supervisor, or other University employee;
    - v. Degree to which University-provided tools, equipment, and supplies were utilized in the development of the Invention;
    - vi. Degree to which University-provided funds were used in the development of the Invention;
    - vii. Whether a University faculty member or other Employee is co-Inventor;
    - viii. Existence and terms of any signed agreement required as a condition of participation; and
    - ix. Any other relevant factors.

3. **Examples of University-Owned Inventions.** The following are examples of fact situations in which the University may claim ownership of an Invention made by a Student of the University:
    - a. The Invention was developed as part of a graduate school thesis/dissertation project by a Student-Employee paid under a graduate teaching assistantship. Because the Student is an Employee, this section is not applicable and the ownership standards set forth in Section D.1.b shall apply.
    - b. If a faculty member provides a Student (who is not otherwise an Employee) with a volunteer opportunity to work on a project sponsored by an external sponsor (e.g. a governmental or industry sponsor) and the Student uses greater University resources than those available to other Students enrolled at the University as part of the sponsored project, then the University may assert ownership of the Invention made by such Student in order for the University to fulfill its contractual obligations to the external sponsor.
  4. **Non-Assertion.** A Student may, but is not obligated to, make a request for non-assertion of University rights in an Invention using the procedures generally set forth in Section D.3.
  5. **Treatment of Student as an Employee.**
    - a. In the event that the University asserts ownership in an Invention made or developed by a Student under the foregoing standards set forth in this Section E and the Student is not otherwise an Employee under Section C.3(a)-(b), then the University and Student shall typically enter into an agreement whereby the Student is treated as an Employee under Section C.3(c), wherein such agreement addresses, among other things, the sharing of Net Proceeds (if any) with the Student (along with other Inventor-Employees) under Section J.
    - b. A Student having ownership over an Invention may, with University consent, elect to assign the Student's rights in the Invention to the University. In such a case, the University and Student shall typically enter into an agreement whereby the Student is treated as an Employee under Section C.3(c), wherein such agreement addresses, among other things, the sharing of Net Proceeds (if any) with the Student (along with other Inventor-Employees) under Section J.
  6. **Student Policy Information.** The Patent Administrator shall implement reasonable procedures designed to make Students aware of Section E, and to provide one or more avenues for Students to receive information regarding the University's interpretation of the Student's rights and obligations with respect to Inventions in which a Student may be an Inventor or co-Inventor
- F. **Visitors: Rights of Other Institutions.** In general, Inventions made or developed by Inventors who are not Employees or Students but are otherwise visiting from another institution or company (e.g., visiting scientists, visiting scholars) will be treated as having been made or developed by an Employee within the general scope of his/her duties for the University. However, the University recognizes that such Inventors often are subject to intellectual property policies of their home institutions or employers. Accordingly, where it is anticipated that there is a reasonable possibility that a visitor will conceive, reduce to practice or develop an Invention while working at or under the auspices

of the University, the TTO should be contacted so an agreement with the visitor's home institution or employer may be executed prior to the start of the visit. In cases in which there are conflicts between the University and the home institution or employer of a non-Employee Inventor visitor, such conflicts will be resolved through good faith negotiations between the University and such home institution or employer.

#### G. **The Patent Committee**

##### 1. **Appointment**

- a. Notwithstanding other regulations affecting University committees, the President of the University shall appoint a Patent Committee, which shall include representative voting members from each of the campuses. The Patent Administrator or other person designated by the President shall be an *ex officio* member of the Patent Committee and shall provide a secretary to the Patent Committee. The General Counsel or his/her delegate shall also be an *ex officio* member of the Patent Committee. The TTO director(s) shall also be *ex officio* member(s) of the Patent Committee.
- b. The President of the University shall designate the chair of the Patent Committee.
- c. The Patent Committee shall make and keep minutes of all its meetings.

##### 2. **Duties**

- a. The Patent Committee shall assist with policy analysis and development relating to these regulations.
- b. The Patent Committee shall assist with drafting amendments to these regulations resulting from technological and legislative changes affecting Inventions, Patents, and/or PVP rights.
- c. The Patent Committee shall review, report and make recommendations on all matters affecting Inventions as may be referred to the Patent Committee by the Patent Administrator (see Section H.2.d.).
- d. The Patent Committee will consider such other matters regarding the Inventor's claims, interest or right to patentable findings, as may be referred to it by the Patent Administrator.

#### H. **The Patent Administrator**

1. **Appointment of Patent Administrator** – The Patent Administrator will be appointed by the President.
2. **Duties of Patent Administrator** - The duties of the Patent Administrator shall be prescribed by the President or his/her designee from time to time. The duties of the Patent Administrator shall include, but not be limited to, a duty to:
  - a. Assist with policy analysis and development relating to these regulations;
  - b. Assist with drafting amendments to these regulations resulting from technological and legislative changes affecting Inventions, Patents, and/or PVP rights;
  - c. Implement procedures to advise Students of their intellectual property rights in accordance with Section E.6 of these regulations;
  - d. Refer matters to the Patent Committee in accordance with these regulations.

- i. If there is a dispute about Inventorship, the Patent Administrator shall refer such claims to the Patent Committee in accordance with Section C.7.c.
- ii. If an Inventor shall claim an Invention as his/her own, the Patent Administrator shall refer such claims to the Patent Committee in accordance with Section D.3.d.
- iii. If an Inventor shall claim that an Invention should be waived/re-assigned to the Inventor, the Patent Administrator shall refer such claims to the Patent Committee in accordance with Section D.4.d.
- iv. If there is a dispute about the distribution of Inventor Share of Net Income, the Patent Administrator shall refer such claims to the Patent Committee in accordance with Section J.3.
- v. The Patent Administrator may refer other matters to the Patent Committee as he/she deems necessary to protect the interests or rights of the Inventor and the University.

#### **I. TTOs.**

The duties of the TTO shall be prescribed by the President or his/her designee from time to time. The duties of the TTO shall include, but not be limited to, receiving Invention Disclosure Forms, determining whether to file or maintain any Patents directed to University-owned Inventions, and making commercialization decisions with respect to such University-owned Inventions.

#### **J. Use of Net Proceeds Received By University Relating To Inventions**

##### **1. General Rule.**

- a. Net Proceeds received by the University from commercializing a University-owned Invention or the copyright in materials subject to Copyright Policy 100.030 shall be distributed as follows;
  - i. 33.3 percent shall go to the Inventor(s) for Inventions and authors for copyrightable works ("Inventor share");
  - ii. 66.7 percent to the campus from which the Invention originated ("Campus Share").
- b. To the extent required by applicable law, use of the Campus Share is restricted to support scientific research or education. Each campus shall develop a plan for expenditures related to the Campus Share. Such plans will be approved by the Chancellor with input from appropriate faculty representatives with experience in technology transfer, the campus research office, and the TTO.
- c. In the event the Campus Share exceeds \$5 million in any given fiscal year, a separate plan shall be made for the funds in excess of \$5 million and approved by both the Chancellor and the President.

For clarity, the distribution protocols outlined do not apply to personally owned Inventions and copyrightable materials but only to those Inventions and copyrightable materials owned by the University.

2. **Department of Veteran's Affairs.** In the case of Inventions made jointly by University Employee(s) and individual(s) employed by the United States Department of Veteran's Affairs, with or without compensation, the President or his/her designee may execute a written agreement with the United States Department of Veteran's Affairs which provides for different division,

distribution and allocation of Gross Proceeds or Net Proceeds as provided herein.

3. **Inventor Revenue Distribution Agreement.** If more than one Inventor is to share in the Inventor Share provided in Section J.1 of these regulations, the Inventors entitled to receive payments should decide among themselves their respective shares and provide the TTO with a written agreement signed by all Inventors. This written agreement may be provided as part of the Invention Disclosure Form or may be a separate written agreement. Such written agreement among the Inventors should be provided promptly to the TTO after receiving a written request from the TTO for such an agreement, at a minimum, and the written agreement should be provided prior to distribution of the Net Proceeds. Any such written agreement will be irrevocable unless it is modified in writing by all Inventors. In the absence of a written agreement, the University may (1) hold the Inventor Share for a reasonable period of time to permit the Inventors to come to an agreement; or (2) after a reasonable period of time, divide the Inventor Share equally among the Inventors. If a written agreement cannot be reached after good faith efforts by the Inventors, an Inventor may request that the matter be referred by the Patent Administrator to the Patent Committee for an equitable recommendation to the President. The Inventor shall be provided a copy of the Patent Committee's recommendation and shall have an opportunity to respond by filing a timely written argument to the President. The President shall make the final non-appealable determination with respect to the distribution of the Inventor Share. The University is not liable for any distribution of Inventor Share made in good faith but that was later found to be in error.
4. **Assignment of Inventor Share.** An Inventor Share payable to an Inventor cannot be assigned by the Inventor to third parties unaffiliated with the University. Notwithstanding the foregoing, prior to the receipt of Gross Proceeds by the University, an Inventor may elect in writing to (a) forego his/her portion of the Inventor Share such that the University retains the same for general use by the University; (b) forego his/her portion of the Inventor Share and direct the same to a University account related to further research and development of the Invention; or (c) redirect all or a part of his/her portion of the Inventor Share to an Employee or non-Employee Student who made a significant, but non-inventive contribution to the development of the Invention and would not otherwise be entitled to share in the Inventor Share. With respect to (c) such redirection may be made as part of the Inventor Revenue Distribution Agreement referenced in Section J.3 of these regulations.
5. **Compliance with the Regulations.**
  - a. This distribution of the Inventor Share to an applicable Inventor shall be contingent upon the Inventor's compliance with these regulations. For example, in order to qualify for the Inventor Share, an Employee must have executed any confirmatory assignments requested by the University and must reasonably assist the University with the University's efforts to commercialize the Invention (including but not limited to reasonable input on the filing, prosecution, and maintenance of any Patents or PVP certificates related thereto).

- b. In the event that an Inventor does not comply with these regulations (for example, the Inventor refuses to sign such a confirmatory assignment and/or does not provide such reasonable assistance to the University), no Inventor Share will be allocated to that Inventor and the Inventor Share shall be allocated to the other Inventors, and the corresponding Campus Share shall be likewise adjusted as if the non-cooperating Inventor did not exist.

**K. Sanctions.**

Conduct by an Employee that violates these regulations shall constitute a breach of the employment contract and may lead to disciplinary action. The Patent Committee may make a determination of a violation of this policy and will report such violation to the Chancellor. After the finding of a violation, the Chancellor of each campus may apply sanctions, including but not limited to, one or more of the following:

1. Letter of warning or admonishment,
2. Suspension or termination of research compliance committee approvals,
3. Suspension or termination of the privilege to submit sponsored activity proposals,
4. Suspension or termination of sponsored research activity spending authority,
5. Demotion or removal from assigned administrative roles,
6. Ineligibility for waivers/re-assignments,
7. Ineligibility to receive an Inventor Share,
8. Referral to campus Committee on Tenure or other appropriate committee for discipline or dismissal for cause of faculty,
9. Suspension or termination of employment (pursuant and subject to CRR 310.060, Procedures in Case of Dismissal for Cause, for those faculty covered by that rule).



# 100.030 Copyright Regulations

Bd. Min. 2-19-71, p. 35,527; Revised Bd. Min. 5-4-84; Revised Bd. Min. 9-27-02, Amended 11-29-07; Amended 6-11-10; Amended 7-23-10, Amended 4-12-13;  
Amended XX-XX-21

The following policy is intended to foster the traditional mission of a University to encourage the creation, preservation, and dissemination of knowledge. This policy is intended to clarify and protect the respective rights of the University, its students, faculty, staff, and other employees, by establishing policies governing the ownership, use, and rights to income of copyrightable materials.

## A. Coverage of Policy

1. In conjunction with the University Conflict of Interest Regulations 330.015 and the University Invention and Patent Regulations 100.020 as they may be amended from time to time, this policy governs the rights and responsibilities of University employees, students, and of any other persons using University facilities or resources in the creation of original works of authorship subject to protection by copyright law. The faculty will continue to hold copyright for traditionally accepted intellectual property that is developed in their roles as teachers and scholars subject to the provisions of section 2 herein. These include, but are not limited to such materials as books, workbooks, study guides, monographs, articles, and other works including music and performances, whether embodied in print, electronic format, or in other media.

2. The University will own the copyright in materials that are:

a. commissioned for its use by the University; or

b. created by employees if the production of the materials is a specific responsibility of the position for which the employee is hired; or

c. sponsored works, which are works resulting from internal grants (work created as a result of an agreement between the University and the creator(s) of the work) and external grants (work created as a result of an agreement between an external sponsor and the University). This provision does not apply to grants to perform research where the production of copyrightable materials is ancillary to the purpose of the grant. Employees continue to own the copyright to scholarly and other publications that present the findings of research, subject to the provisions of subsection 2 herein; or

d. created with the use of substantial University resources which are specifically provided to support the production of copyrightable materials.

(1) If substantial University resources will be used in the development of educational materials, a written agreement between the author and University setting forth the terms of

- (a) copyright ownership and  
~~(b) division of net income from external sale, and~~  
 (eb) use, revision and maintenance

shall precede the use of said resources. Limited secretarial support, uses of the library for which special charges are not normally made, and the staff member's own time except as covered by subsections 2.a. and 2.b. herein shall not be considered substantial University resources.

(2) In the unusual circumstance in which the said materials were developed with substantial University resources without an agreement the University may, in its discretion, claim copyright ownership and/or a share of royalties.

3. Faculty, staff, and other employees must notify the University prior to entering into a contractual agreement in which royalties or other forms of remuneration are involved related to materials as defined in section A.2. The Chancellor on each campus shall designate an individual or unit who is responsible for receipt of said notifications.

4. Copyrightable software, except software included in mediated courseware, owned by the University pursuant to section A.2. herein, shall be submitted to the ~~Office of Technology and Special Projects (OTSP)~~ technology transfer office ("TTO") for review and evaluation. The ~~OTSP-TTO~~ shall have the sole discretion to decide whether to proceed with the copyright registration and/or the commercialization of the work. ~~Should the department subsequently require the assistance of OTSP, the parties shall negotiate an agreement as provided in section E.4.b.~~

5. In general, students of the University of Missouri will be entitled to own any copyrightable works made during their enrollment as a student of the University and will generally not be required to assign his or her ownership to the University; provided, however, the foregoing general rule does not apply and the student will be required to assign his or her ownership interest to the University in any circumstance in which the student is a University employee, provided such copyrightable work was created in the course of the student-employee's service to the University.

Without limiting the language of the foregoing general rule or the language of the foregoing exceptions to the general rule, the following are examples of fact situations in which the University will not claim ownership of copyrightable work made by a student of the University:

- a. The copyrightable work was created by a student as part of a University class project using no greater University resources than those generally available to all other students within the class or than those available to the student as part of his/her enrollment with the University.
- b. The copyrightable work was created by a student as part of a University approved student competition using no greater University resources than those generally available to all other students within the competition or than those available to the student as part of his/her enrollment with the University. The student shall be

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entitled to receive any monetary or other prize awarded to the student for his/her performance under such competition in accordance with the rules of the competition and such prize shall not be considered compensation whereby such student would be considered an employee solely based upon receipt of such prize.

c. The copyrightable work was created by a student as part of a University approved extracurricular activity, using no greater University resources than those generally available to all other students participating in the activity or than those available to the student as part of his/her enrollment with the University.

d. The copyrightable work was created by a student on his/her own free time, outside of any University class or sponsored activity, and using no greater University resources than those generally available to all other students as part of their enrollment with the University.

e. The student is a full-time student receiving compensation for services rendered to the University which services are unrelated to research or investigation and are unrelated to the creation of computer software.

6. The Chancellor on each campus shall designate an individual or unit who is responsible for implementing reasonable procedures designed to make students aware of Section 100.030A.5 and to provide one or more avenues for students to receive information regarding the University's interpretation of the student's rights and obligations with respect to the creation of copyrightable works.

7. Notwithstanding anything herein to the contrary, to the extent any University employee whose primary appointment is non-academic creates or contributes to any copyrightable software, including any source or object code, documentation, or other copyrightable work that is part of or associated with such software, and such employee's work is within the scope of his or her employment with the University or otherwise constitutes "work made for hire" of the University in accordance with applicable law, all ownership and other rights of such employee associated with such copyrightable software shall belong to the University, without restriction, and such employee shall not be deemed the author of or have any further ownership or rights in or with respect to such copyrightable software pursuant to any other provision in this policy or otherwise. This paragraph shall not apply to any rights of any employee whose primary appointment is academic (as generally defined in University Regulation 310.020.A) or any student (unless such student is a University employee and such copyrightable software was created in the course of the student-employee's service to the University, as described above), which shall be governed by the remainder of this policy, in accordance with its terms, and applicable law.

#### **B. Interpretation and Administration of Policy**

1. The Patent and Copyright Committee as described in section 100.020 E. will be advisory in interpretation and future revisions of this policy. The final decision on interpretation and application of this policy shall be made by the Chancellor's designee.

2. No interpretation or application of this policy shall serve as a precedent in later cases.

3. Written agreements developed pursuant to section A.2.d. for holders of academic appointments shall first be approved by the chair, then the dean, and finally the Chancellor's designee.

4. Written agreements developed pursuant to section A.2.d. for holders of nonacademic appointments shall first be approved by the director of the unit, then the appropriate vice-chancellor, and finally the Chancellor's designee.

### **C. Ownership and Use of University Name**

1. This policy should strengthen and protect the reputation and academic standing of the University and its faculty, staff, and students. Unless otherwise agreed pursuant to Section A, when the name of the University is associated with any intellectual property, other than the identification of the creator as a faculty, staff, or student of the University, the ownership shall be vested in The Curators of the University of Missouri, a public corporation, and shall display the following symbol and notice:

© Copyright (year) by The Curators of the University of Missouri, a public corporation.

If the registration of the copyright is deemed appropriate by the author(s) and department/area(s), the application for registration with the United States Copyright Office shall be processed through the ~~Office of the Vice President for Academic Affairs~~. TTO or other Chancellor designee.

2. Faculty, staff, other employees, students, department/areas, and schools of the University may not use the name of the University to imply University sponsorship of creative materials when there is no University sponsorship or approval and may not license or otherwise commercially exploit a course, course content or courseware whose copyright is held by the University without the approval of the appropriate dean, or on campuses with no schools or colleges, the Provost and chief academic officer as well as other signatories as indicated by the Board of Curators.

### **D. Policy on Use of Materials**

1. If any of the conditions described in section A.2. are applicable and conditions of A.4. are not applicable, then subject to the following exceptions delineated in subsections D.2. - D.4., the use of materials by any unit of the University of Missouri requires approval only of the unit primarily responsible for the said materials.

2. As long as the author or producer of copyright materials remains a member of the staff of the University:

a. The author's approval shall be required for each instance of use of the materials internal to the University other than the uses for which the materials were developed, except as allowed in the agreement between the author and the University reached pursuant to Section A.

b. The author may require revision of the materials prior to any instance of internal University use other than the use for which the materials were developed. If the University does not accept the required revision, the author may ask that the materials be withdrawn from use. The University may assign its respective rights in such copyright to the author, subject to a written agreement between the University and the author relating to further internal or external use of materials and division of income from any subsequent use of the materials.

3. In the event that the author should cease employment with the University, the University shall retain the right to make internal use of the copyrighted materials without the author or producer's consent. In such event, the author shall retain a non-exclusive license to use the work for her/his own non-commercial, educational purposes only, but shall not have the right to distribute, sell, or sublicense the work to a third party.

4. Licensing or sale of copyrighted materials for external use shall be preceded by a written agreement between the University and author or producer specifying the conditions of use, and including provisions protecting the right of the author or producer to revise the materials periodically, or to withdraw them from use in the event revision is not made.

**E. Payments to the Author or Producer for Production and Use of Materials Described in A.2. Herein**

1. The University acknowledges that the ownership of intellectual property and the sharing of economic returns on such property are related. Therefore, when the University solely holds the intellectual property rights pursuant to section A.2., the revenues will be shared among the creators and used for the common good to support the mission of the University.

2. Payment by the University to the author or producer of intellectual property for its production normally will take place through the reduction of the author's or producer's normal work load. However, staff members on nine-month academic appointments may receive summer grants and salaries for the production.

3. Payment by the University to the author or producer of intellectual property for its internal use and revision:

a. The author or producer of University-sponsored intellectual property materials shall not receive compensation, other than regular compensation from the University, for the normal internal use of these materials, except when such compensation is negotiated at the time of initial commission.

b. If the use of materials by units of the University other than the unit to which the author or producer belongs involves an extension of the normal duties of the author or producer in supervising use or managing revisions, and if appropriate release time cannot be budgeted as part of the regular assigned instructional duties of the author or producer, the appropriate instruction unit of the University may recommend payment to the author or producer for revisions according to University policy on extra compensation.

4. The University with the assistance of those designated by the Chancellor in sections A.3., ~~A.4.~~ and B.3. ~~and B.4.~~ will provide appropriate services to license works covered by this policy. ~~The University and the author will develop a written agreement, which will be approved by the President (or her/his designate), specifying the division of net income (net after sales and distribution costs) between the author or producer and the University. The following general principles shall be reflected in the agreement:~~

~~a. Fifty (50) percent of the net income derived from the external use of University-owned educational materials shall go to the departments, areas, or units responsible for their production, and fifty (50) percent to the authors or producers.~~

~~b. The University may enter into agreements for dividing the net income on some other basis, if special circumstances attend the production, use, or licensing of these materials.~~

~~Except as set forth in subsection A.7, such revenues from copyrightable materials shall be treated in a manner consistent section 100.020 Section J with authors and their respective Campus being treated the same as Inventors. For copyrightable materials, Net Proceeds as set forth in CRR100.020.C.8, shall include an additional deduction of out-of-pocket production, distribution, related costs. The University may enter into agreements for dividing the Net Proceeds on some other basis, if special circumstances attend the production, use, or licensing of these materials.~~

5. The University may administer funds provided by non-University agencies (such as the Federal Government) under contract or grant to pay for staff time, services, or materials intended to produce copyrightable intellectual property. In such cases, the University may enter into agreements with such agencies recognizing their rights, in whole or part, to the ownership of the materials produced and to the net income from their use. In negotiating agreements with non-University agencies for the production, it shall be the policy of the University that the author or producer of the materials is entitled to a reasonable share of the income from use, if any, and to reasonable participation in determining the conditions of use. The University shall inform staff members applying for support from non-University agencies for the production of intellectual property materials as to the rights reserved to such agencies under the agreements required between these agencies and the University.

#### **F. Protection and Liability**

1. Protection -- In the event of unauthorized use of University-owned materials described in section A.2., if the University decides not to act, the author or producer may initiate action and the University shall assign to her/him such rights as are necessary for her/him to pursue redress. If such action is started by the University, acting alone or in concert with the author or producer, all costs of such action (including attorney's fees) shall be borne by the University. All proceeds ~~in excess of such costs~~ shall be shared ~~equally by the University and the author or producer,~~

REDLINE

consistent with section E.4. or if there is an agreement as provided in accordance with that agreement.

2. Liability -- Before any use is made of University-owned materials described in section A.2., all authors, producers, and contributors shall warrant that they are the sole owners of their respective contributions and that the work does not infringe any copyright, violate any property rights, or contain any libelous unlawful material.

# 100.030 Copyright Regulations

Bd. Min. 2-19-71, p. 35,527; Revised Bd. Min. 5-4-84; Revised Bd. Min. 9-27-02, Amended 11-29-07; Amended 6-11-10; Amended 7-23-10, Amended 4-12-13; Amended XX-XX-21

The following policy is intended to foster the traditional mission of a University to encourage the creation, preservation, and dissemination of knowledge. This policy is intended to clarify and protect the respective rights of the University, its students, faculty, staff, and other employees, by establishing policies governing the ownership, use, and rights to income of copyrightable materials.

## A. Coverage of Policy

1. In conjunction with the University Conflict of Interest Regulations 330.015 and the University Invention and Patent Regulations 100.020 as they may be amended from time to time, this policy governs the rights and responsibilities of University employees, students, and of any other persons using University facilities or resources in the creation of original works of authorship subject to protection by copyright law. The faculty will continue to hold copyright for traditionally accepted intellectual property that is developed in their roles as teachers and scholars subject to the provisions of section 2 herein. These include, but are not limited to such materials as books, workbooks, study guides, monographs, articles, and other works including music and performances, whether embodied in print, electronic format, or in other media.
2. The University will own the copyright in materials that are:
  - a. commissioned for its use by the University; or
  - b. created by employees if the production of the materials is a specific responsibility of the position for which the employee is hired; or
  - c. sponsored works, which are works resulting from internal grants (work created as a result of an agreement between the University and the creator(s) of the work) and external grants (work created as a result of an agreement between an external sponsor and the University). This provision does not apply to grants to perform research where the production of copyrightable materials is ancillary to the purpose of the grant. Employees continue to own the copyright to scholarly and other publications that present the findings of research, subject to the provisions of subsection 2 herein; or
  - d. created with the use of substantial University resources which are specifically provided to support the production of copyrightable materials.
    - (1) If substantial University resources will be used in the development of educational materials, a written agreement between the author and University setting forth the terms of
      - (a) copyright ownership and
      - (b) use, revision and maintenance shall precede the use of said resources. Limited secretarial support, uses of the library for which special charges are not normally made, and the staff member's

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own time except as covered by subsections 2.a. and 2.b. herein shall not be considered substantial University resources.

(2) In the unusual circumstance in which the said materials were developed with substantial University resources without an agreement the University may, in its discretion, claim copyright ownership and/or a share of royalties.

3. Faculty, staff, and other employees must notify the University prior to entering into a contractual agreement in which royalties or other forms of remuneration are involved related to materials as defined in section A.2. The Chancellor on each campus shall designate an individual or unit who is responsible for receipt of said notifications.
4. Copyrightable software, except software included in mediated courseware, owned by the University pursuant to section A.2. herein, shall be submitted to the technology transfer office ("TTO") for review and evaluation. The TTO shall have the sole discretion to decide whether to proceed with the copyright registration and/or the commercialization of the work.
5. In general, students of the University of Missouri will be entitled to own any copyrightable works made during their enrollment as a student of the University and will generally not be required to assign his or her ownership to the University; provided, however, the foregoing general rule does not apply and the student will be required to assign his or her ownership interest to the University in any circumstance in which the student is a University employee, provided such copyrightable work was created in the course of the student-employee's service to the University.

Without limiting the language of the foregoing general rule or the language of the foregoing exceptions to the general rule, the following are examples of fact situations in which the University will not claim ownership of copyrightable work made by a student of the University:

- a. The copyrightable work was created by a student as part of a University class project using no greater University resources than those generally available to all other students within the class or than those available to the student as part of his/her enrollment with the University.
- b. The copyrightable work was created by a student as part of a University approved student competition using no greater University resources than those generally available to all other students within the competition or than those available to the student as part of his/her enrollment with the University. The student shall be entitled to receive any monetary or other prize awarded to the student for his/her performance under such competition in accordance with the rules of the competition and such prize shall not be considered compensation whereby such student would be considered an employee solely based upon receipt of such prize.
- c. The copyrightable work was created by a student as part of a University approved extracurricular activity, using no greater University resources than those generally available to all other students participating in the activity or than those available to the student as part of his/her enrollment with the University.
- d. The copyrightable work was created by a student on his/her own free time, outside of any University class or sponsored activity, and using no

greater University resources than those generally available to all other students as part of their enrollment with the University.

- e. The student is a full-time student receiving compensation for services rendered to the University which services are unrelated to research or investigation and are unrelated to the creation of computer software.
6. The Chancellor on each campus shall designate an individual or unit who is responsible for implementing reasonable procedures designed to make students aware of Section 100.030A.5 and to provide one or more avenues for students to receive information regarding the University's interpretation of the student's rights and obligations with respect to the creation of copyrightable works.
7. Notwithstanding anything herein to the contrary, to the extent any University employee whose primary appointment is non-academic creates or contributes to any copyrightable software, including any source or object code, documentation, or other copyrightable work that is part of or associated with such software, and such employee's work is within the scope of his or her employment with the University or otherwise constitutes "work made for hire" of the University in accordance with applicable law, all ownership and other rights of such employee associated with such copyrightable software shall belong to the University, without restriction, and such employee shall not be deemed the author of or have any further ownership or rights in or with respect to such copyrightable software pursuant to any other provision in this policy or otherwise. This paragraph shall not apply to any rights of any employee whose primary appointment is academic (as generally defined in University Regulation 310.020.A) or any student (unless such student is a University employee and such copyrightable software was created in the course of the student-employee's service to the University, as described above), which shall be governed by the remainder of this policy, in accordance with its terms, and applicable law.

#### **B. Interpretation and Administration of Policy**

1. The Patent and Copyright Committee as described in section 100.020 E. will be advisory in interpretation and future revisions of this policy. The final decision on interpretation and application of this policy shall be made by the Chancellor's designee.
2. No interpretation or application of this policy shall serve as a precedent in later cases.
3. Written agreements developed pursuant to section A.2.d. for holders of academic appointments shall first be approved by the chair, then the dean, and finally the Chancellor's designee.
4. Written agreements developed pursuant to section A.2.d. for holders of nonacademic appointments shall first be approved by the director of the unit, then the appropriate vice-chancellor, and finally the Chancellor's designee.

#### **C. Ownership and Use of University Name**

1. This policy should strengthen and protect the reputation and academic standing of the University and its faculty, staff, and students. Unless otherwise agreed pursuant to Section A, when the name of the University is associated with any intellectual property, other than the identification of the creator as a faculty, staff, or student of the University, the ownership shall be

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vested in The Curators of the University of Missouri, a public corporation, and shall display the following symbol and notice:

© Copyright (year) by The Curators of the University of Missouri, a public corporation. If the registration of the copyright is deemed appropriate by the author(s) and department/area(s), the application for registration with the United States Copyright Office shall be processed through the TTO or other Chancellor designee.

2. Faculty, staff, other employees, students, department/areas, and schools of the University may not use the name of the University to imply University sponsorship of creative materials when there is no University sponsorship or approval and may not license or otherwise commercially exploit a course, course content or courseware whose copyright is held by the University without the approval of the appropriate dean, or on campuses with no schools or colleges, the Provost and chief academic officer as well as other signatories as indicated by the Board of Curators.

#### **D. Policy on Use of Materials**

1. If any of the conditions described in section A.2. are applicable and conditions of A.4. are not applicable, then subject to the following exceptions delineated in subsections D.2. - D.4., the use of materials by any unit of the University of Missouri requires approval only of the unit primarily responsible for the said materials.
2. As long as the author or producer of copyright materials remains a member of the staff of the University:
  - a. The author's approval shall be required for each instance of use of the materials internal to the University other than the uses for which the materials were developed, except as allowed in the agreement between the author and the University reached pursuant to Section A.
  - b. The author may require revision of the materials prior to any instance of internal University use other than the use for which the materials were developed. If the University does not accept the required revision, the author may ask that the materials be withdrawn from use. The University may assign its respective rights in such copyright to the author, subject to a written agreement between the University and the author relating to further internal or external use of materials and division of income from any subsequent use of the materials.
3. In the event that the author should cease employment with the University, the University shall retain the right to make internal use of the copyrighted materials without the author or producer's consent. In such event, the author shall retain a non-exclusive license to use the work for her/his own non-commercial, educational purposes only, but shall not have the right to distribute, sell, or sublicense the work to a third party.
4. Licensing or sale of copyrighted materials for external use shall be preceded by a written agreement between the University and author or producer specifying the conditions of use, and including provisions protecting the right of the author or producer to revise the materials periodically, or to withdraw them from use in the event revision is not made.

#### **E. Payments to the Author or Producer for Production and Use of Materials Described in A.2. Herein**

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1. The University acknowledges that the ownership of intellectual property and the sharing of economic returns on such property are related. Therefore, when the University solely holds the intellectual property rights pursuant to section A.2., the revenues will be shared among the creators and used for the common good to support the mission of the University.
2. Payment by the University to the author or producer of intellectual property for its production normally will take place through the reduction of the author's or producer's normal work load. However, staff members on nine-month academic appointments may receive summer grants and salaries for the production.
3. Payment by the University to the author or producer of intellectual property for its internal use and revision:
  - a. The author or producer of University-sponsored intellectual property materials shall not receive compensation, other than regular compensation from the University, for the normal internal use of these materials, except when such compensation is negotiated at the time of initial commission.
  - b. If the use of materials by units of the University other than the unit to which the author or producer belongs involves an extension of the normal duties of the author or producer in supervising use or managing revisions, and if appropriate release time cannot be budgeted as part of the regular assigned instructional duties of the author or producer, the appropriate instruction unit of the University may recommend payment to the author or producer for revisions according to University policy on extra compensation.
4. The University with the assistance of those designated by the Chancellor in sections A.3., A.4. and B.3. and B.4. will provide appropriate services to license works covered by this policy.

Except as set forth in subsection A.7, such revenues from copyrightable materials shall be treated in a manner consistent section 100.020 Section J with authors and their respective Campus being treated the same as Inventors. For copyrightable materials, Net Proceeds as set forth in CRR100.020.C.8, shall include an additional deduction of out-of-pocket production, distribution, related costs. The University may enter into agreements for dividing the Net Proceeds on some other basis, if special circumstances attend the production, use, or licensing of these materials.

5. The University may administer funds provided by non-University agencies (such as the Federal Government) under contract or grant to pay for staff time, services, or materials intended to produce copyrightable intellectual property. In such cases, the University may enter into agreements with such agencies recognizing their rights, in whole or part, to the ownership of the materials produced and to the net income from their use. In negotiating agreements with non-University agencies for the production, it shall be the policy of the University that the author or producer of the materials is entitled to a reasonable share of the income from use, if any, and to reasonable participation in determining the conditions of use. The University shall inform staff members applying for support from non-University agencies for the production of intellectual property materials as to the rights reserved to such

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agencies under the agreements required between these agencies and the University.

**F. Protection and Liability**

1. Protection -- In the event of unauthorized use of University-owned materials described in section A.2., if the University decides not to act, the author or producer may initiate action and the University shall assign to her/him such rights as are necessary for her/him to pursue redress. If such action is started by the University, acting alone or in concert with the author or producer, all costs of such action (including attorney's fees) shall be borne by the University. All proceeds shall be shared consistent with section E.4. or if there is an agreement as provided in accordance with that agreement.
2. Liability -- Before any use is made of University-owned materials described in section A.2., all authors, producers, and contributors shall warrant that they are the sole owners of their respective contributions and that the work does not infringe any copyright, violate any property rights, or contain any libelous unlawful material.

Project Approval  
Power Plant – Replace Turbine 6 with Turbine 10  
MU

The University of Missouri - Columbia requests project approval for the Power Plant – Replace Turbine 6 with Turbine 10 project. Total project budget of \$8,000,000 is funded from MU Energy Management Capital Reserves. This project was included in the MU Five-year Capital Plan approved at the April 22, 2021 Board meeting.

Steam Turbine Generator 6 is at its end of life and will be replaced with a new high efficiency unit, Turbine 10. At 59 years old, Turbine Generator 6 is the power plant's oldest steam turbine generator. The unit is no longer insurable, and it is rarely operated due to concerns with reliability. In addition to improving power plant resiliency and eliminating \$2 million of deferred maintenance cost, the new generator will provide 50% more power capacity, be nearly twice as efficient, and will fit within the same space as Turbine Generator 6. The higher efficiency will yield an estimated \$1 million in fuel and purchased electricity savings annually, and will reduce greenhouse gas emissions by approximately 14,000 metric tons per year.

Affiliated Engineers, Inc. of Overland Park, Kansas is the recommended engineer for this project. Affiliated Engineers (AEI) team has expertise working with turbomachinery (steam turbine generators and similar equipment) and universities. The design team includes Rogers-Schmidt Engineering, P.C., St. Louis, Missouri for mechanical, plumbing, and electrical engineering; and David Mason and Associates, Inc., St. Louis, Missouri (MBE) for architectural services, and civil and structural engineering.

The selection committee also interviewed Burns & McDonnell Engineering Company, Inc., Kansas City, Missouri; POWER Engineers, Inc., Kansas City, Missouri; and Jacobs Engineering, Inc., St. Louis, Missouri.

The fee for basic architectural and engineering services has been determined by referencing the University of Missouri's "Architectural and Engineering Basic Services Fee Estimating Guidelines." The project is considered a Type VI (Engineering), and the calculated basic services fee is \$515,000 based upon 9% of the estimated \$5,720,000 construction cost.

Construction is expected to be completed in November of 2022.

June 24, 2021

No. 6

Recommended Action - Project Approval, Power Plant-Replace Turbine 6 with Turbine 10, MU

It was recommended by President Choi, recommended by the Finance Committee, moved by Curator \_\_\_\_\_ and seconded by Curator \_\_\_\_\_, that the following action be approved:

the project approval for the Power Plant-Replace Turbine 6 with Turbine 10, MU

Funding of the project budget is from:

MU Energy Management Capital Reserves	<u>\$8,000,000</u>
Total Funding	\$8,000,000

Roll call vote Finance Committee	YES	NO
Curator Graves		
Curator Hoberock		
Curator Layman		
Curator Williams		

The motion \_\_\_\_\_.

Roll call vote Full Board:	YES	NO
Curator Brncic		
Curator Chatman		
Curator Graham		
Curator Graves		
Curator Hoberock		
Curator Holloway		
Curator Layman		
Curator Wenneker		
Curator Williams		

The motion \_\_\_\_\_.

June 24, 2021

Project Approval  
Middlebush Farm - NextGen Center of Excellence for Influenza Research  
MU

The University of Missouri – Columbia requests Project Approval for the Middlebush Farm - NextGen Center of Excellence for Influenza Research. The total project budget is \$6,552,000. The project will be funded from Office of Research Commitments.

In support of the NextGen Precision Health Initiative, this building will provide animal BSL-2 research and laboratory space to accommodate the new Center for Influenza and Emerging Infectious Disease. This group has garnered over \$15,000,000 in research funding from the National Institutes of Health (NIH) and the Centers for Disease Control and Prevention (CDC) during the past two years. However, specialized facilities are needed to further enhance this research.

The building will be an 8,300 gross square feet metal building, located at Middlebush Farm. Middlebush Farm is located approximately 10 miles south of campus with easy access for campus collaboration. Since the facility isn't located on campus the exterior design is in keeping with the off-campus location and stewardship principles of modest materials. The facility will contain specialized laboratory spaces with the ability to create extreme conditions from extremely cold to hot, replicating a variety of climates. These types of spaces are not available within other research buildings on campus. Furthermore, these types of facilities are very rare across the country, which make them unique when competing for grant funding. The facility is designed to accommodate future additions as the research program continues to excel.

The consultant for this project is CRB Architects-Engineers, P.C. of Kansas City, Missouri. CRB's team includes KH Engineering Group, P.C., (WBE) of Lenexa, Kansas for structural engineering; and SK Design Group, Inc., (MBE) of Shawnee Mission, Kansas for civil engineering. The consultant's fee is \$271,505. Other firms who interviewed include BSA Life Structures, Inc., Kansas City, Missouri; and The Clark Enersen Partners, P.C., Kansas City, Missouri.

The project is expected to be complete by August 2022.

June 24, 2021



No. 7

Recommended Action - Project Approval, Middlebush Farm-NextGen Center of Excellence for Influenza Research, MU

It was recommended by President Choi, recommended by the Finance Committee, moved by Curator \_\_\_\_\_ and seconded by Curator \_\_\_\_\_, that the following action be approved:

the project approval for the Middlebush Farm-NextGen Center of Excellence for Influenza Research, MU

Funding of the project budget is from:

Reserves	<u>\$6,552,000</u>
Total Funding	\$6,552,000

Roll call vote Finance Committee	YES	NO
Curator Graves		
Curator Hoberock		
Curator Layman		
Curator Williams		

The motion \_\_\_\_\_.

Roll call vote Full Board:	YES	NO
Curator Brncic		
Curator Chatman		
Curator Graham		
Curator Graves		
Curator Hoberock		
Curator Holloway		
Curator Layman		
Curator Wenneker		
Curator Williams		

The motion \_\_\_\_\_.

June 24, 2021

# ACADEMIC, STUDENT AFFAIRS, RESEARCH AND ECONOMIC DEVELOPMENT COMMITTEE

The Academic, Student Affairs, Research and Economic Development Committee (“Committee”) will review and recommend polices to enhance quality and effectiveness of academic, student affairs, research and economic development and align the available resources with the University’s academic mission.

## **I. Scope**

In carrying out its responsibilities, the Committee reviews and makes recommendations to the Board of Curators on strategies and policies relating to student and faculty welfare, academic standards, educational and instructional quality, intercollegiate athletics, degree programs, economic development, research initiatives, and associated programs.

## **II. Executive Liaison**

The Senior Associate Vice President for Academic Affairs of the University, or some other person(s) designated by the President of the University, with the concurrence of the Board Chair and the Committee Chair, shall be the executive liaison to the committee and responsible for transmitting committee recommendations.

## **III. Ex Officio Member**

The Student Representative to the Board of Curators shall be an ex officio member of the Committee.

## **IV. Responsibilities**

In addition to the overall responsibilities of the Committee described above and in carrying out its responsibilities, the charge of the Committee shall include reviewing and making recommendations to the Board on the following matters:

- A. Selection of Curators’ Distinguished Professors;
- B. Approval and review of new degree programs;
- C. Intercollegiate athletics, as specifically outlined in Section 270.060 of the Collected Rules and Regulations with a commitment to the academic success, and physical and social development of student-athletes;
- D. Changes to university-level admissions requirements, academic standards, student services, and graduation requirements;
- E. Quarterly and annual reports providing information on academic programs that have been added, deactivated, or deleted;
- F. Provide oversight over the University of Missouri System’s diversity, equity and inclusion programs;
- G. Highlight successful research and economic development efforts and partnerships; linking research and commercialization from the University with business and industry across the state and around the world.
- H. Additional matters customarily addressed by the academic, student affairs, research & economic development committee of a governing board for an institution of higher education.

Approved by the Board of Curators: Feb 4, 2021

## **Executive Summary**

### **B.S. in Environmental Science (S&T)**

Missouri University of Science and Technology proposes a B.S. in Environmental Science, an interdisciplinary degree with strengths in biological sciences, geology and geological engineering, environmental engineering, chemistry, economics, and social science. The program aligns with Missouri S&T's goals of diversifying its degree offerings in support of recruitment and retention of S&T students and draws on the University's existing strengths. The program is expected to play a role in retaining students that find that they do not wish to pursue engineering but still have strong STEM interests. A flexibly designed curriculum allows students who may be transitioning from other programs to continue working toward graduation in a timely manner.

Employment projections indicate a strong future for bachelor-level environment scientist positions in Missouri. According to Burning Glass, Missouri ranked in the highest tier of states for job posting demand in 2019, along with several other states throughout the upper Midwest. In 2019, there were 1,707 job postings in Missouri for environmental scientists seeking candidates with a bachelor's degree in the field. These jobs are also high paying, with an average annual salary of \$58,352, well above the median wage in the state. There are several well-known employers of environmental scientists in Missouri, including Bayer Corporation, Eurofins Scientific, Thermo Fisher Scientific, Pfizer, Covance, and the National Geospatial Intelligence Agency.

S&T projects that the University will enroll approximately 42 new students as a result of offering this program, in addition to retaining approximately 100 students choosing not to continue in the University's engineering or biology programs. Improved retention and enrollment, as well as the fact that S&T has the capacity to offer this program with minimal additional resources, allows us to begin generating net revenue immediately. We project the program will generate net revenue exceeding \$1 million per year beginning in Year 4.

This proposal has strong support from the Missouri S&T community. Letters of support are included from the department chairs of participating units; from the Dean of the College of Arts, Sciences, and Business; and the Chancellor. In addition, because MU and UMKC currently offer programs with some – but not complete – overlap with the proposed program, S&T has been engaged in discussions to identify what possibilities may exist for course sharing and other collaborations. A letter of support from Dr. Caroline Davis, Director of UMKC's Environmental Studies Program, is included in the appendix.

Environmental science is a growing field, both in Missouri and the United States, with 8% growth expected nationally over the next decade. The location of Missouri S&T, proximate to the state's national forests, mining district, and natural waterways, makes it an ideal location to learn about the unique natural resources and ecosystems of the Show Me State.

No. 1

Recommended Action – B.S. in Environmental Science – S&T

It was recommended by Sr. Associate Vice President Steve Graham, endorsed by President of the University of Missouri Mun Choi, recommended by the Academic, Student Affairs and Research & Economic Development Committee, moved by Curator \_\_\_\_\_, seconded by Curator \_\_\_\_\_ that the following action be approved:

that the Missouri University of Science and Technology be authorized to submit the attached proposal for a Bachelor of Science in Environmental Science to the Coordinating Board for Higher Education for approval.

Roll call vote of the Committee:	YES	NO
Curator Graves		
Curator Hoberock		
Curator Layman		
Curator Wenneker		
The motion _____.		

Roll call vote of Board:	YES	NO
Curator Brncic		
Curator Chatman		
Curator Graham		
Curator Graves		
Curator Hoberock		
Curator Holloway		
Curator Layman		
Curator Wenneker		
Curator Williams		
The motion _____.		

New Degree Program Proposal:

**Bachelor of Science in  
Environmental Science**

Missouri University of Science and Technology

*June 2021 Board of Curators Meeting*

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(Some appendices are excluded from these materials for length and clarity and are available upon request.)

## **Executive Summary**

Missouri University of Science and Technology proposes a B.S. in Environmental Science, an interdisciplinary degree with strengths in biological sciences, geology and geological engineering, environmental engineering, chemistry, economics, and social science. The program aligns with Missouri S&T's goals of diversifying its degree offerings in support of recruitment and retention of S&T students and draws on the University's existing strengths. The program is expected to play a role in retaining students that find that they do not wish to pursue engineering but still have strong STEM interests. A flexibly designed curriculum allows students who transition from other programs to continue working toward graduation in a timely manner.

Employment projections indicate a strong future for bachelor-level environment scientist positions in Missouri. According to Burning Glass, Missouri ranked in the highest tier of states for job posting demand in 2019, along with several other states throughout the upper Midwest. In 2019, there were 1,707 job postings in Missouri for environmental scientists seeking candidates with a bachelor's degree in the field. These jobs are also high paying, with an average annual salary of \$58,352, well above the median wage in the state. There are several well-known employers of environmental scientists in Missouri, including Bayer Corporation, Eurofins Scientific, Thermo Fisher Scientific, Pfizer, Covance, and the National Geospatial Intelligence Agency.

S&T projects that the University will enroll approximately 42 new students as a result of offering this program, in addition to retaining approximately 100 students choosing not to continue in the University's engineering or biology programs. Improved retention and enrollment, as well as the fact that S&T has the capacity to offer this program with minimal additional resources, allows us to begin generating net revenue immediately. We project the program will generate net revenue exceeding \$1 million per year beginning in Year 4.

This proposal has strong support from the Missouri S&T community. Letters of support are included from the department chairs of participating units; from the Dean of the College of Arts, Sciences, and Business; and the Chancellor. In addition, because MU and UMKC currently offer programs with some – but not complete – overlap with the proposed program, S&T has been engaged in discussions to identify what possibilities may exist for course sharing and other collaborations. A letter of support from Dr. Caroline Davis, Director of UMKC's Environmental Studies Program, is included in the appendix.

The location of Missouri S&T, proximate to the state's national forests, mining district, and natural waterways, makes it an ideal location to learn about the unique natural resources and ecosystems of the Show Me State.

# 1. Introduction

Environmental Science is an applied transdisciplinary field that synthesizes knowledge across physical, natural, and social sciences as well as the humanities to examine, monitor, and manage environmental principles, processes, and disturbances. Environmental scientists draw from interdisciplinary concepts in biology, chemistry, geology, economics, philosophy, and political science to manage and steward natural resources, craft and advocate for environmental policies, and engineer sustainable solutions to pressing global issues. Environmental scientists serve as researchers who analyze and interpret results, assess threats, and develop solutions to environmental problems. Furthermore, they also engage with public policy, regulation, and ethical and social implications of science. As such, they are often on the frontlines of both environmental advocacy and accountability; thus, they must be excellent communicators, skilled technicians, capable of critical and analytical thinking, and able to integrate and synthesize concepts from multiple fields in real-time decision-making.

Missouri University of Science and Technology is the premier public STEM university in our state, nationally recognized for its engineering programs. The University has highly regarded geological, civil and environmental engineering programs, and a growing biological sciences program, all of which have exhibited enrollment growth trajectories in the past ten years. In addition, Missouri S&T has a suite of liberal arts degrees that provide a unique depth of focus on the history, philosophy, ethics, and humanities as related to environmental science. *The curricular requirements to support such a program already exist with virtually no new additions.* The reputation of the University in STEM will elevate the visibility of this new program for student recruitment, and the established industry and government employer partnerships with S&T will make environmental science graduates highly employable.

This program will be housed in the Department of Biological Sciences and serves three purposes. 1- It will enhance future growth on campus through strategic diversification of program offerings and yield of S&T applicants. 2- It will encourage retention of current students by offering students alternatives to attrition. 3- It will maximize the benefits of existing campus resources, courses, and strengths by creating opportunities for students to form interdisciplinary linkages and connect with government and industry employers.

*An Environmental Science program is a natural fit for this STEM campus, as it capitalizes on our existing strengths and enhances them through interdisciplinary connections.*

We initiated this proposal at the encouragement of Dr. Dick Brow, Interim Deputy Provost for Academic Excellence, and this proposal has been prepared by an interdisciplinary team that represents all of the degree's core disciplines (BIO SCI,



CARE, ECON, GGPE, and HIST). In addition, we have been in close communication with the CASB Dean's Office throughout the entire process. Department chairs, David Duvernell (BIO SCI) and Joel Burken (CARE), have been full participants in the creation of this proposal. Members of the committee, and the faculty of Biological Sciences, are all supportive of the program's residence in the Department of Biological Sciences.

## **2. University Mission & Program Analysis**

### **2.A. Alignment with University Mission and Goals**

This program supports Missouri S&T's values of sustainability, partnership and inclusion by increasing sustainability education in our student population, by forging new partnerships with federal agencies, and by including new perspectives in our educational community. The student learning outcomes (SLOs) for this program have been contextualized within the university's SLOs. We aligned the goals of this program with the broader goals of the university as defined in the 2018 Strategic Plan. Specifically, our goals align with the university's strategic plan in the following ways:

1. We seek to create a flexible design to maximize retention and allow students to finish their degrees in a timely manner. (Objective 3, Strategies D & E)
2. We propose an interdisciplinary program that connects faculty and students across the university and promotes collaborative and innovative thinking. (Objective 2, Strategy B)
3. We propose a degree that recruits diverse students, fosters and facilitates existing and new corporate and governmental partnerships, and creates new employment paths for our students. (Objective 1, Strategies A& C)
4. Finally, we propose a program with academically rigorous standards that will be unique among regional and national programs for its incorporation of engineering and technology curricula, will be a draw for talented students, and will complement existing programs and fit within the Missouri S&T brand (Objective 4, Strategy A).

### **2.B. Duplication & Collaboration within Campus, Across System**

#### **Duplication**

Two University of Missouri System campuses (UMKC and MU) currently offer B.S. degrees in Environmental Sciences that together capture half of the market share of the degree conferrals in the State of Missouri. Missouri S&T offers a uniquely different collegiate experience than the other three campuses in the UM System. As an institution, Missouri S&T offers a smaller campus and college town environment, is

academically more highly selective, and offers comprehensive programming that is highly STEM-focused. We anticipate that the proposed S&T program will be UM System-additive and will not compete directly with the other campuses for prospective students. The primary purpose of an Environmental Science program at Missouri S&T will be to retain S&T students who might otherwise leave the university, and to enhance recruitment of prospective students who apply to attend Missouri S&T. Additionally, the degree program and curriculum we propose is distinctive in several ways.

*First, we propose a program housed in a Department of Biological Sciences.* The programs at UMKC and MU are housed in a Department of Earth and Environmental Sciences and the College of Agriculture, Food, and Natural Resources, respectively. Both have degree paths that require minimal coursework in biological sciences (3 total hours at UMKC and as few as 0 in some tracks at MU, though more can be taken in other tracks). A program with strong connections to a biology department is able to appeal to a different set of students and apply significantly different perspectives to issues in environmental science by evaluating questions through ecological and evolutionary lenses.

*Second, the programmatic strengths and foci of the degrees among the campuses differ significantly, setting each university's program apart as a unique entity with complementary strengths.* Per their catalog, UMKC's program focuses on urban environments and sustainability. In contrast, Rolla offers an ideal setting for students to explore and examine sustainability of rural environments. The MU program is housed in the College of Agriculture, Forestry and Natural Resources, which has a strong focus on application and management, and emphasis areas in atmosphere, land and soils, water, and outreach and education. Our program will be rooted in both S&T colleges (College of Arts Sciences and Business and College of Engineering and Computer Science) with strong emphasis on technology and basic and applied research. The MU program's strengths in atmospheric science, soil science, and environmental education contrast our strengths in sustainability, environmental monitoring, and analytical techniques. The incorporation of engineering courses into our curriculum further differentiates our program from others in the state and is a natural connector to the university's pre-existing reputation as a destination for high quality science and engineering curricula. *In these ways, our program will appeal to students who are interested in attending S&T and will not compete for students who have key interests in the curricular strengths of programs on the other two campuses.*

## **Collaboration**

Given the unique strengths and features of the degree programs at UMKC and MU, connections and collaborations between the three campuses will enhance all three programs and provide mutual benefits. Prior to submission of our preliminary proposal, we contacted the directors of the MU and UMKC Environmental Science

programs and solicited feedback on the proposal draft and incorporated their suggestions into the submitted document. Both universities provided helpful comments that improved our proposal.

We are currently exploring options for course-sharing with MU and UMKC. MU's strengths in atmospheric science and meteorology and UMKC's diverse course offerings including Weather and Climatology, Cultural Perspectives on the Environmental, Environmental History, and Environmental Ethics (taught more frequently than at S&T) provide opportunities for S&T students to expand their scopes of knowledge and career opportunities. Likewise, S&T's strengths in environmental engineering, geological engineering, and our biological field station provide unique opportunities for students from the other campuses to garner unique skills and experiences. Directors from the MU and UMKC programs and our team are having an ongoing conversation about the mechanisms by which these courses could be shared for mutual benefit. Currently, some of these courses are offered online, allowing students to take advantage of them through cross enrollment. There is interest in creating formal Course Sharing arrangements between the campuses that would allow these courses to develop significant intercampus enrollments. However, formal commitments are not possible at this time because current incentives do not favor the hosting campus of shared courses, and because at present inherent differences in the sizes of the programs create asymmetries in the courses that have been identified for sharing between the campuses. Our program is designed with the flexibility to include elective courses in this manner without creating program dependencies on these courses.

A letter of support for the proposal from Dr. Caroline Davies, Director of the Environmental Studies Program at UMKC and correspondence with Dr. Wei Ji, Chair of the Department of Earth and Environmental Sciences at UMKC, are included on page 10 of the appendices.

### **3. Business-Related Criteria & Justification**

#### **3.A. Market Analysis**

##### **3.A.1. Rationale & Workforce Demand for the Program**

In order to assess the workforce demand for environmental scientists nationally and in Missouri, we extracted data from published US Bureau of Labor Statistics reports as well as the Burning Glass Technologies data analytics.

The US Bureau of Labor Statistics projects strong growth in demand for Environmental Scientists and Specialists over the next decade (2018 - 2028) as a result of increased public interest in environmental hazards, climate change, and the needs of a growing population. Jobs are concentrated in state and local governments and in industries that provide consulting services. According to ten-year projections, the market growth in demand for environmental scientists (8%), will exceed the average job growth demand (5%) and demand for wildlife biologists (5%), chemists (4%), and geoscientists (6%). The State of Missouri projects 2.5% growth in Environmental Scientist and Specialist positions even in the near term (2019 - 2021, Projections Central). In addition to job growth, vacancies are projected from retirements and advances to management positions, as the current median employee age is 43 years. In 2018, Environmental Scientists and Specialists of all experience earned an average of \$71,360 nationally (U.S. Bureau of Labor Statistics).

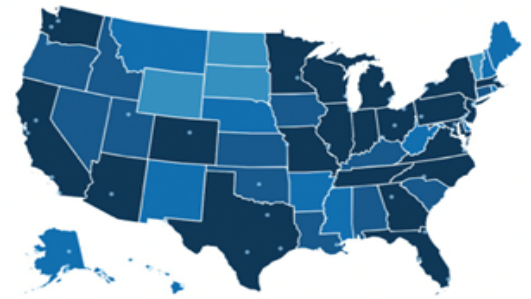


Fig 1: Top states for environmental science jobs in 2019 based on job postings are shown in the darkest shades. This information was retrieved using Burning Glass.

Employment projections indicate a strong future for bachelor-level environmental scientist positions in Missouri according to data accessed using Burning Glass analytics. Missouri ranked in the highest tier of states for job posting demand in 2019, along with several other states throughout the upper Midwest (Fig. 1). In 2019, there were 1,707 job postings in Missouri for environmental scientists. Of these, 79% (~1300) required a BS degree as the highest qualification. Average annual employment of environmental scientists across the state averaged around 30,000 jobs, and is predicted to be stable or even slightly increasing through 2028 (Fig. 2).

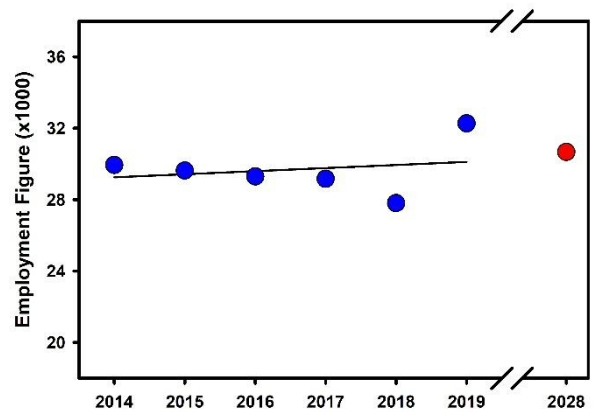


Fig 2: Missouri employment figures in the environmental science field for the six years between 2014 and 2019, and projections through 2028. Data extracted using Burning Glass.

According to Burning Glass Analytics, average annual salary for environmental scientists with a BS degree in Missouri is \$58,352. Our state's most prominent employers of environmental scientists are Bayer Corporation, Eurofins Scientific, Thermo Fisher Scientific, Pfizer, Covance, and the National Geospatial Intelligence Agency, as well as Washington University and the UM System. *Multiple sources of information indicate this career path offers a competitive salary and strong jobs forecast.*

In addition to Environmental Scientist and Specialist jobs, a degree in Environmental Science qualifies graduates for a broad array of other positions not typically listed under “Environmental Scientist and Specialist” job titles. Specific career outcomes that map to this program include environmental planning, environmental scientists, environmental researchers, research associates, environmental engineering technicians, wildlife biologists, biologists, alternative energy managers, sustainability specialists, water resource specialists, fish hatchery managers and technicians, natural science research managers, and environmental compliance specialists. Our proposed Environmental Science degree coursework also meets the minimum education qualifications for positions with titles such as wetlands biologist, biological science technician, ecologist, natural resources manager, land steward, conservation specialist, environmental educator, and forestry technician with private, state, federal, and NGO agencies. Students with an Environmental Science degree also may choose to pursue graduate and professional programs. *Thus, the job statistics provided above significantly underrepresent the strength of the jobs forecast for students earning this degree, as the career options extend beyond a single job title.*

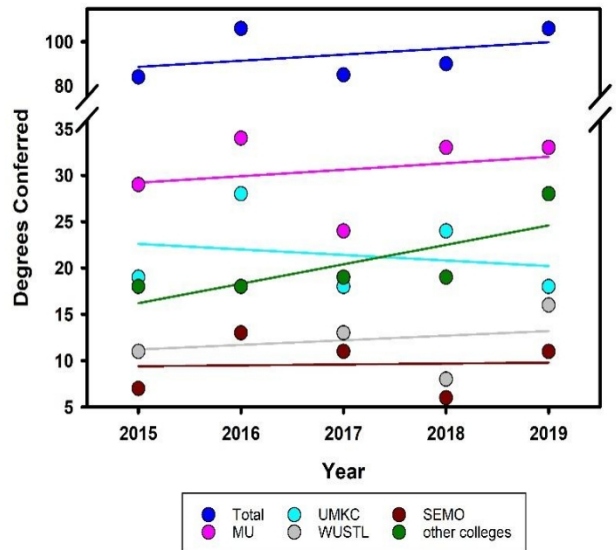
### **3.A.2. Student Demand for the Program**

The creation of an Environmental Science program at Missouri S&T has the potential to increase enrollment, diversify our student population, increase retention, strengthen interdisciplinary faculty connections, build and enhance government and industry partnerships, and create highly qualified scientists to fill projected gaps in the Missouri and national workforce. Environmental Science is a growing field of study (2.4% annual increase in degrees awarded, 2017, Deloitte Data USA), and the addition of a degree at Missouri S&T has the potential to increase campus enrollment by recruiting more of the students who apply to our programs. In addition, Environmental Science student demographics (by degrees awarded, nationally; 35% white female, 34% white male, 5.5% Hispanic female, 4.5% Hispanic male, 5% Asian, 2.6% Black, 1% American Indian or Alaskan Native) do not mirror the current Missouri S&T student demographic. A 2018 study by the Center for American Progress identified engineering and information technology majors among the lowest gender and STEM minority diversity majors, with characteristics of the major field playing a larger role than characteristics of the university in discouraging diverse student participation (Libassi 2018). Thus, we believe that *this degree program could encourage recruitment of a more diverse student population to campus.*

The Missouri S&T Strategic Plan (September 2018) identifies a lack of academic options and time to degree as two weaknesses of the university. It also identifies a need to increase flexible pathways to degree completion. This degree diversifies our curriculum with no need for additional infrastructure or staffing. It requires 120 hours of coursework, making it an affordable option for students. An Environmental Science program can also offer an option for retention of students who may otherwise

choose to leave the university. Data from Missouri S&T Institutional Research and Data Management indicate that first-year student loss rates often exceed 40% in some engineering disciplines on campus, and over 10% of those students do not return to Missouri S&T (and in some years and disciplines, up to 20%). From 2015 – 2018, an average of 20.5 students per year and a total of 82 students left Missouri S&T from the Civil, Geological, and Environmental Engineering programs after their freshman years. In addition, the Biological Science BS program lost an average of 11 students per year during the same time period. These students may be retainable by offering an alternative pathway through an Environmental Science degree: We include this group of engineering and Biological Sciences students in building our enrollment projections. *By creating interdisciplinary options that draw on concepts from both science and engineering (concepts that may have initially attracted students to S&T) that still allow students to complete degrees in a timely manner, we are creating opportunities for student success and retention.*

Nationwide, there has been a 21.3% increase in degree conferrals in environmental sciences (CIP code 03.0104) and 14.6% increase in the more broad field of natural resources (CIP code 03) over the last 6 years. In the state of Missouri, total degree conferrals have remained relatively constant at about 100 per year between 2015 and 2019 (Fig. 3). There are eleven programs in Missouri that accounted for 100% of the 106 environmental science degree conferrals in 2019, and this number represents only 8% of the reported environmental science jobs (BS-level) posted in 2019. This disparity demonstrates the need in our state for programs that provide environmental science skills and training.



Degree conferrals in the UMKC and MU Environmental Sciences programs topped the list of Missouri programs. UMKC has graduated a mean of 23 students annually, and MU has graduated a mean of 28 students (Fig. 3). However, significant market share has gone to other much smaller programs (Columbia College, Central Methodist, Lindenwood, Maryville, Westminster, Evangel, and Lincoln). These smallest seven programs combined account for over one-fourth of the market

Fig 3: State-wide degree conferral data for all environmental science programs that conferred degrees in 2019. These numbers reflect all Missouri programs categorized under CIP code 03.0104 plus the MU environmental science program, which is coded differently, and does not appear in the same reports.

share of environmental science degree conferrals in Missouri. Given the significant strengths and reputation that Missouri S&T has in science and technology, we are poised to contribute to and expand the environmental sciences market to help meet the excess demand in our state.

Missouri S&T's relationships with government and industry are long-standing and strong, aiding in our efforts to recruit S&T applicants to this new program. Additionally, the potential exists to expand and diversify relationships with these and other partners. Even locally, there are agencies with which we have few connections and minimal interaction where a mutually beneficial relationship could be fostered (e.g., U.S. Forest Service, Missouri Department of Conservation, Natural Resource Conservation Service). This degree program provides an avenue with which to engage these agencies and cultivate those relationships through internships, cooperative agreements, memorandums of understanding for training and volunteer opportunities, long-term ecological and hydrological monitoring and assessment projects, and environmental education programming. These partnerships benefit our students as they create their professional career networks, and our faculty as they seek research and funding opportunities.

### Enrollment Projections

We are projecting that enrollment in our environmental sciences program will capture at least 10 of the approximately 30 students per year who leave the respective S&T programs coordinating in this interdisciplinary major (Geological Engineering, Civil Engineering, Environmental Engineering, Biological Science). We believe that the Missouri S&T reputation in STEM fields will allow us to yield at least an equal number of S&T applicants to our campus each year for an average cohort of 20 students per year.

**Table 1a. Student Enrollment Projections** (anticipated total number of students enrolled in the program during the first five fall semesters following implementation.)

<b>Year:</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>New Recruitment</b>	5	15	25	35	42
<b>Engineering Attrition</b>	10	30.5	51	71.5	92
<b>Biology Attrition</b>	2	5.5	9	12.5	16
<b>Graduated</b>	0	0	0	0	17
<b>Total</b>	17	51	85	119	138

**Table 1b. New Student Enrollment Projections** (anticipated number of students enrolled in the program during the first five fall semesters following implementation that are new to the University.)

<b>Fiscal Year:</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Full-time</b>	5	15	25	35	42
<b>Total</b>	5	15	25	35	42

**Table 1c. Projected Number of Degrees Awarded**

<b>Year:</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b># of Degrees Awarded</b>	0	0	0	17	34	34	34	34	34	36

### **3.B. Financial Projections**

*This program requires the creation of two new courses, and no immediate new faculty hires. The interdisciplinary nature of the program means that no sole burden will be placed on a single department's resources or courses. Identification of a program director within the Department of Biological Sciences and possible reduction in other service expectations requires a small financial investment. Redistribution of a program director's workload and an additional faculty member's advising workload may create an immediate need for additional resources in Biological Sciences to cover gaps left by reduced teaching loads and service expectations. While this program's interdisciplinary nature minimizes the need for immediate program-specific hires, hiring faculty who can contribute to this program within participating departments should be prioritized as faculty hires become available in those departments. In particular, the Department of Biological Sciences will be further straining a depleted faculty population by committing existing members to this program and should be prioritized for expedited faculty hiring when lines become available. As this program hits growth targets at the end of its first five years and new growth models can be more accurately projected, its financial sustainability will need to be re-evaluated and faculty hiring decisions should concurrently be re-evaluated. Student advising loads of > 25 students per FTE will warrant the hiring of additional program-specific faculty.*

*This program diversifies the degrees offered at S&T with minimal financial investment and creates opportunities for retention for students who may have difficulty in particular subject areas and opportunities for recruitment of new students.*

#### **3.B.1. Additional Resources Needed**

An annual operating budget for administrative services and costs, adjunct faculty salaries, and for program leadership to attend and host appropriate conferences and networking opportunities, to forge industrial and governmental agency connections, develop advertising and recruitment materials, and create and facilitate



opportunities for student success is also necessary for this program's long-term success.

### **3.B.2. Revenue**

Revenue for this program will be generated by tuition and fees. Costs associated with the program will be covered by revenue generated by the program.

### **3.B.3. Net Revenue**

This program has very minimal annual expenses, thus the break-even point is very early on in program implementation, as shown below.

**Table 2. Financial Projections for Proposed Program for Years 1 Through 5.**

	Year 1	Year 2	Year 3	Year 4	Year 5
<b>1. Expenses per year</b>					
<b>A. One-time</b>					
<b>Total one-time</b>	\$0	\$0	\$0	\$0	\$0
<b>B. Recurring</b>					
<i>Faculty</i>	\$8,500	\$18,670	\$19,020	\$19,201	\$19,572
<i>Staff</i>	0	0	0	0	0
<i>Benefits</i>	\$3,028	\$6,650	\$6,712	\$6,775	\$6,839
<i>Equipment</i>	0	0	0	0	0
<i>Library</i>	0	0	0	0	0
<i>Other</i>	\$7,000	\$7,000	\$7,000	\$7,000	\$7,000
<b>Total recurring</b>	\$18,528	\$32,320	\$32,555	\$32,795	\$33,040
<b>Total expenses (A+B)</b>	\$18,528	\$32,320	\$32,555	\$32,795	\$33,040
<b>2. Revenue per year</b>					
<i>Tuition/Fees*</i>	\$163,770	\$501,137	\$851,933	\$1,216,560	\$1,439,017
<i>Institutional Resources</i>					
<i>State Aid -- CBHE</i>					
<i>State Aid -- Other</i>					
<b>Total revenue</b>	\$163,770	\$501,137	\$851,933	\$1,216,560	\$1,439,017
<b>3. Net revenue (loss) per year</b>	\$145,243	\$468,817	\$819,378	\$1,183,765	\$1,405,977
<b>4. Cumulative revenue (loss)</b>	\$145,243	\$614,059	\$1,433,437	\$2,617,202	\$4,023,179

\*These estimates are based upon projected net new students to the University, as well as projections regarding the number of students expected to be retained at the University who choose not to remain in existing engineering and biology programs that, without this program, may have otherwise left the University.

### **3.B.4. Academic and Financial Viability**

Given the very low financial costs of this program and given that costs associated with this program increase only with program growth (e.g., a need for program faculty), the financial viability of this program is possible with incredibly low enrollment. However, the academic viability of this program needs a minimum of 5 students for its creation, and then a minimum of 10 students thereafter for a vibrant and flourishing program.

**Table 3. Enrollment for Academic and Financial Viability**

<b>Viability</b>	<b>Minimum Enrollment</b>
<b>Academic</b>	10
<b>Financial</b>	5
<b>Overall</b>	<b>10</b>

## **3.C. Business Plan: Marketing, Student Success, Transition and Exit Strategies**

### **3.C.1. Marketing Plan**

Missouri S&T has a strong science and technology brand reputation. Geological Sciences, Geological and Petroleum Engineering, and Environmental Engineering all produce competitive and successful graduates who are employed by regional and national industries and agencies. Our name recognition in these fields is national. By extension, an Environmental Science program dovetails into this name recognition with ease. Industries and companies who hire geological, petroleum, and environmental engineers also hire environmental scientists: our students will benefit from our preexisting reputation.

The most investment needs to be made in marketing to prospective students. Prospective students engage with a program in three primary ways: online, through passive interactions, or through active recruitment. A successful recruitment strategy utilizes all three strategies to various degrees, but when possible, actively recruits as much as possible. Active recruitment is the most time, energy, and cost intensive of the three strategies, but also yields the highest number of successful recruitments.

To market this program to prospective students, we will utilize social media to highlight program strengths, accomplishments, news, and events. We will work with campus recruitment specialists to familiarize them with environmental science degree requirements, career opportunities, and frequently asked questions. We will participate in campus recruiting events and Discover Days by setting up informational booths and distributing recruiting information. We will actively recruit

students at school-led events (e.g., science fairs and Envirothon), community-led events (e.g., Citizens Climate Lobby), and through university events (e.g., environment-based camps at the Ozark Research Field Station). Finally, we will establish partnerships with state and regional organizations (e.g., Missouri Coalition for the Environment, Missouri Environmental Education Association, Missouri Natural Resources Conference) to promote our program as a destination for environmental science training and education.

### **3.C.2. Student Success Plan**

We will create a program that is characterized by a commitment to student success and that creates an environment that is conducive to learning through excellent classroom experiences, opportunities for engagement with future employers, and personal mentorship by program faculty.

Our specific goals include

- a) a 4-year graduation rate of 50% and 5 year graduation rate of 75%.
- b) 100% career placement 5 years post-graduation
- c) a classroom, laboratory, and program environment that intentionally respects, supports and encourages voices from diverse cultures, backgrounds, and experiences
- d) 75% student participation in research, internship, or cooperative programs with external organizations
- e) placement of all program students with a faculty mentor who serves as a traditional advisor, but also as a connection to professional opportunities

### **3.C.3. Transition Plan**

Program leadership will be assigned by the Biological Sciences Department Chair in consultation with a team of 3-4 program-associated faculty. The founding program director will build a transition plan that includes documentation of all program information, including suppliers, passwords, accounts, commitments, grants, partnerships, contacts, and documents. This transition plan will be stored in the shared drive for the Biological Sciences Department. In the event of an emergency or rapid transition, an interim program director will be named so that leadership can continue while a permanent program director is sought. The incoming director will then have the opportunity to review documents and meet with key members of the program leadership as they assume the responsibilities of the role. Key elements of the transition plan include maintaining a well-informed team of program leaders, maintaining documentation in an accessible location, and maintaining continuity of the role of program director.

### **3.C.4. Exit Strategy**

The decision to terminate the program will be executed after three consecutive years of academic non-viability or two consecutive years of financial non-viability, whichever occurs first. Discussions about termination of the program will also be made if core course availability dips below a sustainable amount and suitable alternatives are not available, if academic programs associated with the program are terminated, or if a substantial number of program-associated faculty resign and are not replaced.

At the point at which the program is terminated, no new students will be admitted, including internal transfer students. All students who are currently enrolled in the program will be allowed up to five years to complete the program and will be notified in writing of their timeline. The request to terminate should be made in writing by either the department chair or the program director. The decision should be made by a majority vote of the department faculty with the program director abstaining and only casting a final vote in the event of a tie.

## **4. Institutional Capacity**

This program will be housed in the Department of Biological Sciences. The program director will redirect a portion of their faculty time from the Department to administration of this program, thus departmental duties of the program director will need to be distributed and reassigned to other departmental faculty. Department administrative staff workloads will increase with the addition of advisees, student paperwork, and other administrative services. In addition, courses in all involved disciplines will experience higher enrollment, thus creating larger workloads for instructors. In the short term, when the program is in its early stages with small enrollments, this burden is likely to be relatively small, but as the program grows, these time and workload burdens may become significant. The financial burdens of this program on the Department of Biological Sciences and other affiliated departments is anticipated to be minimal.

## **5. Program Characteristics**

### **5.A. Program Outcomes**

#### **Career Readiness**

Exhibit broad knowledge of life sciences, with emphasis on organism- and ecosystem-level processes and organization (BIO SCI 1173, BIO SCI 1223, BIO SCI 2223, BIO SCI 2263, BIO SCI 4313, ENV ENG 2602)

Exhibit broad knowledge of earth science and physical environment, including geological processes, hydrology, atmospheric science, and nutrient cycling (GEO 1110, GE 1150, GEO 2611, GEO 3811, GE 5331, GEO 4310, ENV ENG 2601)

Have a foundational understanding of physical sciences, including chemistry and physics (PHYS 1145, PHYS 1119, CHEM 1100, CHEM 1310, CHEM 1319, CHEM 1320, GEO 3410)

Be able to apply laboratory and field techniques to environmental studies (BIO SCI 1223, GEO 1110, GEO 2611, GEO 3811, ENV ENG 2601)

Be proficient using standard tools for organizing, analyzing and presenting environmental data (GEO 3811, STAT 3425, MATH 1208, GE 4115)

Be able to plan, execute and evaluate a scientific study (ENV SCI 4000, STAT 3425)

Be proficient in utilizing GIS (GE 3148/GEO 3811)

Be able to identify environmental management tools and strategies utilized in the United States. (BIO SCI 1173, ENV SCI 4000, ENV ENG 2601, ENV ENG 5642)

Understand the fundamental American environmental laws and policies. (ENV ENG 5640/CIV ENG 5640)

#### **Critical Thinking**

Evaluate the socio-political and economic factors that influence human-environment interactions (BIO SCI 1173, ECON 4641, HIST 4470)

Identify, characterize, and describe ways in which humans alter and impact their natural and physical environment (BIO SCI 11673 BIO SCI 2263, ENV SCI 4000, ECON 4641)

Apply theoretical concepts such as economic trade-offs, resource sustainability, and conditional states to real-world problems (ECON 4741, ECON 4440)

Incorporate multidisciplinary concepts into their understanding of environmental law, regulation and policies (ENV SCI 4000, ECON 4440, ENV ENG 5640/ CIV ENG 5640, ENV ENG 5642, ECON 4641)

Analyze issues in sustainability through qualitative and quantitative arguments (ECON 4641)

### **Communication**

Prepare scientific reports, including economic analyses, biological assessments, and NEPA planning documents (ENV SCI 4000, ECON 4440)

Communicate scientific results in written and oral formats (ECON 4440, ENV SCI 4000)

Demonstrate an ability to communicate with a non-scientific audience (BIO SCI 1173, ENV SCI 1000, ENGL 1160, HIST 2510, HIST 3530, HIST 3510, HIST 4470, POL SCI 1200, BIO SCI 2263)

### **Teamwork and Collaboration**

Demonstrate the ability to work within a professional team and form professional relationships in the environmental science community (ENV SCI 4000, ECO 4641, GE 5331)

Global and Inclusive Fluency

Identify and characterize the historical and current national and global environmental issues (BIO SCI 1173, HIST 4470, ECON 4641, ENV ENG 5642)

Provide examples of environmental inequity and environmental justice. (BIO SCI 1173, HIST 3530, HIST 3510, HIST 4470, ENV ENG 5640/CIV ENG 5640)

Discuss international and global issues that make realizing sustainable futures difficult, including issues of population, economic development, and equity among societies (ENV ENG 5642)

Describe how social organizations affect adopt of technology and policy (ENV ENG 5642)

### **Professional and Ethical Conduct**

Understand the professional standards and expectations for environmental scientists. (ENV SCI 1000, ENV SCI 4000)

Familiar with the career opportunities that exist for environmental scientists. (ENV SCI 1000, ENV SCI 4000)

Understand the ethical dilemmas facing environmental scientists. (PHILOS 4350, BIO SCI 1173)

## **5.B. Program Design & Content**

An Environmental Science degree at Missouri S&T commences with a first-year seminar course that is taken concurrently with an introductory environmental science course, creating familiar student cohorts that can support and motivate one another through the program. Throughout their four years in the program, students are trained in five core areas: economics, biology, geology, environmental engineering, and humanities. In addition, they build foundational skills in mathematics, physical science, and communications. As they progress through the program, students increasingly connect ideas from among and within core areas to build their understanding of the integrated multidisciplinary concepts in environmental science. During their junior and senior years, students will be able to customize their degrees by selecting from a diverse array of elective courses within core areas. The degree's flexible upper division elective choices also allow students to specialize and earn minors in core areas if they choose to do so.

Students apply the skills they learn in the classroom in hands-on laboratory and field courses. Students will finish their senior year with a capstone course that will be designed to engage them in professional development, connect them to career opportunities, hone their research and presentation skills through hands-on projects, and foster lifelong collegial relationships with their peers and instructors through intensive group work.

This curriculum benefits from a flexible design that allows students who may be transitioning from other programs on campus to complete the program in a timely manner. In addition, the degree creates opportunities for students to complete multiple minors within the degree, adding focus and strength to the interdisciplinary foundation.



## **5.C. Program Structure**

The degree requires 120 hours of coursework that are completed over the course of 8 semesters. Students in the program progress through entry level STEM coursework into specialized coursework in four disciplines, which allows them to connect ideas among these disciplines in their final senior seminar course, creating a truly interdisciplinary experience. The proposed curriculum meets the requirements for industrial, federal and state entry-level environmental scientist positions. In addition, the curriculum prepares students for entry into graduate programs in environmental science, natural resources management, sustainability, forestry, and ecology.

Rolla is situated in the middle of some of Missouri's most prolific environmental resources and near some of the state's most expansive environmental industries (e.g., mining, forestry, outdoor recreation). Missouri S&T also fosters strong connections with industry and creates opportunities for students through bi-annual job fairs, providing students with ample opportunities to gain real-world experience through internships, cooperative learning experiences, and volunteer opportunities. Program-affiliated faculty also offer connections to government and industry partners, laboratory and field research opportunities, and mentorship toward career goals.

### 5.C.1. Program Structure Overview

1. **Total Credits Required for Graduation:** 120
2. **Residence requirements, if any:** none
3. **General education**
  - a. Total general education credits: 29

Course	Hrs	Course	Hrs
ENGL 1120	3	ENGL 1160	3
HUM/FINE ART	3	CHEM 1100	1
ECON 1100	3	PHYSICS 1145	4
ECON 1200	3	POL SCI 1200	3
HIST 1200, 1300 or 1310	3	PHILOS 1130	3

4. **Major Requirements**
  - a. Total credits specific to degree: 86

Course	Hrs	Course	Hrs	Course	Hrs
ENV SCI 1000	1	ENV ENG 2601	3	HIST 2510, 3510, 3530, or 4470	3
ENV SCI 4000	3	ENV ENG 2602	3	PHILS 4350, 4545 or 3323	3
BIO SCI 1173	3	ENV ENG 5640 or CIV ENG 5640	3	MAT 1208, 1212, 1214 or 1221	4
BIO SCI 1223	3	ENV ENG 5642	3		
BIO SCI 1229	1	GEO 1110/GEO ENG 1150	3		
BIO SCI 2223	3	GEO 2610 or GEO 2611	4/3		
BIO SCI 22363	3	GEO ENG 3148	3		
BIO SCI 4313	3	GEO ENG 4115 or STAT 3425	3/4		
CHEM 1310	4	GEO 4310	3		
CHEM 1319	1	GEO ENG 5331	3		
CHEM 1320 or GEO 3410	3	2000+ level GEO, BIO, ECON, CHEM, GEO ENG, ENV ENG or ENV SCI coursework as approved by advisor	18		

5. **Free elective credits**
  - a. Total free elective credits: a minimum of 3, but up to 5 to reach 120 hours due to variable credit totals for required course options
6. **Requirement for thesis, internship or other capstone experience:**  
Environmental Science 4000: Environmental Science Capstone (3.0 LEC course)
7. **Any unique features such as interdepartmental cooperation:**  
This degree is a cooperative interdepartmental degree administered by the Department of Biological Sciences, but created as an interdisciplinary degree by the Departments of Civil and Environmental Engineering; Geology, Geological and Petroleum Engineering; Economics; History and Political Science; and Biological Sciences.

#### **5.D. Program Goals and Assessment**

We contextualized the learning outcomes for this program within the university's undergraduate student learning outcomes and will align our learning outcomes goals with S&T's general education assessment plan when it is finalized. Students who graduate with a B.S. in Environmental Science will be professional, ethical, inclusive and knowledgeable members of their scientific community. They will exhibit the necessary skills and abilities to excel in an entry-level position as an environmental scientist. See Section 5.A. for more information on specific learning outcomes.

To assess learning outcomes, we identified courses where we believed each outcome would be achieved (see Appendix 3). The instructors of those courses will be responsible for reporting outcomes, based on identified metrics within the course. These course-level assessment data will be deidentified and recorded for students in the program. Course data will be compiled in annual reports, and courses will be evaluated for their ability

In addition, we will utilize program-level assessments. Our primary assessment will be an entrance and exit exam, taken in ENV SCI 1000 and ENV SCI 4000, which measures knowledge, skills, and abilities in addition, professional fluency, communication, and synthesis and integration. One of the primary goals of this program will be to serve as a mechanism for retention, so we aim for high retention rates relative to university averages. We will strive for a program graduation rate at least 10% greater than the university average graduation rate. Market data predict strong growth in this field, approximately 8% over the next decade; thus career-relevant placement rates should remain high and non-choice unemployment low among our graduates. Program-level success will be defined by a growing admission rate over the first decade of program existence, high retention, high graduate rates, high job placement rates, high employer satisfaction, increasing name recognition and reputation, and achievement of learning outcomes as measured by course-level assessment and exit examinations. Importantly, program-level success will also be

defined by healthy and thriving students who are creating an atmosphere of success and inclusion for their peers and representing their university with high standards to the industry and their future employers.

### **5.E. Student Preparation**

Students entering this program should have earned a high school diploma and meet all the standards for admission into Missouri University of Science and Technology. No admissions requirements that exceed university admissions standards will be imposed.

### **5.F. Faculty and Administration**

Dr. Robin Verble, Associate Professor of Biological Sciences, will be the Director for this program. She will dedicate 15% of her time to the administration of the program and to advising program students and 10% of her time to teaching in the program. She will be responsible for teaching the freshman seminar and senior capstone courses. As program director, she will be expected to attend at least three professional networking events or conferences per year to maintain industry and agency contacts. She will also be expected to complete program assessments, surveys, and administrative duties. As the program expands to include a larger student body, Dr. Dev Niyogi, Professor of Biological Sciences, will also advise students in the program. This is an interdisciplinary program, so instructional needs will be met through the contributions of the associated departments. In the near term, only two new Environmental Science courses will need to be created, and both of those will be taught by the program director. To teach in this degree program, faculty should hold a graduate degree in a related field, expertise in their field of study, and/or significant practical knowledge in their field of study. We anticipate that a high percentage of SCH will be taught by full-time faculty (approximately 80%), but recognize the importance of adjunct faculty and their role in field and practical courses and the high importance that these experiential courses have in an applied degree such as this. Specifically, we will work with adjunct faculty to develop field-based, experiential, and hands-on coursework that can be completed in non-traditional settings (e.g., field stations, marine laboratories, service learning settings, internationally, and internships).

### **5.G. Alumni and Employer Survey**

Alumni will be surveyed at 1-year post-graduation and 5-year intervals post-graduation thereafter, using formal online surveys that rate their satisfaction with their skills, career options and placement, outcomes, advancement and promotion, and environment. Our goal is 100% placement of graduates in relevant career fields or graduate programs at 5 years post-graduation. Additionally, formation of lifelong connections with program faculty through mentorship often creates strongest relationships and provides the most informative feedback; thus, when possible, we

will utilize these informal techniques to further inform and discuss trends that are elucidated in formal surveys.

Employer and potential employer surveys will be conducted through annual networking events and formal requests for feedback, starting at the onset of the program. We have discussed employer interests and needs as we prepared this proposal, but as needs change, we will strive to maintain a modern and relevant program through implementation of new techniques, changes in curriculum, and modifications to preparatory methods. Employers will be formally surveyed annually with an electronically and mailed form that asks them to rate the importance of skills and qualities that we believe our graduates should possess and then provides a space for open-ended feedback. Importantly, we will also engage with employers during conferences and in other networking spaces to build relationships and trust in our program. Employers who believe that we have their best interests in mind are more likely to provide us the valuable insights and feedback that we need to create the best employees for their industries. The importance of these trust-based and familiar relationships cannot be understated.

## **5.H. Program Accreditation**

There is no formal accreditation or licensure process for environmental scientists. Certification programs are available through the Ecological Society of America and other professional organizations. In conjunction with the minimum number of required years of experience, our curriculum meets the requirements for these certifications.



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**File Code:** 1560  
**Date:** December 2, 2020

University of Missouri System Board of Curators  
316 University Hall  
Columbia, MO 65211

Dear University of Missouri System Board of Curators:

This letter is endorsement of the Environmental Science B.S. degree proposed by Missouri University of Science & Technology. Missouri S&T and the headquarters for Mark Twain National Forest are both located in Rolla, Missouri, and, as such, are convenient collaborators for projects related to environmental, geospatial information systems, natural resources, biological, and geological subjects. At present, we have ongoing collaborations in wildland fire, aquatic ecology, geospatial technology, and engineering.

An Environmental Science program in Rolla presents exciting opportunities for recruitment, research, and further developing our relationship with Missouri S&T. Mark Twain National Forest actively recruits volunteers, interns, and employees from a wide variety of sources. We are excited to have a potential source for local recruiting. In addition to formal internships, the Forest offers volunteer positions where students can fulfill experiential learning requirements and gain experience with land management, forestry, and environmental monitoring techniques, enhancing their resumes and future career competitiveness. Relationships between Forest personnel and faculty to facilitate these programs are already underway.

Further, student research projects in environmental science have logical connections to National Forest lands, interests, and goals. We are excited about the potential opportunities for collaborative work that may exist as this program develops. Students in Biological Sciences, Geological Sciences, and Environmental Engineering already engage with the US Forest Service on independent research projects and collaborative work; and, we have long-standing relationships with the Missouri S&T faculty.

Finally, students who complete this degree will have the qualities we seek for many of the entry-level positions that we hire at Mark Twain National Forest including fire management, timber management, recreation management, wildlife management and other natural resource fields. In particular, this degree serves its graduates well in that it prepares them with a robust set of geospatial and GIS skills; a strong biological and geological background, including skills in laboratory science, ecological field techniques, and hydrology; and, a well-rounded set of soft skills, including communications and environmentally focused social sciences.



In summary, the staff at Mark Twain National Forest looks forward to working with the Environmental Science program and its students and faculty. While we engage other UM campuses in many arenas, we believe there are still additional niches and opportunities statewide that this program could help to fill, and we encourage the Board to approve this proposal.

If you have questions, please don't hesitate to contact Fire Management Officer Jim Cornelius at (573) 341-7403.

Sincerely,

X

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SHERRI K. SCHWENKE  
Forest Supervisor

cc:  
Jim Cornelius

8 February 2021

Dear University of Missouri System Board of Curators,

This letter is in support of the University of Missouri Science & Technology (MS&T) establishing an Environmental Science B.S. degree. Fort Leonard Wood (FLW) and MS&T are both located in the Missouri Ozarks, and the Fort Leonard Wood Directorate of Public Works (DPW) Environmental Division, Natural Resources Branch currently works with MS&T on several cooperative agreements concerning environmental research and monitoring of the natural resources on FLW. These agreements include essential planning level surveys for terrestrial invertebrates and species of conservation concern. We have a great relationship with MS&T Biology Department staff and anticipate a need for future collaborative management and compliance-driven work as required by our Natural Resources Management Plan goals and other guidance documents. We hope that the addition of this new degree would lead to increased opportunities for partnering with MS&T students and graduates in support of continued sustainable natural resources management at Fort Leonard Wood, Missouri.

We envision increased opportunities for student and graduate involvement and advancement of science-based environmental management in our region. An Environmental Science program at Rolla presents exciting opportunities for recruitment, research, and further developing our relationship with MS&T. The Fort Leonard Wood, DPW Natural Resources Branch is in need professionals with training and expertise working with organisms from the local Ozarks region.

Environmental Science is a field with growing importance and relevance in our modern world with ever-increasing threats to biodiversity and growing challenges. There is a need for this program at Rolla and we believe this program would enhance overall natural resource management in the Ozarks. We are enthusiastic about the potential opportunities for collaborative work that may exist if this program develops.

The Natural Resources Branch at Fort Leonard Wood looks forward to working with a new Environmental Science program at MS&T and its students and faculty. We believe this program would fill an essential niche in this unique part of Missouri and would provide students with a distinctive set of skills and opportunities needed in our region.

Sincerely,

Kenton Lohraff  
Chief, Natural Resources Branch  
DPW, Environmental Division  
8112 Nebraska Ave., Bldg. 11400, Room 202C  
USAG Fort Leonard Wood, MO 65473  
573.596.2814  
kenton.m.lohraff.civ@mail.mil



January 24, 2021

University of Missouri System  
Academic Affairs  
309 University Hall

Subject: Bachelor of Science Degree in Environmental Science

I am writing to commit the support of the Department of Geosciences and Geological and Petroleum Engineering for the proposed BS degree in Environmental Science. Geoscience is a core component within environmental sciences, and we are excited to expand the enrollments in our existing geoscience courses and even add new courses or sections to support this effort. We will be able to support environmental science students in our courses without the need for additional resources or faculty members.

The environmental science degree will be a great new option for students on our campus. We believe it will attract additional students to our campus but will also be a great alternative for students who may start in different programs on our campus. The flexibility and interdisciplinary nature of the environmental science degree tends to make it more accessible. Currently students interested in this area must seek options at other institutions. Just this year I had several enquiries from high-school students who were seeking and environmental science program and were disappointed they could not find one at our university.

All the participating programs/departments at Missouri S&T are also excited by the prospect that many of the graduating environmental science students may decide to pursue master's degrees on our campus. This means we will have additional feeders for our existing MS-degree programs, including our Geology and Geophysics MS program.

In summary, my department strongly supports the creation of this new degree program.

Sincerely,



Dr. David Borrok



**TO: University of Missouri System Board of Curators**

**FROM: Joel G. Burken, Chair- Civil, Architectural and Environmental Engineering Department**

**RE: Endorsement of Environmental Science B.S. at Missouri S&T**

**DATE: January 22<sup>nd</sup>, 2021**

Dear University of Missouri System Board of Curators,

This letter is endorsement of the Environmental Science B.S. degree proposed by Missouri University of Science & Technology. As the Chair for the Civil, Architectural and Environmental Engineering (CArEE) Department I enthusiastically support this new BS program, which gains synergy from many interdisciplinary concepts, including those in CArEE, particularly our Environmental Engineering B.S. Program.

In particular, I believe this degree will have a positive impact on our university by increasing breadth of program opportunities, increasing retention, diversifying options, creating interdisciplinary connections with multiple science and engineering programs. We look forward to supporting this degree by offering 4 courses that are central to the degree, and many upper division electives. The Environment Science B.S. degree will compliment and benefit from the existing Civil and Environmental Engineering B.S. programs in many ways outside of the classroom as well, by offering a wider array of student engagement activities in the natural sciences that are certainly of interest to our student body. The new degree will also increase the upper level electives that may appeal to our students. I also see the benefit to our campus diversity. As a primarily STEM campus, Missouri S&T has consistently been on the lower level of typical diversity metrics, particularly female enrollment. While the current camps female enrollment is near 24%, environmental engineering is 53% female in our undergraduate program. The addition of the Environmental Science will benefit the Missouri S&T campus and the UM System in multiple ways, and I whole-heartedly support the new program proposal.

Sincerely,

Joel G. Burken, Ph.D., P.E., BCEE



January 27, 2021

I am writing in support of the new B.S. in Environmental Science degree program. This degree has the potential to have positive impacts on the campus, the university and the state. It is also a positive development for the S&T Economics Department, allowing us to expand our teaching offerings to another group of students.

Missouri S&T has a long history of environmental science teaching and research. This new degree program allows students to receive a credential that will open up future career paths for them. The degree is exciting in that it blends the scientific expertise of the engineering and science departments with the policy expertise of the social science departments. The new degree program will expand the options of future students, and thus have a positive impact on student enrollments.

The Economics department is fully committed to supporting the new degree program through our course offerings. Our department regularly offers Environmental Economics, but we will also commit to making it available in a timely manner for the Environmental Science students. We are also excited at the prospect of educating additional students. An understanding of economics is essential to having a well-balanced policy background, which the students in this program should have.

I am fully in support of the B.S. in Environmental Science degree program.

Sincerely,

A handwritten signature in cursive script that reads "Michael C. Davis".

Michael C. Davis  
Interim Chair and Associate Professor  
Department of Economics  
Missouri S&T



## History and Political Science

Michael W. Bruening  
Interim Chair, History and Political Science  
January 20, 2021

To Whom It May Concern:

I am pleased to write in support of the proposal being submitted to create an Environmental Science (B.S.) degree at Missouri S&T. The changing environment is one of the most pressing global issues today, and addressing those challenges will require expertise from future graduates in Environmental Science. The S&T proposal stands out for its interdisciplinary nature, incorporating options in History and Philosophy as well as in Engineering and Biology. Truly, graduates of this degree program will be well equipped to approach today's immense environmental challenges from a variety of perspectives.

This program is worthy of approval, and I am happy to lend my full support to it. Please do not hesitate to contact me should you have further questions.

Sincerely,

A handwritten signature in black ink that reads "Michael W. Bruening".

Michael W. Bruening  
Interim Chair, Department of History and Political Science



**Dr. Rainer Glaser**  
Professor and Chair

Phone: (573) 341-6805  
Mobile: (573) 825-1249  
Facsimile: (573) 341-6033  
E-Mail: [GlaserR@mst.edu](mailto:GlaserR@mst.edu)  
Web: [faculty.missouri.edu/~glaserr](http://faculty.missouri.edu/~glaserr)



**Missouri University of  
Science and Technology**

Department of Chemistry  
104B Schrenk Hall  
400 W. 11<sup>th</sup> Street  
Rolla, MO 65409-0010, USA

January 24, 2021

**Dear University of Missouri System Board of Curators,**

I am writing this letter in support of the projected *Environmental Science B.S. degree* at Missouri University of Science & Technology proposed by the Department of Biological Sciences. As the Chair of the Department of Chemistry, I am delighted to support this new and interdisciplinary program initiative.

I have studied the proposal and the projected degree requires the Lab Safety Course CHEM 1100, the two General Chemistry lecture courses CHEM 1310 and CHEM 1320, and the General Chemistry Laboratory course CHEM 1319. The Department of Chemistry teaches all of these courses every semester, and there are no problems with capacity.

The Department of Chemistry also may contribute to the electives for the projected *Environmental Science B.S. degree*, including courses in instrumental analysis as well as chemistry research lab experiences via any of the sections of CHEM 4099. The Department of Chemistry has notable strengths in (bio)analytical chemistry as well as in the elucidation of reaction mechanisms that may connect chemical causes to environmental outcomes.

The general goal is appealing of creating a B.S. program to educate students to become integrators of concepts drawn from various disciplines. It is reasonable to expect that this new degree will have a positive impact on STEM enrollment at Missouri S&T.

Sincerely,

A handwritten signature in black ink that reads "Rainer Glaser". The signature is written in a cursive, flowing style.



## College of Arts, Sciences, and Business

118 Fulton Hall | 301 West 14<sup>th</sup> Street | Rolla, MO 65409  
573-341-4687 | CASB@mst.edu | casb.mst.edu

July 8, 2020

Dear Provost Roberts:

The College of Arts, Sciences, and Business fully supports the proposal for the creation of a BS degree in Environmental Science. The new degree aligns with the University's strategic plan to raise visibility and diversity of programs, increase recruitment of undergraduate students, support the retention of students, and decrease the time to degree. The creation of this degree also supports workforce development in the state of Missouri. The addition of an interdisciplinary degree that draws on S&T's strengths and prepares students for the workforce and graduate studies strategically enhances degree offerings across Missouri S&T.

The new degree requires the addition of only two courses (a first-year, one-hour seminar and a senior capstone course) and does not require any additional faculty resources or hires. However, as the proposal indicates, it also has the potential to strengthen interdisciplinary faculty connections, enhance grant opportunities, and build new government and industry partnerships. It also provides a unique option for students that draws on biological sciences, geological science, environmental engineering, economics and political science, and history and philosophy that is not available at any other university in Missouri.

As the proposal demonstrates, there is a need for additional flexible pathways for students to complete their degrees, especially in fields that utilize skills from science, engineering, and the humanities. Therefore, we strongly support the preliminary proposal and will aid in the preparation of a full proposal in the future.

Please do not hesitate to contact me if you need any additional information.

Sincerely,

Kate Drowne  
Interim Vice Provost and Dean

Dear Program Review Committee,

April 7, 2021

It is my great pleasure to recommend the Missouri University of Science and Technology's proposal to establish an Environmental Science BS Program. As the Director of the University of Missouri Kansas City's Environmental Studies Program in the Earth and Environmental Sciences Department, I was one of the original external reviewers for this program proposal. Our program has both BS and BA degrees with a decidedly urban focus. I have been a principle undergraduate adviser and mentor for years and I am very familiar with student interests, bottlenecks, challenges and rewards with degree programs. The Science and Technology proposal was overall very strong, particularly the case made to capture significant numbers of undergraduate students leaving the engineering program. An Environmental Science degree is an excellent option for retaining already resident students on their campus.

The program proposal also made collaborative connections with existing areas of strength and faculty in energy, environmental engineering, and biology. I did recommend addressing what I saw as a potential weakness in the lack of social-science integrative courses not necessarily available on the Science and Technology campus. The proposal group quickly addressed the need for these courses and have found additional collaboration across their campus to further strengthen the program's curriculum. The required senior capstone project is a particularly important opportunity for undergraduate research and innovation.

These discussions lead to further communications regarding mutual cross-campus course offerings, exchanges of courses between Science and Technology and UMKC. Our department is very excited about the possibility of sharing courses once the University of Missouri System has worked out the important details and structure of assigning tuition and Student Credit Hours equitably.

I also do not see this program as detrimentally competitive across the University of Missouri System or the State of Missouri. The student population in Rolla is very different from the student demographics at either MU main campus and Kansas City. Each campus has very different geographies, strengths, and student opportunities. The Science and Technology proposal correctly outlines the state and national need for environmental training, the future growth

potential as the state and nation transition energy, economics, infrastructure, and address the social equity of environmental resources and impacts. The state needs more environmental training, not less, more graduates who can easily integrate science knowledge with social context, and are versed in innovative solution scenarios.

The new program proposal team produced a very strong and compelling case for establishment of this Environmental Science degree program. They demonstrated a win-win solution for their campus retention; they have great curricular and facilities resources to bring to bear, and have in true environmental form brought together a network of resources through collaboration. We look forward to the growth of this new program and potential future collaborations with this group.

Sincerely,

*Caroline Pickens Davies*

-----  
Caroline Davies, Ph.D.  
Associate Professor  
Department of Earth and Environmental Sciences  
Director, Environmental Studies Program  
University of Missouri Kansas City  
Email: [daviesc@umkc.edu](mailto:daviesc@umkc.edu)



**From:** "Ji, Wei" <[JiWei@umkc.edu](mailto:JiWei@umkc.edu)>  
**Date:** Monday, April 12, 2021 at 11:29 AM  
**To:** "Davies, Caroline" <[daviesc@umkc.edu](mailto:daviesc@umkc.edu)>  
**Cc:** "Ji, Wei" <[JiWei@umkc.edu](mailto:JiWei@umkc.edu)>  
**Subject:** Your review letter for a new B.S. program in Mo S&T

Dear Molly:

Thanks for forwarding the MO S&T's proposal for a B.S. in Environmental Science and your letter for supporting this proposal.

It is my pleasure to read both of them. I completely agree with you that the proposed new degree is valuable and addresses the increasing demand in the field of Environmental Science. Your letter looks great, which addresses key points in relation to this proposed degree and the possibility of future collaborations between the similar programs at the two campuses – Mo S&T and UMKC. In this regard, I will try my best to support you.

Best,

Wei "Wayne" Ji, Ph.D.  
Professor & Chair, Department of Earth and Environmental Sciences  
Director of GIS Certificate Program, A&S  
College of Arts & Sciences  
420 Flarsheim Hall  
University of Missouri - Kansas City  
5100 Rockhill Road  
Kansas City, MO 64110, USA  
Email: [jiwei@umkc.edu](mailto:jiwei@umkc.edu)  
Office phone: 816-235-2981 (or 6081 -- department)

20 January 2021

Dear University of Missouri System Board of Curators,

I offer my enthusiastic endorsement of the interdisciplinary Environmental Science B.S. degree proposed by the Missouri University of Science & Technology. The proposed home for this degree program will be in the Biological Sciences. As the Department Chair for Biological Sciences, I view this new degree option as providing an important opportunity to help drive enrollment growth in our department as well as across all the participating disciplines. This degree option will foster new connections among participating faculty members, and drive new partnerships that will benefit our department.

The Biological Sciences Department looks forward to serving as the home for the director and for student advising in this new program as well as providing core and elective courses in the curriculum.

Sincerely,



**David Duvernell**

Professor and Chair, Biological Sciences

[duverneld@mst.edu](mailto:duverneld@mst.edu) | 573-341-6988





February 1, 2021

To: Office of the Provost

From:  Stephen A. Raper, Ph.D., President Faculty Senate, Chair of Campus Curriculum Committee

Re: Proposed BS Program in Environmental Sciences

With this letter, both Faculty Senate and the Campus Curriculum Committee approve of the proposed BS Program in Environmental Sciences. I received no objections to the proposal from either body.

If you have questions, please do not hesitate to contact me.






# Office of the Provost

January 28, 2021

**MEMORANDUM TO:** Steven Graham  
Senior Associate Vice President for Academic Affairs  
University of Missouri System

**From:** Stephen Roberts   
Interim Provost and Executive Vice Chancellor  
Missouri University of Science and Technology

**Re:** New Program B.S. Degree in Environmental Science

We support the creation of a Bachelor of Science degree in Environmental Science at Missouri University of Science and Technology. This new degree program will be housed in the Department of Biological Sciences in the College of Arts, Sciences and Business (CASB) at Missouri S&T.

The B.S. in Environmental Science will be an interdisciplinary degree, one that is well-differentiated from Environmental Science degree program at UMKC, where there is a focus on urban environments and sustainability, and at Mizzou, where the focus is on applications and management related to atmosphere, soil, and water. In contrast, the Missouri S&T Environmental Science program will have a foundation in the biological sciences and, in partnership with faculty in Environmental Engineering, Geology, and Geological Engineering, will have a strong emphasis in sustainability, environmental monitoring, and analytical techniques. The proposed degree plan includes 15 hours of geological sciences and engineering courses and twelve hours of environmental engineering courses, not counting electives. Indeed, the strong emphasis on technology and student access to the broad range of basic and applied research activities on campus provide a distinct "Rolla stamp" to the proposed degree program. That said, we also see opportunities for coordination with the EnvSci programs at UMKC and Mizzou, particularly around the unique course offerings at each program that would supplement the curricula of each.

The proposed degree program will only require the creation of two new courses, a first-year, one hour seminar and a senior capstone course, and it will not require hiring any new



faculty members, and so could be started as a soon as we receive approval from MDHE. The program fits with the campus mission of being Missouri's Technological University and will complement, without competing with, our undergraduate program in Environmental Engineering. In fact, Jonathan Kimball, director of the Center for Research in Energy and Environment (CREE) predicts that the new program will be a source of new students to recruit to CREE as both research assistants and as graduate students in the programs affiliated with CREE. The new program will make significant use of S&T's Ozark Research Field Station (ORFS), and we expect that the collaborations that will be established between faculty members from different disciplines in the development of this new program will be extended to research opportunities that will raise that statewide and regional profile of the ORFS. Access to the ORFS for students and faculty at UMKC and Mizzou will be second important way to build synergies among the three Environmental Science programs in the UM System.

Approved by:



Mohammad Deghani, Ph.D.  
Chancellor

1/29/21  
Date

Copy to:

Richard K. Brow, Interim Deputy Provost for Academic Excellence

## **Executive Summary**

### **B.S. in Data Science and Analysis**

The Bachelor of Science in Data Science and Analysis is an interdisciplinary program that will provide students with the knowledge, skills, and credentials necessary to advance in a data-rich, technologically intense, and rapidly changing workplace. The curriculum will develop statistical and data science skills, as well as a foundation for analysis in a knowledge domain (e.g. social sciences, natural sciences, business). Its graduates will be able to apply statistical concepts and data science methods to analyze real-world problems in their chosen domain area of interest.

This degree addresses a growing demand for workers at the bachelor-level who are skilled in data science techniques and have the requisite training to apply these techniques to real-world contexts. The growth in job openings for data scientists has been 15% year over year between 2015 and 2020, and this strong growth is expected to continue. Career paths that we expect graduates of this program to join include Data Scientist, Data Engineer, Analyst, Imagery Analyst, Project Manager, and more. Business sectors will include: Health, Business, Economics, Non-Profit, Intelligence, Government, Technology, and more.

Our proposal is distinct from undergraduate programs elsewhere in that we have deliberately focused on both data science and data analysis. Building on UMSL's existing Certificates in Actuarial Science and Data Science, the core data science component consists of 18-20 credit hours of mathematics, computer science, and statistics. After completing the data-science core, BS-DSA students undertake a deliberate series of courses in an emphasis area of their choosing. The 18-31 credit hours in an emphasis area will provide each student with analysis and application skills for the chosen domain. Emphasis areas currently include Biology, Computer Science, Economics, Mathematics, Social Science, and Supply Chain Analytics. Each one of these emphasis areas is specifically constructed such that with less than two additional courses a student can earn a minor or certificate in the discipline. This structure is purposeful as it allows students to "stack" credentials and burnish their credentials. We envision additional emphasis areas added based on student or market demand in the future.

UMSL is uniquely positioned to offer this degree because we have extensive data science coursework, related certificates, and faculty already in place. There are no new courses that must be built to establish this degree. Also, UMSL has prior experience and success in assembling and launching interdisciplinary programs, such as the BS in Actuarial Science and the BA in Organizational Leadership, which are meeting or exceeding their enrollment projections.

Finally, this program aligns directly with the UMSL Mission, "We Transform Lives." The direct result of this effort will be a more educated, empowered workforce. A workforce that makes St. Louis a desirable place for corporations, technology startups, and other industry innovators who have the power to bring growth, opportunity, and lasting stability to our region.

No. 2

Recommended Action – B.S. in Data Science and Analysis – UMSL

It was recommended by Sr. Associate Vice President Steve Graham, endorsed by President of the University of Missouri Mun Choi, recommended by the Academic, Student Affairs and Research & Economic Development Committee, moved by Curator \_\_\_\_\_, seconded by Curator \_\_\_\_\_ that the following action be approved:

that the University of Missouri – St. Louis be authorized to submit the attached proposal for a Bachelor of Science in Data Science and Analysis to the Coordinating Board for Higher Education for approval.

Roll call vote of the Committee:	YES	NO
Curator Graves		
Curator Hoberock		
Curator Layman		
Curator Wenneker		
The motion _____.		

Roll call vote of Board:	YES	NO
Curator Brncic		
Curator Chatman		
Curator Graham		
Curator Graves		
Curator Hoberock		
Curator Holloway		
Curator Layman		
Curator Wenneker		
Curator Williams		
The motion _____.		

New Degree Program Proposal:

**Bachelor of Science in  
Data Science & Analysis**

University of Missouri – St. Louis

*June 2021 Board of Curators Meeting*



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(Some appendices are excluded from these materials for length and clarity and are available upon request.)

## Executive Summary

The Bachelor of Science in Data Science and Analysis is an interdisciplinary program that will provide students with the knowledge, skills, and credentials necessary to advance in a data-rich, technologically intense, and rapidly changing workplace. The curriculum will develop statistical and data science skills, as well as a foundation for analysis in a knowledge domain (e.g. social sciences, natural sciences, business). Its graduates will be able to apply statistical concepts and data science methods to analyze real-world problems in their chosen domain area of interest.

This degree addresses a growing demand for workers at the bachelor-level who are skilled in data science techniques and have the requisite training to apply these techniques to real-world contexts. The growth in job openings for data scientists has been 15% year over year between 2015 and 2020, and this strong growth is expected to continue. Career paths that we expect graduates of this program to join include Data Scientist, Data Engineer, Analyst, Imagery Analyst, Project Manager, and more. Business sectors will include: Health, Business, Economics, Non-Profit, Intelligence, Government, Technology, and more.

Our proposal is distinct from undergraduate programs elsewhere in that we have deliberately focused on both data science and data analysis. Building on UMSL's existing Certificates in Actuarial Science and Data Science, the core data science component consists of 18-20 credit hours of mathematics, computer science, and statistics. After completing the data-science core, BS-DSA students undertake a deliberate series of courses in an emphasis area of their choosing. The 18-31 credit hours in an emphasis area will provide each student with analysis and application skills for the chosen domain. Emphasis areas currently include Biology, Computer Science, Economics, Mathematics, Social Science, and Supply Chain Analytics. Each one of these emphasis areas is specifically constructed such that with less than two additional courses a student can earn a minor or certificate in the discipline. This structure is purposeful as it allows students to "stack" credentials and burnish their credentials. We envision additional emphasis areas added based on student or market demand in the future.

UMSL is uniquely positioned to offer this degree because we have extensive data science coursework, related certificates, and faculty already in place. There are no new courses that must be built to establish this degree. Also, UMSL has prior experience and success in assembling and launching interdisciplinary program, such as the BS in Actuarial Science and the BA in Organizational Leadership, which are meeting or exceeding their enrollment projections.

Finally, this program aligns directly with the UMSL Mission, "We Transform Lives." The direct result of this effort will be a more educated, empowered workforce. A workforce that makes St. Louis a desirable place for corporations, technology startups, and other industry innovators who have the power to bring growth, opportunity, and lasting stability to our region.

# 1. Introduction

## Academic Components and Career Paths

The proposed BS in Data Science & Analysis degree is an *interdisciplinary major* that crosses various units in the College of Arts & Sciences (CAS) (i.e. Mathematics and Statistics, Computer Science, Economics, Biology, and several social sciences) and crosses colleges (CAS and the College of Business Administration - COBA). Effectively, this new curriculum is a “re-bundling” of current courses designed to meet the growing demand for degrees in data science & analysis - all courses in the program are already offered at UMSL. The curriculum will develop statistical and data science skills as well as a foundation of domain knowledge (e.g. social sciences, natural sciences, business). Its graduates will be able to apply statistical concepts and data science methods to analyze real-world problems in their chosen domain area of interest.

There is a growing demand for workers who are skilled in data science techniques and have the requisite training to apply these techniques to real-world contexts. A 2017 publication, produced by Burning Glass Technologies on behalf of IBM and the Business-Higher Education Forum (BHEF) titled “The Quant Crunch: How the Demand for Data Science Skills is Disrupting the Job Market,” indicates that data science/analytics jobs advertise average salaries of \$80k. They project growth in job openings for data scientists of 15% between 2015 and 2020 alone, and this strong growth is expected to continue. We were able to corroborate the projections of this report locally using the Burning Glass *Program Insight* application. Job postings for graduates in Data Science in the St. Louis area have steadily increased from less than 100 at any given time in 2015 to an average of more than 250 postings in 2020. We expect this trend to continue.



Source: *ProgramInsight*, accessed Feb 21

The report further cites the growing number of fields that require foundational knowledge in data analysis. UMSL has an ideal opportunity at this moment to meet this interdisciplinary workforce demand and grow the quantitative and technology savvy talent pool for the St. Louis region. Career paths that we expect graduates of this program to join include Data Scientist, Data Engineer, Analyst, Imagery Analyst, Project Manager, and more.

## Program Evolution

The impetus for this program came from the enrollment success we are seeing from the new interdisciplinary BS in Actuarial Science. The BS in Actuarial Science was built off the recognition that UMSL has a comparative advantage in data analysis and already has existing certificates in place on which we can build. The most important realization was that students in these certificate programs were in stronger demand than we expected. This indicated to the faculty that the benchmark education level for a data scientist was no longer post-baccalaureate. Local companies were ready and willing to hire BS-level graduates for data science positions. Responding to this insight, the College of Arts and Sciences started to develop this BS level program which includes both data science as its core, and analysis from the perspective of a specific (chosen) emphasis area.

Faculty from the Computer Science Department played a large role in developing the data science core of this program using the already existing certificate. The curriculum includes topics such as Python, R, Big Data, and Data Mining. The content of emphasis areas was developed by the appropriate allied departments in committee work led by the Economics Department. In general, these content areas follow a course pattern similar to what a minor in that discipline might look like.

The degree is designed to create graduates who are work-ready in entry-level data science and analysis jobs across various career fields. It is accessible to business, natural, and social science students who have an interest in applying data analysis to their content area, but where the market for jobs does not demand a level of mathematical or computer science rigor that might require majoring in full-degree programs like computer science, mathematics or actuarial science. It is also important to note that this degree follows the education and workforce development trend for “stackable credentials”. Each one of the emphasis areas we developed is specifically constructed such that with two additional courses (sometimes only one) a student could earn a minor or certificate in the emphasis area. As an example, a student who completed the DSA degree with an emphasis in economics would only need to take two additional elective courses (like ECON 4160 and POL SCI 4040) to earn the undergraduate certificate in Applied Econometrics and Data Analysis). This structure will allow students to “stack” credentials and further burnish their resumes in preparation for careers in data science.

UMSL is uniquely positioned to offer this degree because we have extensive data science coursework, related certificates, and faculty already in place. Importantly, as discussed below, no other public university in the St. Louis metro area offers this degree. The two local competitors for this undergraduate degree are both private: Lindenwood University and Maryville University. No other campus in the UM-System offers an undergraduate data science (or data science and analysis) degree. As Provost Mora states, “this wide breadth of offerings results in increased opportunities for specialization in an area growing in demand among numerous industries, resulting in a broad array of job opportunities for our students after graduation.”

As noted, all of the courses required for the degree are already offered on the campus through the collaborating units located in CAS and COBA. For example, the Department of Computer Science already offers the full set of courses for their Certificate in Data Science. The Department of Economics offers a series of five courses in econometric analysis and other quantitative coursework (e.g. Geospatial Analysis, and Cost-Benefit Analysis) and a Certificate in Econometrics

and Data Analysis. The Department of Supply Chain Management and Analysis already offers an undergraduate degree which includes courses in their emphasis area. The curriculum includes a newly developed (and already being offered) course in the computing language Python, which is quickly becoming the industry-standard programming language for data analysis.

The UMSL campus has prior experience and great success in assembling and launching interdisciplinary programs. As previously mentioned, the units of Economics (from CAS), Mathematics (from CAS), and Finance and Legal Studies (from COBA) recently launched a brand new interdisciplinary BS in Actuarial Science program; and the Sociology Department, along with 5 other CAS and COBA departments successfully established the BA in Organizational Leadership. Currently, both of these programs are meeting or exceeding their enrollment projections.

### Overview of Proposed Curriculum

The curriculum has two parts: the **core** (required and recommended additional coursework) and **emphasis areas**. Depending on the emphasis area a student chooses, this degree will require between 36 and 51 credit hours to complete. This program is calculus-based and college-level calculus is included in the core, but we are cognizant that some students will need preparatory work before enrolling in and successfully passing a calculus course. For students in that category, this program's overall credit count could be increased by as many as 6-credit hours. The curriculum design was based on:

- 1) a review of our currently offered, similar certificate programs (see Appendix A)
- 2) a review of related programs in our own region (see Appendices B and C)
- 3) a review of selected data science programs offered locally and nationally, and
- 4) an analysis of data science programs/needs from Burning Glass completed by Jim Craig (Assoc. Dean, CAS) over several iterations between 2019 and 2021. (see Appendix D)

### Preliminary Steps and Relationship to Current Courses and Programs

In designing this new degree program and its implementation, we considered and actively addressed the following:

- 1) Several of the upper-level math and computer science courses we hoped to include in this degree were designed many years ago with mathematics majors in mind. As such, the Mathematics Department and the Computer Science Department conducted a review of each of these courses to determine if the prerequisites were still applicable. Both departments adjusted prerequisites for some courses in this major. With these adjustments, the program is now designed such that prerequisite courses are built into the program's curriculum.
- 2) Course sequencing and departmental coordination are important to the success of the program and will be addressed in its implementation. Guiding principles include:
  - a. Students need to understand the course sequencing, especially in the core curriculum, and take prerequisites first.

- b. The Associate Dean for Interdisciplinary Programs will work closely with department chairs to confirm and coordinate the efficient scheduling of core courses and ensure an appropriate amount of emphasis area courses are being offered.
- c. As with all degree programs at UMSL, we will develop 4-year plans for each emphasis area. (See Appendix F, for an example)

#### Person Responsible for Success

This new degree program will be administered under the leadership of the Associate Dean (AD) for Interdisciplinary Programs in the College of Arts and Science, currently Jim Craig. The AD will work closely with the Departments of Mathematics and Statistics, Computer Science, Economics, and the named “domain” departments to ensure appropriate courses remain scheduled and seats remain available for BS-DSA students.

## **2. Fit with University Mission and Other Academic Programs**

### **2.A. Alignment with Mission and Goals**

*University of Missouri-St. Louis (UMSL):* The proposed program aligns with the UMSL Mission, “We Transform Lives.” There are at least two specific areas where this Data Science and Analysis degree supports our institutional mission. First, UMSL has a formal goal in our strategic plan to “increase the number of educated citizens in the St. Louis region”, and to “increase flexible pathways to degree completion”. This degree hits those marks. The clear result of this new degree will be a more educated, empowered workforce – one that can help make St. Louis an exemplary and desirable place for corporations, technology startups, and other industry innovators. Second, UMSL’s strategic plan specifically directs the university to respond to the economic needs of the region with programs, outreach, and community engagement. This degree program is an example of how UMSL has responded to a skills gap in the community with a curricular innovation that uses existing resources, rather than requiring new resources. Chancellor Sobolik points to the need for such a degree when stating, “no other campus in our system is currently offering an undergraduate degree in this area and since this is a growth area for the St. Louis region and state of Missouri now is right time for this type of interdisciplinary degree.”

*College of Arts and Sciences (CAS):* CAS is home to the Department of Mathematics and Statistics and the Department of Computer Science; these departments are foundational to this new degree program. It is also home to the other social and natural science units mentioned in the curriculum (Economics, Sociology, Political Science, Anthropology, Biology, Criminology, and Psychology). Related certificates include the Certificate in Data Science (offered by Computer Science), the Certificate in Actuarial Science (offered by Mathematics), and the Certificate in Econometrics and Data Analysis (offered by Economics). The BS in Economics is already classified as a STEM program because of its quantitative curriculum. This program will foster greater collaboration and more efficient use of resources across the CAS.

*College of Business Administration (CoBA):* CoBA has a long history of developing and offering programs that meet the evolving needs of the regional business community. COBA already

contributes to the interdisciplinary BS in Actuarial Science. This new degree complements its programmatic offerings in Supply Chain Management & Analytics.

## **2.B. Duplication and Collaboration Within Campus and Across System**

No other UM System campus currently offers a Bachelor's in Data Science and Analysis. UM-Columbia offers a Master's in Data Science and Analytics (online) and UMKC has a new (approved on February 1) MS in Data Science and Analytics, a Data Science Emphasis in the Masters in Mathematics, and recently established the Institute for Data Education, Analytics and Science (IDEAS), which focuses on research, continuing education, and community engagement. Missouri S&T offers various related certificates (as does UMSL), but not a full undergraduate degree program. We see no duplication of effort or competition between our proposal and in fact, UMSL's program is designed so that graduates can go directly into the workforce or pursue graduate studies in their chosen emphasis area. We expect that graduates will continue their studies in data science at either MU or UMKC as a first choice. (See Appendix B for further details.) From a local (St. Louis) competitor standpoint, the two universities in the St. Louis area that offer a Bachelor's degree in Data Science are both private: Maryville and Lindenwood. For more information about the specific offerings of potential competitors. (see Appendix C).

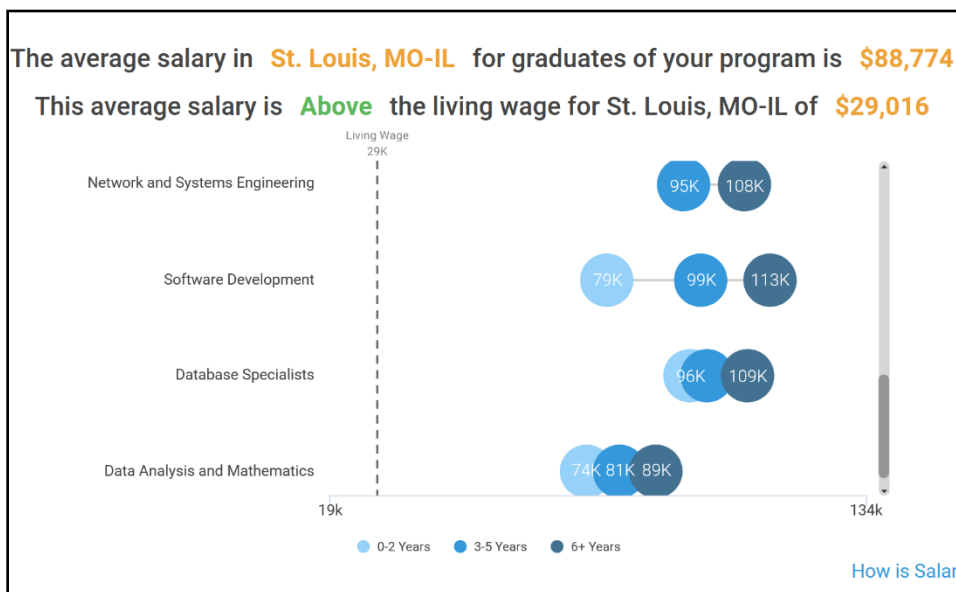
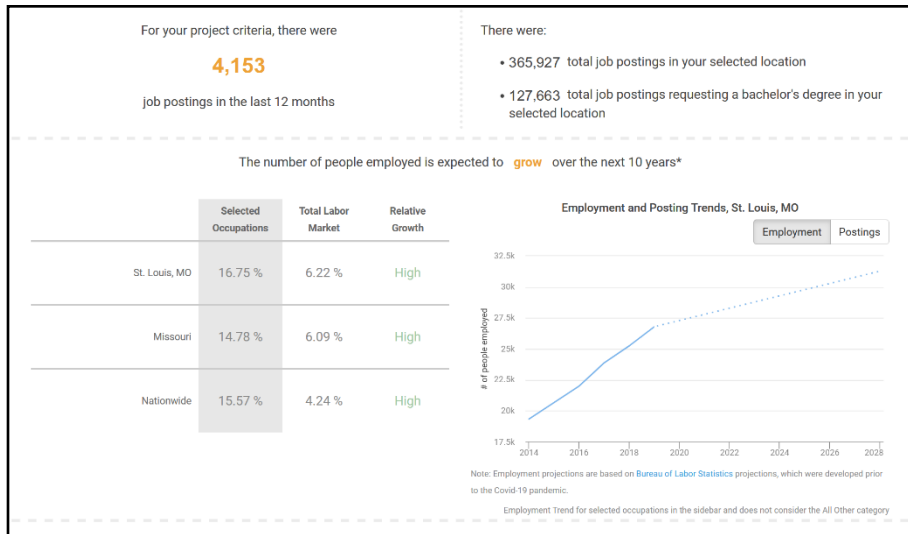
## **3. Business-Related Criteria and Justification**

### **3.B. Market Analysis**

#### **3.A.1. Need for Program**

##### Market Demand

The market demand for this program is high. This conclusion is based on the co-authored Burning Glass study by Markow et al. (2017) cited earlier and analysis of employment potential and the competitive landscape for the St. Louis region based on Burning Glass software. Burnings Glass projects a regional growth in data science jobs of 49% (compared to an overall growth of 6%). The picture for the St. Louis region looks a lot like the national picture – a baseline salary of in the \$70,000 range and high occupational job growth compared to job growth overall (see figures below: Both from *ProgramInsight™* [Burning Glass] accessed October 5, 2020).



Source: *ProgramInsight*, accessed Oct 20

The structure of the curriculum – which focuses on a robust foundation of data science followed by training in a specialized knowledge domain provides students with the skill set to become what Gartner refers to as a “citizen data scientist” (<https://www.datarobot.com/wiki/citizen-data-scientist/>, accessed 10/29/19). As discussed by Gartner, this role “bridges the gap between mainstream self-service data discovery by business users and the advanced analytics techniques of data scientists.” Also, the interdisciplinary nature of the program proposed provides a bridge not only between business and data science (through the Supply Chain Management (SCM) emphasis area), but also a bridge between data science and economics, (other) social sciences, and biology.

*ProgramInsight*<sup>TM</sup> [*Burning Glass*] also helps us understand if the program we designed matches the skills needed in the economy. The chart below identifies the top 10 most requested skills from



the 4000+ job searches ongoing at the time of the data query. Graduates of our program will be conversant in all of these skills and will have specific coursework in 8 of the 10.

Skill	Postings Requesting ▾	National Projected Growth (2018-2023)
Data Science	1,648 (40.84%)	112.27%
SQL	1,621 (40.17%)	-13.3%
Python	1,570 (38.91%)	61.12%
Data Analysis	1,201 (29.76%)	81.86%
Machine Learning	1,026 (25.43%)	102.54%
Java	802 (19.88%)	-13.18%
Information Systems	771 (19.11%)	-24.95%
Big Data	680 (16.85%)	22.31%
Tableau	678 (16.8%)	87.12%
Artificial Intelligence	672 (16.65%)	128.36%

Source: *ProgramInsight*, accessed Feb 21

Local employers have also expressed demand for this skill set. By way of example, Department Chairs Cezary Janikow (Computer Science) and Anne Winkler (Economics) met with the principals of the St. Louis firm UNCOMN (previously Aegis Strategies) in August 2019. This firm has grown 25% over the period January 2019 – August 2019 and is eager to hire graduates from the St. Louis metro area with precisely the skill set embedded in this program. Market demand for data analysts at a range of firms from smaller (UNCOMN) to large (Centene) can also be seen by a review of job openings on online job sites like Indeed.com that seek a combination of data science and domain-specific knowledge.

### Impact

As noted, data scientists can apply these tools to a range of occupations and applications including health, telecommunications, digital marketing, and biological science occupations, to name just a few. For example, while a graduate of UMSL’s prestigious BS in Biology program will be well suited for extensive laboratory research, ecology, and molecular biology; a graduate of the DSA program with an emphasis in biology will be less suited for detailed laboratory work, but better suited for the analysis of (big) data collected in biological and medical research.

Finally, this program will expand the human capital for the St. Louis region, because the vast majority of UMSL students are from the region, and the vast majority of UMSL graduates remain in the region.

### **3.A.2. Student Demand for Program**

We see demand for this program through three main lenses.

First, students on our campus are gravitating to similar classes and programs at a high rate. This is apparent in ECON 4100 (Introduction to Econometrics), which is being taken as an emphasis area by a growing number of math majors because the content matches jobs. We also see this in the robust demand for the brand-new Actuarial Science program (This program projected 12 students in 2019-20, but achieved an enrollment of 18). What makes the BS in Data Science &

Analysis even more attractive to a broader range of students than the BS in Actuarial Science is that this proposed degree is accessible: It has lower demands in terms of math preparation, but also confers higher than average salaries for college graduates (though not quite as high as actuarial) and opportunities to apply the skill set to a variety of topics.

Second, we took a look at similar programs from comparable “urban-public” universities using *ProgramInsight™* [Burning Glass]. Enrollments in BS-level programs offered at the (few) universities are growing. Although the numbers are small, the percent growth is very large.

Last, we learned throughout our experience implementing BS Actuarial Studies that students are eager to have a bachelor’s degree program, i.e. a credential beyond an undergraduate certificate. Evidence is provided by the large number of students who have enrolled in the BS degree in Actuarial Science (above initial enrollment projections). While there is also a Certificate in Data Science offered by the Department of Computer Science, we anticipate the same rise in majors and not just a shifting of majors within UMSL, but new students generated who would have previously gone to other institutions.

**Table 1a. Student Enrollment Projections (anticipated total number of students enrolled in the program during the fall semester of given year).**

Year	1	2	3	4	5
<b>Full-Time</b>	<b>10</b>	<b>16</b>	<b>25</b>	<b>30</b>	<b>34</b>
<b>Part-Time</b>	<b>5</b>	<b>8</b>	<b>10</b>	<b>15</b>	<b>18</b>
<b>Total</b>	<b>15</b>	<b>24</b>	<b>35</b>	<b>45</b>	<b>52</b>

**Table 1b. Student Enrollment Projections (anticipated number of students enrolled during the fall semester of given year who were new to campus).**

Year	1	2	3	4	5
<b>Full-Time</b>	<b>7</b>	<b>12</b>	<b>18</b>	<b>25</b>	<b>30</b>
<b>Part-Time</b>	<b>4</b>	<b>5</b>	<b>7</b>	<b>9</b>	<b>10</b>
<b>Total</b>	<b>11</b>	<b>17</b>	<b>25</b>	<b>34</b>	<b>40</b>

**Table 1c. Projected Number of Degrees Awarded**

<b>Year</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b># of Degrees Awarded</b>	<b>0</b>	<b>1</b>	<b>7</b>	<b>10</b>	<b>12</b>	<b>14</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>15</b>

### **3.B. Financial Projections**

#### **3.B.1. Additional Resources Needed**

The cost of providing this new program is extremely low since, as noted, all courses are already taught for existing degree programs. The anticipated costs are for marketing and collateral printing only, but we believe these funds are critical to the success of the program. We need to be able to “get the word out.” We do not need any space to be renovated and we have excess capacity in classroom and office space. In viewing the financial estimates made, it should be kept in mind that we have provided very conservative financial estimates. We may well exceed these targets (especially with marketing and information dissemination as described shortly, combined with rising demand for expertise in this field), but we made a decision to provide a lower bound to demonstrate the program’s viability.

In the first few years, there will be no program coordinator. Management of the program will come from the Associate Dean for Interdisciplinary Programs in conjunction with the Department of Economics. When we reach a threshold of 35 students enrolled, the demands of program management will warrant a dedicated coordinator. We project that to happen sometime near the end of year 3 (FY24). In that case, we have allocated \$9,000 for course reassignment funding that would allow a current faculty member to take this responsibility; this individual will be responsible for the coordination of schedules across participating departments, advising, setting up internship opportunities and spearheading any new technologies or processes in the Data Science and Analysis program.

#### **3.B.2. Revenue**

The tuition/fee figures are based on NEW students only (transfers from within campus are assumed to not add new revenue to campus). The revenue stream is calculated on the attached financial proforma using inputs that include # of new students average student credit, average hours enrolled, tuition and fees, and the UMSL campus discount rate.

Estimated credit hours per semester are based on hours taken by current math B.S. students (that is 13.6 hours per semester).

Tuition is based on current tuition (2020-21) and assumes 2% growth year over year. All additional revenue projections also assume 2% growth. These are the figures used in the Financial Projections Excel spreadsheet.

### 3.B.3. Net Revenue

Table 2 shows that the program will break even in its first year (due to very low start-up costs). The new expenses for Year 3 are a Program Coordinator, who would only be hired if the program reaches our previously stated 35 student threshold.

**Table 2. Financial Projections for Proposed Program for Years 1 Through 5.**

	Year 1	Year 2	Year 3	Year 4	Year 5
<b>1. Expenses per year</b>					
<b>A. One-time</b>					
<i>New/Renovated Space</i>					
<i>Equipment</i>					
<i>Library</i>					
<i>Consultants</i>					
<i>Others</i>					
<b>Total one-time</b>	0	0	0	0	0
<b>B. Recurring</b>					
<i>Faculty</i>			\$ 9,000	\$ 9,000	\$ 9,000
<i>Staff</i>					
<i>Benefits</i>			\$ 2142	\$ 2142	\$ 2142
<i>Equipment</i>					
<i>Library</i>					
<i>Other</i>	\$ 30,000	\$ 15,000	\$ 5,000	\$ 5,000	\$ 5,000
<b>Total recurring</b>	\$ 30,000	\$ 15,000	\$16,142	\$16,142	\$16,142
<b>Total expenses (A+B)</b>	<b>\$ 30,000</b>	<b>\$ 15,000</b>	<b>\$16,142</b>	<b>\$16,142</b>	<b>\$16,142</b>
<b>2. Revenue per year</b>					
<i>Tuition/Fees (NEW students only)</i>	\$ 116,657	\$ 183,893	\$ 275,840	\$ 382,645	\$ 459,174
<i>Institutional Resources (discount rate)</i>	(20,998)	(33,101)	(49,651)	(68,876)	(82,651)
<i>State Aid – CBHE</i>					
<i>State Aid – Other</i>					
<b>Total revenue</b>	<b>\$95,658</b>	<b>\$150,792</b>	<b>\$226,189</b>	<b>\$313,769</b>	<b>\$376,523</b>
<b>3. Net revenue (loss) per year</b>					
	\$47,838	\$108,252	\$169,547	\$242,547	\$295,581
<b>4. Cumulative revenue (loss)</b>					
	\$47,838	\$156,091	\$325,637	\$568,184	\$863,765

### 3.B.4. Financial and Academic Viability

Because this program is built on currently offered courses and with currently employed faculty/staff, this program can financially viable with very few students. Our financial viability projections focus on generating enough student tuition to cover marketing, collateral printing, the small stipend for a program director, and campus overhead. That is: the program must enroll at least 9 students and exceed \$17,000 in net revenue at year 5.

Academic viability is less about funding and covering recurring costs than it is about developing a self-sustaining and academically enriching community of learners. Even though, the courses in this program already exist and are regularly offered, the “community of scholars” will take time to grow and develop. Our projections revolve around the ability for a cohort of students to move through this program together. We believe that cohort size is 7-8, so our academic viability after 5 years needs to be 30 students, one quarter of which are part-time.

**Table 3a. Enrollment at the End of Year 5 for the Program to Be Financially and Academically Viable.**

<b>Enrollment Status</b>	<b>Full-Time</b>	<b>Part-Time</b>	<b>Total</b>
<b>Number of Students</b>	<b>23</b>	<b>7</b>	<b>30</b>

### 3.C. Business and Marketing Plan: Recruiting and Retaining Students

Acknowledging financial constraints as we move out of the pandemic period, we kept the programmed marketing costs low. Essentially, we believe that the advisors, the recruiters, and our students are our best advocates. We propose to build and share with each of those groups printed material that will explain the benefits of UMSL’s DSA program, the curriculum involved, and the points of contact and websites needed to find out more information.

UMSL is uniquely positioned to offer this degree program. We are a leader in several cutting-edge degrees: Cybersecurity, Computing Technology, Biotechnology, and Supply Chain Management & Analysis. This proposed program will directly build on the campus's existing strengths in this area. A We need to move quickly before we lose a valuable “first-mover” market position for the St. Louis area.

Student retention is a critical aspect of all programmatic endeavors. Methods of student retention will include: 1) close advising and monitoring of individual student progress by the CAS advisors and by domain-knowledge area advisors; and 2) ensuring that students in the program make full use of existing campus resources including the Economic Resource Center, the Campus Tutoring Center, and the Math Academic Center (Math Lab).

From a business sense, it is important to address less successful scenarios; *what happens if enrollment in the program fails to materialize? What planned off-ramps or exit strategies do we envision if this program does not meet our enrollment targets?* In addition to monitoring a 35 student threshold to establish a program coordinator, we propose both two-year and four-year on-campus reviews of the program. At each juncture, we would review metrics related to new

students, transfer students, SCH production, and student interest as relayed by campus recruiters and admissions officers (and identified in SLATE). If the program is not viable at the 2-year mark, university leadership might look to increase or refocus our marketing efforts, or try an approach that cuts funding. If the program is still not viable at the 4-year mark, leadership might look to completely redesign the program or archive it.

## **4. Institutional Capacity**

The core courses offered for the proposed BS in Data Science and Analysis (all of which are already taught) have classroom capacity sufficient to allow for the projected growth in enrollment. This has been confirmed by the participating units in CAS and CoBA.

## **5. Program Characteristics**

### **5.A. Program Outcomes**

After successfully completing the BS in Data Science and Analysis a graduate will be able to:

CORE:

- Apply knowledge of statistical data collection, analysis and quantitative modeling techniques
- Demonstrate proficiency in industry-standard programming languages that support data acquisition, retrieval and analysis
- Select, apply and build data-based models and visualizations to devise solutions to data science problems
- Effectively communicate technical results and recommendations in various formats to appropriate audiences

EMPHASIS AREAS:

#### Biology

- Demonstrate an understanding of the fundamental principles of biology including the structure and function of cells and their components, heredity and variation in populations, and evolution
- Apply statistical concepts and data science methods to analyze real-world problems in biology

#### Computer Science

- Identify and interpret the basic computational issues in problem-solving
- Apply appropriate tools and techniques necessary for programming practice

- Apply statistical concepts and data science methods to analyze real-world problems using appropriate computer science processes and techniques

#### Economics:

- Use economic reasoning to construct models to analyze economic phenomena and evaluate public policy at the micro and macro levels
- Use mathematical models to construct and analyze economic behavior
- supply, and demand, and predict the effects of various monetary and fiscal policies
- Apply statistical concepts and data science methods to analyze real-world problems in economics

#### Mathematics

- Reformulate problems or questions in relevant mathematical terms
- Solve multivariable problems which involve algebra or calculus
- Apply statistical concepts and data science methods to analyze real-world problems using appropriate mathematical processes and techniques

#### Social Science

- Identify and apply appropriate social theories to understand social phenomena
- Critically evaluate explanations of human behavior and social phenomena.
- Apply statistical concepts and data science methods to analyze real-world problems in communication, political science, sociology, or psychology

#### Supply Chain Analytics

- Interpret basic concepts in supply chain management including purchasing, production, operations, logistics transportation, and integration.
- Demonstrate an understanding of analytical approaches for data-driven decision-making in supply chains, such as demand planning, supply chain network design, production planning, inventory control, machine scheduling, and transportation
- Apply all three-pillar of analytics: descriptive, predictive and prescriptive to analyze and solve real-world problems in supply chains and business

## 5.B. Structure

The program structure is detailed in the Program Structure Form that follows. The proposed curriculum was developed by an interdisciplinary faculty team. It builds on the existing Certificate in Data Science and incorporates a concerted domain-focused analysis component. In the BS Data Science and Analysis degree program, students complete required Data Science coursework from the Department of Mathematics and Statistics and the Department of Computer Science. Later in each student's academic progression, they choose an emphasis area, which is an academic domain to focus the analysis component of their DSA degree.

## 5.C. Program Design and Content

### Required / Core (18-20 credit hours)

MATH 1800: Analytic Geometry and Calculus I<sup>1</sup>  
or MATH 1100: Basic Calculus  
MATH 4005: Exploratory Data Analysis Using R  
CMP SCI 1250: Introduction to Computing  
CMP SCI 4200: Python for Scientific Computing and Data Science  
CMP SCI 4342: Introduction to Data Mining

Choose 1 of the following<sup>2</sup>

SOC/ 3220: Quantitative Data Analysis in Social Science Research  
BIOL 4122: Biometry  
ECON 3100: Economic Data and Statistics  
CRIMIN 2220: Statistical Analysis in Criminology and Criminal Justice  
MATH 1320: Introduction to Probability and Statistics  
POL SCI 2000: Political Analysis  
PSYCH 2201: Psychological Statistics  
SCMA 3300: Business Analytics and Statistics

*1. These courses are a prerequisite for many other courses, they should be taken first. Students interested in higher-level MATH courses or the Mathematics Emphasis Area should take MATH 1800.*

*2. Students should choose an introductory statistics course that aligns with their Emphasis Area*

### Emphasis Areas (18-31 credit hours)<sup>3</sup>

#### **Biology (27 credit hours)**

BIOL 1821: Introduction to Biology: Organisms and the Environment  
BIOL 1831: Introduction to Biology: From Molecules to Organisms  
BIOL 2012: Genetics  
BIOL 4436: Applied Bioinformatics

*Two of the following:*

BIOL 2102: Ecology  
BIOL 3302: Evolution  
BIOL 3622: Cell Biology\*  
BIOL 4182: Population Biology



BIOL 4602: Molecular Biology \*

BIOL 4712: Biochemistry\*

*\*these upper level BIOL courses require an additional CHEM prerequisite (usually CHEM 1121).*

**Computer Science (31 credit hours)**

CMP SCI 2250: Programming and Data Structures

CMP SCI 2261: Object-Oriented Programing

CMP SCI 3130: Design and Analysis of Algorithms

MATH 1900: Analytic Geometry and Calculus II

MATH 2000: Analytic Geometry and Calculus III

MATH 4200: Mathematical Statistics I

*Three of the following:*

CMP SCI 4030: Introduction to Intelligent Web

CMP SCI 4300: Introduction to Artificial Intelligence

CMP SCI 4320: Introduction to Evolutionary Computation

CMP SCI 4340: Introduction to Machine Learning

CMP SCI 4390: Introduction to Deep Learning

CMP SCI 4370: Introduction to Biological Data Science

**Economics (21-22 credit hours)**

ECON 1001: Principles of Microeconomics

ECON 1002: Principles of Macroeconomics

ECON 4100: Introduction to Econometrics

ECON 4110: Applied Econometrics

ECON 4120: Time Series Econometrics for Economics and Finance or ECON 4130: Business and Economic Forecasting

*One of the following:*

ECON 4040: Booms and Busts in the Economy: Data and Theory

ECON 4120 (if not used above)

ECON 4130 (if not used above)

ECON 4160: Geospatial Analysis in the Social Sciences

**Mathematics (25 credit hours)**

MATH 1900: Analytic Geometry and Calculus II

MATH 2000: Analytic Geometry and Calculus III

MATH 2450: Elementary Linear Algebra

MATH 4200: Mathematical Statistics I

MATH 4210: Mathematical Statistics II

*Two of the following:*

MATH 4090: Introduction to High-dimensional Data Analysis

MATH 4220: Bayesian Statistical Methods

MATH 4225: Introduction to Statistical Computing

MATH 4250: Introduction to Statistical Methods in Learning and Modeling

MATH 4260: Introduction to Stochastic Processes

**Social Science (18 credit hours)**

*Two of the following, from two distinct subject areas:*

ANTHRO 1011: Cultural Anthropology  
ANTHRO 1005: Introduction to Biological Anthropology  
ANTHRO 1019: Introduction to Archaeology  
CRIMIN 1100: Introduction to Criminology and Criminal Justice  
POL SCI 1100: Introduction to American Politics  
POL SCI 1800: World Politics  
PSYCH 1003: General Psychology  
SOC 1010: Introduction to Sociology  
SOC 2160: Social Psychology

*One of the following:\**

CRIMIN 2210: Research Methods in Criminology and Criminal Justice  
PSYCH 2219: Research Methods in Psychological Science  
SOC 3230: Research Methods in Sociology

*\*these courses may have prerequisites that are in the above course list or the core*

*Three of the following, from two subject areas:\**

ANTHRO 4015: Data Analysis in Social Sciences  
ANTHRO 4160: GIS in Anthropology and Sociology  
POL SCI 3330: Public Opinion and Political Participation  
POL SCI 4040: Survey Research Practicum in Political Science  
PSYCH 4365: Psychological Testing and Assessment  
SOC 3344: Problems of Urban Communities  
SOC 4040: Survey Practicum for Sociology

*\*these courses may have prerequisites that are in the above course list or the core*

**Supply Chain Analytics (18 credit hours)**

SCMA 3301: Introduction to Supply Chain Analytics  
SCMA 3320: Advanced Supply Chain and Operations Management  
SCMA 4330: Business Logistics Systems  
SCMA 4331: Applied Supply Chain Analytics  
SCMA 4350: Prescriptive Analytics and Optimization

*One of the following:*

SCMA 3345: Predictive Analytics and Data Mining  
SCMA 3390: Internship in Supply Chain and Analytics  
SCMA 3398: Seminar in Supply Chain Management and Analytics  
SCMA 4389: Supply Chain Management Practicum  
SCMA 4398: Advanced Topics in Supply Chain and Analytics

<sup>3</sup>*Each one of these emphasis areas is specifically constructed such that with less than two additional courses (sometimes only one) a student can earn a minor or certificate in the domain area. This structure is purposeful as it allows students to “stack” credentials and further burnish their resumes in preparation for careers in data science.*

## PROGRAM STRUCTURE

### 1. Total credits required for graduation:

General education (and Jr writing):	45
Core courses:	18-20
Emphasis area:	18-31
Free electives or transferred credits:	30-39
Total:	120

### 2. Residency requirements, if any:

UMSL requires at least 30 out of the last 36 hours to be earned at UMSL, online courses are included

### 3. General education

Total credits for general education courses: 45 (includes Jr. level writing)

Courses (specific course or distribution area and credit hours):

Course	Hrs	Course	Hrs	Course	Hrs
First-year writing	3	Information literacy	3	Social sciences	9
Communication proficiency	3	US history & government	3	Math & Life/Natural sciences	9
Mathematics proficiency	3	Humanities & fine arts	9	Jr. Writing	3

### 4. Major requirements

Total credits specific to degree: 36-51 (depending on emphasis area)

Courses (specific course or distribution area and credit hours):

Course	Hrs	Course	Hrs	Course	Hrs
---CORE--		CMP SCI 4342	3	SOCIAL SCIENCE	18
MATH 1800 (or 1100)*	3-5	--EMPHASIS--*		SUPPLY CHAIN ANALYTICS	18
STATISTICS COURSE (DOMAIN SPECIFIC)*	3	BIOLOGY	25		
MATH 4005	3	COMPUTER SCIENCE	31		
CMP SCI 1250*	3	ECONOMICS	21-22		
CMP SCI 4200	3	MATHEMATICS	25		

### 5. Free elective credits

Free Electives or transfer credits: 30-39

**6. Requirement for thesis, internship, or other capstone experience:**

None.

**7. Any unique features such as interdepartmental cooperation:**

This program is interdisciplinary by design, combining coursework from Mathematics, Statistics, and Computer Science with a domain focus as determined by each student. It has been designed by a curriculum committee of members from each of these units. The Deans from each unit have endorsed the degree program (see earlier statements)

**5.D. Program Goals and Assessment**

The program-level goals will be assessed in multiple ways, including direct and indirect assessment mechanisms. See the charts below for a review of the assessment methods we propose. Longitudinally, we will monitor both career advancement and new job placements at graduation and after graduation to establish a baseline for comparison in the following years.

Direct Assessment:

<b>Assessment Plan (how)</b>	<b>CORE LO #1</b>	<b>CORE LO #2</b>	<b>CORE LO #3</b>	<b>CORE LO #4</b>	<b>Emphasis Area LOs</b>	<b>Timetable for Data Collection</b>
Student Exam of Core Material	x	x	x			After completion of core
Project/Presentation Integrating Program Knowledge				x	x	After identified course completed
Meet with Interdisciplinary Colleagues to Discuss Student Knowledge Gaps and Inform Program Improvement Based on Assessments Above	x	x	x	x	x	Annually

Indirect Assessment:

<b>Assessment Plan (how)</b>	<b>CORE LO #1</b>	<b>CORE LO #2</b>	<b>CORE LO #3</b>	<b>CORE LO #4</b>	<b>Emphasis Area LOs</b>	<b>Timetable for Data Collection</b>
Student Exit Survey	x	x	x	x	x	Semester of graduation
Student Course Evaluations	x	x	x	x	x	Each semester
Alumni Survey	x	x	x	x	x	Every 5 <sup>th</sup> year (starting with the 3 <sup>rd</sup> year of the program)

### **5.E. Student Preparation**

There are no special entrance requirements to enroll in Data Science and Analysis. However, evidence from the Certificate in Data Science, indicates that students should have a penchant for quantitative literacy if they hope to complete the degree program “on time.” Specifically, everyone in this program will have to pass a course in calculus. If a student needs preparatory work to enroll in and pass a calculus class, their time to graduation will be lengthened.

### **5.F. Faculty and Administration**

There are no additional requirements (above standard HLC/accreditation requirements) needed for faculty to teach in this program and the vast majority (estimated 85%) of these courses will be taught by current full-time UMSL faculty. As a practical matter, the courses for this proposed program are already being taught by UMSL faculty. The proposed BS in Data Science and Analysis is just “bundling” this curriculum together to attract students. The only “new” position is the Program Coordinator, and it is not programmed to be considered until year 3 or later. We do not expect that faculty teaching these courses will need any special training or take on any additional responsibilities for advising, recruiting, or other administrative tasks.

The administration of the proposed BS DSA program is modeled after the highly successful Actuarial degree program at UMSL. The new degree program will be administered under the leadership of the Associate Dean for Interdisciplinary Programs in the College of Arts and Science. The AD will work closely with the Departments of Mathematics and Statistics, Computer Science, Economics, and the named “domain” departments to ensure appropriate courses remain scheduled and seats remain available for DSA students.

### **5.G. Alumni and Employer Survey**

Each graduate will complete an exit survey. Also, an electronic survey will be conducted after 5 students have completed the program. Satisfaction rates are expected to be high (at least 4 on a 5-point scale) since the program directly addresses an economic need in the community.

### **5.H. Program Accreditation**

This program will be accredited by HLC through the UMSL and the College of Arts and Sciences. The topic of additional, external accreditation was discussed at the College of Arts and Sciences Advisory Council. This forum indicated accreditations from an external entity is not necessary, instead the skill sets and reputation of the program are much more important. Reputation is especially important for us as most of our graduates are expected to stay in this area. Therefore, we will focus on maintaining our reputation for high-quality graduates and providing the right skills as opposed to external accreditation.

March 11, 2021

Dean Andrew Kersten  
College of Arts & Sciences  
University of Missouri – St. Louis  
St. Louis, MO 63121

Re: Proposed BS in Data Science and Analysis

Dear Dean Kersten,

I am writing to offer my support for the proposed B.S. Data Science and Analysis to be offered out of the College of Arts and Sciences here at the University of Missouri – St. Louis. No other campus in our system is currently offering an undergraduate degree in this area and since this is a growth area for the St. Louis region and state of Missouri now is right time for this type of interdisciplinary degree.

Employment trends show that more and more companies need workers who are skilled both in the areas of data science and data analysis. Upon graduation our data scientists will be able to apply those skills to a range of areas, such as health, supply chain, telecommunications, and biological science. These wide-ranging opportunities for our graduates clearly aligns with UMSL's anchor mission. As we look to the future UMSL is focused on the need to reinvest our resources into areas of strength, growth, and excellence. You'll find this program was built with that in mind as it is a targeted repackaging of our existing courses and financially we expect it to break even in its first year due to very low start-up costs.

I support this proposed B.S. Data Science and Analysis and believe it will be an important degree for workforce development in the St. Louis area.

Sincerely,



Kristin Sobolik, Ph.D.  
Chancellor

March 22, 2021

Dean Andrew Kersten  
College of Arts & Sciences  
University of Missouri – St. Louis  
St. Louis, MO 63121

Re: Proposed B.S. in Data Science & Analysis

Dear Dean Kersten:

It is with enthusiasm that I am writing to offer my support for the proposed B.S. degree in Data Science & Analysis to be offered out of the College of Arts & Sciences here at the University of Missouri – St. Louis. This proposed degree program represents an innovative repackaging and coordination of our current course offerings and I believe it will be an important area of growth for your college and the university in the years to come.

With UMSL's increased focus on interdisciplinary degrees, we can leverage our current areas of growth, strength, and excellence to allow our students to explore degree paths that span not only across departments in the College of Arts & Sciences but also across departments university-wide, including in the College of Business Administration. I believe this shift is allowing us to capitalize on the excellence across the university and help to better serve our students. This particular proposed program has an impressive range of emphasis areas:

- Biology
- Computer Science
- Economics
- Mathematics & Statistics
- Social Sciences
- Supply Chain.

This wide breadth of offerings results in increased opportunities for specialization in an area growing in demand among numerous industries, resulting in a broad array of job opportunities for our students after graduation. I am also impressed by how this proposal builds on the strength of a successful certificate and am confident this proven success will help to attract new students to the full degree program.

Given the strong academic focus and foundation upon which this program is built, I fully support this proposed B.S. degree in Data Science & Analysis here at the University of Missouri – St. Louis.

Sincerely,



Marie T. Mora, Ph.D.  
Provost & Executive Vice Chancellor for Academic Affairs



Steven W. Graham, PhD  
Senior Associate Vice President for Academic Affairs  
University Hall  
Columbia, MO 65211

Dear Steve

The purpose of this letter is to confirm our shared support for the Bachelor of Science degree program in Data Science and Analysis (BS-DSA). The program was created in a shared effort between our colleges and it has emphasis areas housed in both colleges. The College of Business Administration and the College of Arts and Sciences are both fully committed to its success.

There are two notable and innovative components to this degree in the design of this degree we would like to highlight. First, it is focused at the undergraduate level, while most other programs in this field are focused at the master's level. We believe that level is too high to make a significant impact on the local economy. Second, this program is deliberately focused on both data science and data analysis. Building on UMSL's existing Certificate in Data Science, the core data science component consists of training in mathematics, computer science, and statistics; then BS-DSA students will embark on a deliberate series of courses in an emphasis area that will provide each student with analysis and application skills for the chosen domain. It is this deliberate pairing of data science with domain analysis that makes this program unique

In addition to the innovative design, UMSL has two additional advantages when offering agrees. Foremost is tuition cost. Not only does our program cost less than the private school versions, but it also has a more focused path to graduation. Second is the growing tech economy of the St. Louis region. BS-DSA addresses a growing demand for workers who are skilled in data science techniques and have the requisite training to apply these techniques to real-world contexts. UMSL has an ideal opportunity at this moment to meet this interdisciplinary workforce demand and grow the quantitative and technology savvy talent pool for the St. Louis region.

St. Louis needs more data scientists and analysts. We both support this program and recommend that you support it also.

Sincerely,

*Norman K Womer*

Keith Womer  
Interim Dean  
College of Business Administration

*Andrew E Kersten*

Andrew Kersten  
Dean  
College of Arts and Sciences





November 24, 2020

Andrew Kersten  
Dean, College of Arts and Sciences  
University of Missouri-St-Louis

Dear Dean Kersten,

This letter expresses my support for the interdisciplinary Bachelor of Science Degree in Data Science and Analysis (DSA) that the UMSL College of Arts and Sciences has proposed, and which is under consideration at the University of Missouri system and state level.

This degree is important for the region in that it will provide students with the knowledge, skills, and credentials necessary to advance in a data-rich, technologically-intense, rapidly-changing workplace. The design of the degree is also unique and compelling—focusing on a strong core mathematical and statistical understanding of data science and analysis while at the same time, offering students opportunities to learn analysis within their own fields of interest, and potentially within fields in which they are already employed. The choice of field emphasis will produce higher level engagement on the part of students—providing real world experiences on which to build strong understanding and experience in fields that will lead to more direct employment leads and outcomes. The emphasis on field choice also assists students in building their own education and experience portfolios, setting students up for more immediate success.

I look forward to connecting DSA graduates to industry and small business partners eager to employ data scientists and analysts in our region. St. Louis needs more data scientists and analysts to be the drivers and leaders of our growing tech economy. UMSL's DSA program will directly address this regional need.

Sincerely,

*Patricia Hagen*

Patricia Hagen, PhD  
President/Executive Director



Joseph T. Ambrose  
Vice Chairman

November 24, 2020

Andrew Kersten  
Dean, College of Arts and Sciences  
University of Missouri-St-Louis

Dear Dean Kersten,

Please accept this letter as an expression of my support for the interdisciplinary Bachelor of Science Degree in Data Science and Analysis (DSA) that the UMSL College of Arts and Sciences has proposed and is under consideration at the University of Missouri system and state level.

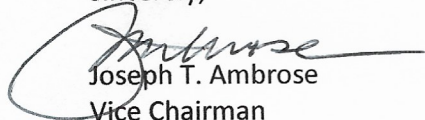
This degree is an important initiative for the region in that it will provide students with the knowledge, skills, and credentials necessary to advance in a data-rich, technologically intense, and rapidly changing workplace. I particularly appreciate the design of the degree, which focuses on the core mathematical and statistical tools of data science but also provides opportunities for students to learn analysis based on a field of their choosing. These emphasis areas provide real-world structure to what is sometimes an abstract concept. That said, the 'abstract concept' of data analytics is rapidly becoming the foundation for running successful businesses of all sizes. I am a 1978 graduate of UMSL (BA in Economics) and can speak from experience as to how well UMSL prepared me for my career. I have no doubt UMSL's DSA program will prepare today's students for tomorrow's opportunities.

I look forward to finding DSA graduates who focused on the Computer Science, Economics or Mathematics emphasis areas for positions at First Bank.

The data science discipline is evolving so fast that we cannot wait until a master's degree to hire talent. So I am also very happy to see this program is focused at the undergraduate level.

St. Louis needs more data scientists and analysts to be the drivers and leaders of our growing economy tech economy. UMSL's DSA program will directly address this regional need.

Sincerely,

  
Joseph T. Ambrose  
Vice Chairman

First Bank / 11901 Olive Blvd. / St. Louis, MO 63141/ 314.995.8722 / Fax 314.567.7341



Andrew Kersten  
Dean, College of Arts and Sciences  
University of Missouri-St-Louis

**Subject: Letter of Support for Interdisciplinary BS Degree in Data Science and Analysis (DSA) at UMSL**

Dear Dean Kersten,

I am writing on behalf of Esri and the USGIF St. Louis Area Working Group (SLAWG) to express my strong support for the potential offering of the interdisciplinary Bachelor of Science Degree in Data Science and Analysis (DSA) that the UMSL College of Arts and Sciences has proposed and is under consideration at the University of Missouri system and state level.

This type of degree is an important initiative for the St. Louis region in that it will provide students with the knowledge, skills, and credentials necessary to advance in a data-rich, technologically intense, and rapidly changing workplace. I particularly appreciate the design of the degree, which focuses on the core mathematical and statistical tools of data science but also provides opportunities for students to learn analysis based on a field of their choosing. These emphasis areas provide real-world structure to what is sometimes an abstract concept.

I especially believe that UMSL is well situated to make a big difference – not only in this geospatial and technology sector – but in strides towards racial equity in the region. UMSL is located nearby a historically lower income and more high crime area of the metro region, and with this program being offered at a public university (which is less expensive than most private colleges and universities in the area), it may make this degree more accessible for lower income students to pursue.

Esri is an international supplier of geographic information system (GIS) software, web GIS and geodatabase management applications. Our St. Louis office supports the National Geospatial Intelligence Agency (NGA) and other industries all over the country. This is a degree we seek out for positions within our organization.

The data science discipline is evolving so fast that we cannot wait until a master's degree to hire talent. I am also very happy to see his program is focused at the undergraduate level. St. Louis needs more data scientists and analysts to be the drivers and leaders of our growing economy tech economy. UMSL's DSA program will directly address this regional need.

Sincerely,

A handwritten signature in black ink, appearing to read "Tara Mott".

Dr. Tara Mott, NGA Account Manager, USGIF SLAWG Co-Chair  
3060 Little Hills Expressway  
St. Charles, MO 63301



Andrew Kersten  
Dean, College of Arts and Sciences  
University of Missouri-St-Louis

Dear Dean Kersten,

This letter expresses my support for the interdisciplinary Bachelor of Science Degree in Data Science and Analysis (DSA) that the UMSL College of Arts and Sciences has proposed and is under consideration at the University of Missouri system and state level.

This degree is an important initiative for the region in that it will provide students with the knowledge, skills, and credentials necessary to advance in a data-rich, technologically intense, and rapidly changing workplace. I particularly appreciate the design of the degree, which focuses on the core mathematical and statistical tools of data science but also provides opportunities for students to learn analysis based on a field of their choosing. These emphasis areas provide real-world structure to what is sometimes an abstract concept.

I look forward to finding DSA graduates who focused on areas such as Computer Science or Supply Chain Analytics, with broader Geospatial Technology/GIS emphasis areas for positions in my organization.

The data science discipline is evolving so fast that we cannot wait until a master's degree to hire talent. So I am also very happy to see his program is focused at the undergraduate level.

St. Louis needs more data scientists and analysts, who understand Geospatial Technology, to be the drivers and leaders of our growing economy tech economy. UMSL's DSA program will directly address this regional need.

Sincerely,

A handwritten signature in black ink that reads "Geri Miller". The signature is written in a cursive, slightly slanted style.

Geri Miller  
Education Sector Director  
Global Business Development  
Esri



# Pittsburgh Pipe

THE RIGHT PIPE • RIGHT ON TIME

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November 30, 2020

Andrew E. Kersten, Dean  
College of Arts and Sciences  
University of Missouri-St. Louis

Dean Kersten,

I am writing in support of the interdisciplinary B.S. degree in Data Science and Analysis being proposed by UMSL's College of Arts and Sciences that is under consideration at the University of Missouri system.

As the workplace skills being sought by business communities in St. Louis and around the world focus more and more on employees with the knowledge and credentials to gather and interpret information in data-rich environments, this degree program will benefit both students and their future employers. I especially like the fact that the program, as I understand it, will allow students to apply the core mathematical and statistical tools they learn to analyze data in the field of their choosing. At my own company, I know that our increasing dependence on data analysis to achieve proper balance in our supply chain would make an employee skilled in data science and analysis a valuable member of our team.

As you know, UMSL grads are major contributors to the workforce in the St. Louis metropolitan area. This degree program would enhance the employment prospects for UMSL grads while at the same time providing skills area employers want and need.

As an UMSL grad, a St. Louis business owner, and a scholarship program contributor, I support this degree program and hope you'll be given the authority to proceed with its implementation.

Sincerely,



Joseph Bergfeld

November 30<sup>th</sup>, 2020

Dr. Andrew Kersten  
Dean, College of Arts and Sciences  
University of Missouri-St. Louis

Dear Dean Kersten,

I am writing to express my enthusiastic support for the interdisciplinary Bachelor of Science Degree in Data Science and Analysis (DSA) that the UMSL College of Arts and Sciences has proposed and is under consideration at the University of Missouri system and state level.

This degree is an important initiative for the region in that it will provide students with the knowledge, skills, and credentials necessary to advance in a data-rich, technologically intense, and rapidly changing workplace.

At UMSL, I run the St. Louis Regional Data Alliance (stldata.org) — an initiative that aims to build shared data infrastructure and support strong data actors who use quality data to improve people’s lives. The challenges that our members from across local governments, nonprofits, universities, and other initiatives face are in great need of more home-grown talent to address them. This new degree program at UMSL would be a critical pipeline and support structure for these local institutions, as well as our partners in the private sector.

We are eager to develop connections to the DSA program at the Regional Data Alliance, including placements in local institutions and “data for good” projects that can build professional computer science skills as well as improve our region’s data capacity. Our work at the Community Innovation and Action Center also connects UMSL faculty and students to a broad range of social science initiatives that would greatly benefit from student work.

Having a bachelor’s level program will significantly expand our local talent pool, as well as the diversity of students and professionals in the field. Some of our best team members and colleagues have excelled in the data science field with only an undergraduate degree and we are thrilled that UMSL is considering this direction. UMSL’s DSA program will be a significant regional asset that we cannot wait to partner with.

Sincerely,



Paul Sorenson  
Interim Co-Director, UMSL Community Innovation and Action Center  
Director, St. Louis Regional Data Alliance



Andrew Kersten  
Dean, College of Arts and Sciences  
University of Missouri-St-Louis

11/29/2020

Dear Dean Kersten,

This letter of support expresses my backing for the interdisciplinary Bachelor of Science Degree in Data Science and Analysis (DSA) that the UMSL College of Arts and Sciences has proposed and is under consideration at the University of Missouri system and state level.

This immensely needed degree is an important initiative for the entire region in that it will provide students with the knowledge, skills, and credentials necessary to advance in a critical thinking and problem solving, data-rich, technologically intense, and rapidly changing workplace; especially given the support Geodata IT provides to the Department of Defense and US Intelligence Community. I love the design of the degree, which focuses on the core mathematical and statistical tools of data science but also provides opportunities for students to learn analysis based on a field of their choosing. These emphasis areas provide real-world structure to what is sometimes an abstract concept.

I look forward to finding DSA graduates who focused on the Computer Science or Mathematics emphasis areas for positions in my organization.

The data science discipline is evolving so fast that we cannot wait until a master's degree to hire talent. So I am also very happy to see his program is focused at the undergraduate level.

St. Louis needs more data scientists and analysts to be the drivers and leaders of our growing economy tech economy. UMSL's DSA program will directly address this regional need.

Sincerely,

Justin W. Bennett  
CEO, Geodata IT, LLC  
Phone: (217) 390-8085

Andrew Kersten  
Dean, College of Arts and Sciences  
University of Missouri-St-Louis

Dear Dean Kersten:

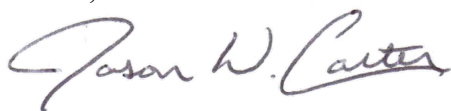
This letter expresses my support for the interdisciplinary Bachelor of Science Degree in Data Science and Analysis (DSA) that the UMSL College of Arts and Sciences has proposed and is under consideration at the University of Missouri system and state level.

UNCOMN has built our business on hiring the excellent talent being developed by the local universities, with UMSL being at the top of our list, particularly in the analytical fields. One of our core competencies is Data and Analytics services and we see the demand for this type of talent only growing in the future. I look forward to finding DSA graduates who focused on the Computer Science, Economics, and/or Supply Chain Analytics emphasis areas for positions in my organization.

The data science discipline is evolving so fast that we cannot wait until a master's degree to hire talent. So I am also very happy to see this program is focused at the undergraduate level.

St. Louis needs more data scientists and analysts to be the drivers and leaders of our growing economy tech economy. UMSL's DSA program will directly address this regional need.

Cheers,

A handwritten signature in cursive script that reads "Jason W. Carter". The signature is written in dark ink and is positioned above the printed name and title.

Jason Carter  
President



## **Executive Summary**

### **B.A. in Media, Art, & Design**

The University of Missouri – Kansas City (UMKC) College of Arts and Sciences proposes to offer an in-person and hybrid B.A. in Media, Art and Design. This flexible, interdisciplinary degree draws on existing resources and is a creative reimagining of existing assets as part of a broader review underway at the University called UMKC Forward, with an ultimate purpose of providing graduates with the kind of in-demand, cross-cutting skills needed for employment.

The 36-credit-hour B.A. in Media, Art, and Design is designed to allow students map out their own education and tailor it to their ambitions. After completing three core courses on foundational principles of media, design and visual studies, students are required to take three introductory elective courses to enhance their exposure in two of the three areas of digital media; visual and cultural studies; and design, advertising, and public relations; and one upper-level course in one of these three areas. Students are then provided with the option of specializing in one of the three areas, in which they will take five courses. This provides students with the opportunity to specialize as they continue on in their education, while also equipping them through foundational courses with a broad set of skills that will make them versatile, competitive job applicants and employees. This differentiates the program from existing UMKC programs in the area, which are targeted toward students with a strong commitment and interest in a specific area.

There is a strong market for graduates of the proposed degree program. According to Burning Glass, there were 8,479 unique job postings for graduates from this type of degree in Missouri and its contiguous states. This is compared with 314 conferrals in the area, signifying a favorable job market in which graduates will be in high demand. Graduates from this program will be versatile and could work effectively as advertising and public relations specialists, graphic designers, social media strategists, front-end application designers, and product designers, among others. Graduates will also earn competitive salaries, with a median salary in the field of \$57,000 in Missouri and its contiguous states. Letters of support from several companies included in the appendix and referenced throughout the proposal.

Positive market trends, as well as the interdisciplinarity of the degree, will make this an attractive option for students. This will be especially true for transfer students, which historically have been a significant target market for the departments of Communication Studies and Art and Art History. Further, UMKC has already laid the foundations for 2+2 agreements with Johnson County Community College and Metropolitan Community College, meaning transfer students will be able to come to UMKC and earn their B.A. with ease and without concerns about repeating coursework. UMKC has also proactively collaborated with the University of Missouri – Columbia (MU) and the University of Missouri – St. Louis (UMSL) to garner their support and identify opportunities for collaboration. The responsive has been positive, with letters of support from MU and UMSL department chairs included in the appendix.

The B.A. in Media, Art and Design will draw primarily on existing university resources and will begin generating net revenue in its first year. This degree is a re-envisioning of UMKC's curriculum, and an opportunity to reach a new audience of students while aligning with market trends and employer demand.

No. 3

Recommended Action – B.A. in Media, Art, and Design – UMKC

It was recommended by Sr. Associate Vice President Steve Graham, endorsed by President of the University of Missouri Mun Choi, recommended by the Academic, Student Affairs and Research & Economic Development Committee, moved by Curator \_\_\_\_\_, seconded by Curator \_\_\_\_\_ that the following action be approved:

that the University of Missouri – Kansas City be authorized to submit the attached proposal for a Bachelor of Arts in Media, Art, and Design to the Coordinating Board for Higher Education for approval.

Roll call vote of the Committee:	YES	NO
Curator Graves		
Curator Hoberock		
Curator Layman		
Curator Wenneker		
The motion _____.		

Roll call vote of Board:	YES	NO
Curator Brncic		
Curator Chatman		
Curator Graham		
Curator Graves		
Curator Hoberock		
Curator Holloway		
Curator Layman		
Curator Wenneker		
Curator Williams		
The motion _____.		

New Degree Program Proposal:

**Bachelor of Arts in  
Media, Art & Design**

University of Missouri – Kansas City  
*June 2021 Board of Curators Meeting*

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## Executive Summary

The University of Missouri – Kansas City (UMKC) College of Arts and Sciences proposes to offer an in-person and hybrid B.A. in Media, Art and Design. This flexible, interdisciplinary degree draws on existing resources and is a creative reimagining of existing assets as part of a broader review underway at the University called UMKC Forward, with an ultimate purpose of providing graduates with the kind of in-demand, cross-cutting skills needed for employment.

**The 36-credit-hour B.A. in Media, Art, and Design is inherently designed to allow students map out their own education and tailor it to their ambitions.** After completing three core courses - offering students with a foundation in principles of media, design and visual studies, students are required to take three introductory elective courses to enhance their exposure in two of the three areas of digital media; visual and cultural studies; and design, advertising, and public relations; as well as one upper-level course in one of these three areas. Finally, students are then provided with the option of specializing in one of the three areas, in which they will take five courses. This provides students with the opportunity to specialize as they continue on in their education, while also equipping them through foundational courses with a broad set of skills that will make them versatile, competitive job applicants and employees. This differentiates the program from existing UMKC programs in the area, which are targeted toward students with a strong commitment and interest in a specific area.

**There is a strong market for graduates of the proposed degree program. According to Burning Glass, there were 8,479 unique job postings for graduates from this type of degree in Missouri and its contiguous states.** This is compared with 314 conferrals in the area, signifying a favorable job market in which graduates will be in high demand. Graduates from this program will be versatile and could work effectively as advertising and public relations specialists, graphic designers, social media strategists, front-end application designers, and product designers, among others. Graduates will also earn competitive salaries, with a median salary in the field of \$57,000 in Missouri and its contiguous states. Employers have validated the market demand for this program, with letters of support from several companies included in the appendix and referenced throughout the proposal.

Positive market trends, as well as the interdisciplinarity of the degree, will make this an attractive option for students. This will be especially true for transfer students, which historically have been a significant target market for the departments of Communication Studies and Art and Art History. **Further, UMKC has already laid the foundations for 2+2 agreements with Johnson County Community College and Metropolitan Community College, meaning transfer students will be able to come to UMKC and earn their B.A. with ease and without concerns about repeating coursework.** UMKC has also proactively collaborated with the University of Missouri – Columbia (MU) and the University of Missouri – St. Louis (UMSL) to garner their support and identify opportunities for collaboration. The response has been positive, with letters of support from MU and UMSL department chairs included in the appendix.

**The B.A. in Media, Art and Design will draw primarily on existing university resources and will begin generating net revenue in its first year.** This degree is a re-envisioning of UMKC's curriculum, and an opportunity to reach a new audience of students while aligning with market trends and employer demand.

# 1. Introduction

The B.A. in Media, Art and Design in the College of Arts and Sciences is a flexible degree program where students are able to create their own learning plans to meet the demands of careers in digital media, design, advertising, public relations and related fields. Using predominately existing curriculum, the program combines courses to build core skills in problem solving, collaboration and creative development with a foundation in visual studies and media theory. With an emphasis on critical thinking and individual skill development, the degree is a liberal-arts-based approach to building interdisciplinary skills in digital media, visual and cultural studies, design, advertising and public relations.

Students will complete all General Education courses within the College of Arts and Sciences, and 36 credit hours in the major. The coursework for the major consists of 9 credit hours of core courses; 9 credit hours of a menu of required electives; a required 3 credit hour capstone-style upper-level course; and 15 credit hours of electives. Students create a learning agreement that outlines their degree pathway in their first core class (COMM-ST 266: Design Thinking) to map their path through the program. The program is purposefully flexible so that students coming from area community colleges can complete their coursework in two years, and so four-year students can design a degree-program that fits their creative and career goals. The program has been reviewed by our colleagues at area community colleges, and we are working with Art and Communication Studies departments on 2+2 agreements with both Metropolitan Community College and Johnson County Community College. As evidenced in the attached letters of support, there is enthusiastic support of the degree from our Community College partners.

We have received feedback from graduates working in the field, business owners who employ our students as interns, and companies offering desirable jobs in creative fields. All agree that this proposal will produce graduates who will be valuable employees. **The degree will prepare graduates for a broad range of careers in several fields including advertising, media production, visual studies, data visualization, gaming, animation and public relations.** Occupations relevant to the training that our curriculum provides include the following (using Bureau of Labor Statistics categories): Producers and Directors, Film and Video Editors, Web Developers, Technical Writers, Broadcast and Sound Engineering Technicians, Writers and Authors, Training and Development Managers, and Advertising, Promotions, and Marketing Managers. The broader skills, such as writing, proficiency in visual communication, and critical thinking that students will practice in the major will also prepare them for careers in other fields.

We are prepared to start offering the degree as soon as the proposal is approved. The two new courses that are necessary for the degree have been reviewed and approved by the campus curriculum committees, and the assessment plan has been approved by the University Assessment Committee. The faculty in both Communication Studies and Art & Art History will offer flexibility in course modality and have extensive experience in online teaching. **While some of the coursework is hands-on and requires in-person teaching, we plan to have a wholly online pathway through the degree two years after its inception (2024-2025).** Our plan is to offer the core courses in person the first year and then transition to the online format in the second or third year of the program. This multi-modality allows for students who are looking for the hands-on experience of advertising and media production courses while also serving students who need the flexibility of online courses.

## Program History

The B.A. in Media, Art and Design is a degree program that comes out of student interest expressed by students in both the Communication Studies and Studio Art majors. This B.A. will replace the Emphasis Area in Film & Media Studies in the Department of Communication Studies and the Arts and Visual Communication Minor in the Department of Art and Art History, which together average 55 majors a year for the last five years ([See Appendix 2](#)). Through the development of the Film and Media Arts B.A., which is now in its fifth year, the faculty in Art and Art History and Film & Media Arts began to recognize the value of training students across the two curriculums (the Film & Media Arts BA requires two courses in Art). Recognizing a shift away from specialization in the skills employers were looking for, the Art and Communication faculty began to talk about creating a degree that served transfer and exploratory students who wanted broader course experiences than were available in the existing degree programs. From these conversations the Media, Art and Design program was developed – made specifically for transfer students and four-year students interested a variety of skills. Core faculty member and Film & Media Arts advisor Lyn Elliot adds, *“As an advisor in the Film area within the Communication Studies Department, I frequently meet with students whose interests are interdisciplinary, and who would benefit from the proposed Media, Art and Design major. For example, we have students who would like to work in web design, video game design, multimedia design, or production design for film and media. Currently, students with these interests often combine a major in film with a minor in studio art, or vice versa. In the proposed MAD major, these students would be able to customize their major courses to a greater degree, and thus better prepare for their chosen careers.”*

The Communication Studies Department has offered a B.A. in Communication Studies with an emphasis in Film and Media Arts since 2003. Since that time, the program has grown significantly, from 13 majors in 2003 to 53 as of Fall 2020. **The Media, Art and Design B.A. is a chance to grow this area with more flexible course offerings. This degree is constructed almost entirely out of our existing curriculum, with no new faculty or resources needed to start—and regional demand for such a degree is strong.** As illustrated in [Appendix 3](#), there is strong evidence of interest in this area in the region as well as growing or steady enrollments at all of the institutions we were able to query. The innovative difference provided by the degree in Media, Art and Design is a broader focus not just on media production, but also skills in design thinking, data visualization and visual and oral communication. There are job shifts in related industries like advertising and marketing from valuing highly specialized skills to rewarding job seekers who have a broad array of skills. Alumna Heather Isbel, a graphic designer for T-Mobile and video production business owner, cites, *“In this industry, you have to be a jack of all trades. They want you to know everything and then some. I believe this new combined (degree) path will prepare students for the industry better than before. I am in huge support to create this joint BA degree and I only wish they had it when I was a student.”*

As one can see in the degree plan ([Appendix 4](#)), the structure of the degree favors flexibility. Although we have three advising tracks, they are not emphasis areas. This allows students structure in the required coursework, but lots of flexibility in their electives. This model is a good fit for many of our successful graduates who are interested in careers in a variety of fields. The program allows students to set their own goals and demonstrate their skills and competencies via

their portfolio upon graduation. The focus on learning contracts (student generated course plan and structure) keeps up with the growing student demand for flexibility.

The chairs of Communication Studies and Art and Art History (currently Ye Wang and Elijah Gowin) are responsible for the success of the program.

## **2. University Mission & Program Analysis**

### **2.A. Alignment with University Mission & Goals**

The Media, Art and Design degree aligns with the mission of UMKC<sup>1</sup> to “promote learning through the discovery, preservation and dissemination of knowledge of public value across a broad spectrum of disciplines and fields of study”. The interdisciplinarity of the degree and broad curriculum fit into the research mission of the University, and the flexibility of the degree embodies diversity and inclusion by meeting students where they are and valuing their artistic and career goals. The curriculum teaches many of UMKC’s key values – Collaboration is a core skill developed in the program, as are Diversity, Integrity and Accountability.

The degree in Media, Art and Design embraces the strengths of the College of Arts and Sciences, focusing on interdisciplinary study and a “true liberal arts education” by encouraging students to mix coursework in other areas into their work on media, art and design. This degree is housed in the College of Arts and Sciences rather than in a department, showing both the support of college leadership and the willingness of the faculty to work across disciplines. The degree program supports the campus focus on the visual and performing arts and provides support for initiatives in Data Analysis and Digital Humanities. If the B.A. in Media, Art and Design is approved, it will become an Emphasis Area for the B.A. in Computer Science, which illustrates the broad application of the skills the degree teaches.

The MAD degree addresses two pillars of the UMKC Strategic Plan<sup>2</sup>:

Pillar 1: Provide exceptional student learning, success and experience

This degree program is designed with both transfer and first-time college students in mind. It is flexible and allows students to pursue their interests in media, design and communication. Both the flexibility of the degree and its interdisciplinarity and diversity will appeal to students and provide them with a structured yet self-directed program. As outlined in our Assessment Plan, students will create a learning plan that addresses their goals at the beginning of their time in the program and will amass a portfolio of work as they transition to the job market. High-impact opportunities like the Student Advertising Agency, U-News, and Internships will provide students exceptional learning opportunities.

Pillar 2: Become a thriving discovery enterprise

The opportunities for interdisciplinary experiences offered by this degree grant students opportunities for research and real-world experiences. Collaborative programs are already in place between Communication Studies and Computer Science; for example, one course enables

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<sup>1</sup> Full details about UMKC’s Mission, Vision, and Values can be found here:

<https://www.umkc.edu/about/mission.html>

<sup>2</sup> More information on the UMKC Strategic Plan can be found here:

<https://www.umkc.edu/about/strategic-plan.html>



students to undertake Data Journalism projects on both the creative and programming sides. This co-taught course will allow discoveries through interdisciplinary research. The approved electives will continue to grow as we identify opportunities for curricular growth. We will begin course sharing with UMSL in the Spring of 2021 to add an elective in African American Cinema and allow their students to take our Media Ethics course. We are still in conversation about the possibility of sharing electives with MU.

With its innovative and flexible curriculum, this new major has the potential to increase the number of new students attending UMKC. There is opportunity for growth in both first-time college and transfer students. Our plan to craft an online version of the major will mean we can serve a larger student population than is currently possible for existing degrees that focus on these skills.

## **2.B. Duplication & Collaboration within Campus, Across System**

Though there are no programs precisely like the Media, Art and Design program in the System, it does share some learning outcomes with other Communication and Art programs like Digital Storytelling at University of Missouri – Columbia and the Applied Visual Communication degree at UMSL. The major distinctions between MAD and Digital Storytelling are that the Digital Storytelling degree “puts storytelling first” and while there are shared competencies, our program is focused on design, advertising and public relations in addition to multimedia production for digital stories. Our program is designed for transfer students and for that reason is more flexible and broad ranging, focusing on many different modalities of digital production, visual studies and advertising. Similarly, the Applied Visual Communication Emphasis Area in the Communication Studies program at UMSL also teaches digital media skills but is a more focused media production track aligned with broadcast and film production.

While there are certainly overlaps in skills training, but in our contemporary moment mediated messages are a dominant communication medium with many applications and it seems reasonable that they be taught in multiple disciplines from journalism to digital humanities. Just as we might see other foundational communication skills like writing being taught for a number of degree programs, media production, animation and visual studies are applied differently in each degree. Media, Art and Design is unique in that it combines creativity and design with the skills of social media and marketing required for real world applications and is designed to enhance transfer pathways in the Kansas City region.

The College of Arts and Sciences faculty and administration have discussed possible overlaps and course sharing with faculty and administrators from UMSL and University of Missouri -- Columbia. On January 26, 2021, Caitlin Horsmon (Interim Dean for Undergraduate Programs, UMKC) met with Lee Ann Garrison (Director of School of Visual Studies, UMC). They discussed the aims and student population of the two programs and reviewed previous course share experiences. There is interest in exploring the sharing of elective courses. Kati Toivanen (Interim Dean, College of Arts and Sciences, UMKC) met with Andrew Kersten (Dean, College of Arts and Sciences, UMSL) on February 25, 2021 to discuss possible overlap and course sharing between the two campuses – he did not indicate that there were concerns about duplication. Dean Toivanen met with Pat Okker (Dean, College of Arts and Sciences, MU) on March 3<sup>rd</sup> and Dean Okker didn't see any problems with duplication between the Media, Art and Design degree and the offerings in the

College of Arts & Sciences at University of Missouri. Elijah Gowin (Chair, Art & Art History, UMKC) corresponded with Maureen Quigley (Chair, Department of Art & Design, UMSL) on March 5<sup>th</sup>, at which time Professor Quigley said, “I don’t see a conflict with UMSL’s offerings in the near future.” Ye Wang (Chair, Department of Communication Studies, UMKC) has been in conversation Mike Jenner (Houston Harte Chair in Journalism, MU) about identifying Data Journalism courses that UMKC could take as electives. We will continue these conversations to explore the possibilities of inter-campus course sharing and will start an exchange with UMSL in Spring 2021 with two courses, African American Cinema (UMSL) and Media Ethics (UMKC).

We have a history of collaboration between departments and campuses and continue to do work in this area. On the UMKC campus we are working with multiple units in the College of Arts and Sciences – Urban Studies; Race, Ethnic and Gender Studies; English; and History courses appear on the elective list in addition to Art and Communication Studies. Once the degree is approved, we foresee opportunities to collaborate with other academic units on campus, such as a concentration in Media, Art and Design for students pursuing degrees at UMKC in Computer Science. We think this inter-unit collaboration has great potential.

Before the implementation of the Media, Art and Design degree, we pursued course share with the Digital Storytelling major and developed the Story Development course. The course was such a success that it is now being taught independently on both campuses with full enrollments. We’ve discussed collaborations with both University of Missouri at Columbia and UMSL and will be exploring shared electives in Data Journalism with UMC as well as Public Relations writing with UMSL. We plan to continue to develop course share opportunities as the System-wide digital course portal makes it easy for students to enroll and access courses on the other campuses.

As noted earlier, the B.A in Communication Studies with an Emphasis Area in Film & Media Arts will be eliminated with the start of the Media, Art and Design program. The Arts and Visual Communication Minor in the Department of Art and Art History will also be eliminated, and we will continue to poll students and analyze enrollment data to determine if other degree programs can be folded into Media, Art and Design.

### **3. Business-Related Criteria & Justification**

#### **3.A. Market Analysis**

##### **3.A.1. Rationale & Workforce Demand for the Program**

This new major has very promising job growth potential and low unemployment both nationally and regionally. Since this is a broad-based skills degree, students have many options to pursue diverse occupations with an in-demand portfolio of skills. These skills are conceptual and strategic and used in professions such as PR, social-media and advertising—but also involve creative production and could be used in web design, videography, game design, animation, and more. Most of these jobs do not require a graduate degree and are accessible directly after college.

According to Burning Glass data, there are many media professions that will grow in the next ten years ([Appendix 8](#)):

### **Nationally:**

- Advertising and PR jobs up 28%
- Graphic Design jobs up 22%

### **Regionally, in MO and KS:**

- Social Media Strategist jobs up 24.2%
- Front End Application Design up 21.2%
- Product Design up 16.4%

According to the Burning Glass data the average salary in Missouri and Kansas for graduates with media/applied arts degrees is very strong at \$64,914.

According to the same Burning Glass data, key baseline skills employers look for in these design and advertising fields include “communication, collaboration and creativity.” Each of these competencies can be found in this degree’s curriculum and learning outcomes. Classes such as COMM-ST 266 “Design Thinking” which will be required of all students includes all three elements. Upper-level courses extend those skills in creating, communicating and collaborating; projects will often require a team of students to use different skills to construct things like advertising campaigns with PR, marketing and visual design components. One of the Student Learning Outcomes for the degree is for students to be able to “create visual products for diverse audiences and purposes.”

Beyond those baseline skills, the top specialized skills of the applied art professions cited in BG data include: Adobe Photoshop, Adobe After Effects Animation, Adobe Illustrator, Graphic Design, Adobe Acrobat, Motion Graphics, Infographics, et al. All these skills are taught in our program in a variety of classes. UMKC provides these tools for students so that their ability to gain media and technology skills is equitable and robust.

Regional employers and stakeholders highlight the necessity for a breadth of media skills this new degree will provide. (Full letters of support containing these quotes can be found in the [appendix](#).)

Barbara and Robert Unell, Co-founders of Raised with Love and Limits Foundation, state in their letter of support that *“in the case of so many communications professionals we are witnessing firsthand how the definition of marketing communications continues to expand. Our ‘tool kit’ must include digital story-telling, graphic arts, media production, graphic design, advertising, public relations...which are all areas of study in this proposed program.”*

### **3.A.2. Student Demand for the Program**

Since this degree will cast a wide net on skills and career placement within media, art and design, student demand can come from many areas. **The focus of the program is transfer students, who now make up approximately 54% of students in the Department of Art and the Department of Communication Studies.**

As evidenced by enrollments in peer institutions with similar degrees (Appendix 3) and the enrollment, as well as the enthusiastic support from alumni, internship directors and local employers, we feel confident in the academic and financial viability of the program. The Media, Art and Design program is a part of a larger curricular plan for updates to the curriculum in the Department of Communication Studies. Once the Urban Journalism and Strategic Communication Degree is approved (currently under review), the Communication Studies B.A. will no longer have emphasis areas – it currently offers Emphasis Areas in Journalism and Mass Communication, Film & Media Studies and Interpersonal and Public Communication. The department will offer a Communications B.A. with an updated curriculum. Then the Department will have three degree programs (Communications, Film & Media Arts, and Journalism and Strategic Communication) in addition to MAD. These updates will allow us to offer students the credentials they seek and to serve both our First-Time College and Transfer populations well.

Enrollment Projections in Table 1a. are based on our expectations as outlined below. We do not anticipate a great deal of shift of transfer students from the Film & Media Studies emphasis to the MAD degree as the degree requirements are different enough that it would delay their graduation. We do however think there might be some shift of freshman and sophomore students in the emphasis as outlined in the enrollment expectations.

***Enrollment Assumptions***

Year 1: We expect 8 within-campus transfers and 24 new students.

Year 2: We anticipate that our marketing efforts will attract new transfer students from our partner schools, and that we will absorb students that might otherwise have chosen the Film & Media Studies (FMS) Emphasis in Communication Studies. The FMS Emphasis will be removed by the 2023 catalog. Because these students who might have been Film and Media Studies emphasis students will start in the MAD program rather than transferring from another degree program, we have counted them as new students rather than transfers within campus once the emphasis has been deactivated.

Year 3: We expect that our marketing efforts will continue to draw new students to campus and that a new hire specializing in the intersection between technology, media and design will be a draw for students. We’ll also have a larger retention pool from year 1 and 2.

Year 4: After the initial new interest in the program, we continue to anticipate growth, but at a more modest speed.

Year 5: We will continue to anticipate growth and plan for retention but imagine that the initial flush of students will become steady at approximately 69 students.

**Table 1a. Student Enrollment Projections** (anticipated total number of students enrolled in the program during the first five fall semesters following implementation.)

<b>Year:</b>	<b>1 (2022-23)</b>	<b>2 (2023-24)</b>	<b>3 (2024-25)</b>	<b>4 (2025-26)</b>	<b>5 (2026-27)</b>
<b>Full-time</b>	30	45	58	65	69
<b>Part-time</b>	-	-	-	-	-
<b>Total</b>	30	45	58	65	69

**Table 1b. New Student Enrollment Projections** (anticipated number of students enrolled in the program during the first five fall semesters following implementation that are new to the University.)

<b>Fiscal Year:</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Full-time</b>	22	43	56	63	67
<b>Part-time</b>	-	-	-	-	-
<b>Total</b>	22	43	56	63	67

**Table 1c. Projected Number of Degrees Awarded**

<b>Year:</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b># of Degrees Awarded</b>	<b>0</b>	<b>4</b>	<b>8</b>	<b>11</b>	<b>13</b>	<b>14</b>	<b>17</b>	<b>19</b>	<b>20</b>	<b>20</b>

### **3.B. Financial Projections**

The financial projections are outlined in the attached Pro Forma and in the detailed notes. Those assumptions are also summarized below.

**The Media, Art and Design degree will begin making a profit by year one.** Because this degree primarily uses existing faculty, equipment, and courses, it has low start-up costs and will quickly transition first and second-year students who would have been in the Film & Media Studies Emphasis in the Communication Studies Department into the Media, Art and Design program. We do not anticipate a great deal of shift of transfer students from the Film & Media Studies emphasis as the degree requirements are different enough it would delay their graduation.

Our estimates for the number of students are based on current inquiry data included in Appendix 6 and transfer student numbers at UMKC. The inquiry data comes from Slate, which our recruiters use to track student interests in programs. As one can see there is high interest in areas like Media, Art and Design and the College of Arts and Sciences recruiters agree that we can yield more students with these interests with this degree. The pro forma anticipates that students will be enrolled in 9 hours of major courses per year if they start as freshmen, and 18 hours if they come in as transfers, but that all students will take 30 credits per year total. It is estimated that first-time college students will take four years to complete the program and transfer students will take two. Internal transfers (transfers within campus) are estimated to take 18 hours of major coursework per year for one year. Retention rates are aligned with retention rates in the departments contributing to the program.

We anticipate that enrollment will grow in Year 2 (2023-2024) as we are able to deploy marketing materials and advertise our 2+2 agreements. In the years following, we anticipate that this program will start to draw more new majors to campus. It is our goal to use this major to recruit new students to campus.

**We will not make any new full-time hires for this program until we have achieved 50 majors in the program (Year 3 in the Pro Forma).** Other teaching needs can be covered by adjunct instructors until that time.

### **3.B.1. Additional Resources Needed**

Costs listed here will be included as part of the annual budgeting process for the College of Arts and Sciences.

**Faculty Salaries:** We have budgeted for additional adjunct instructors in the first two years, then one tenure-track hire in Year 3 contingent on meeting enrollment projections. An enrollment of 50 students will be necessary to make the faculty hire. This hire will only be made if these enrollments are reached, and would expand our offerings in animation, game design, interactive design, VR and data analysis.

**Noncapital Equipment:** In Years 3 and 4 we've included a budget for upgraded computer equipment for the hires. Our new tenure-track media specialists will require specialized computer equipment. The other equipment necessary for the program is already in place including media production equipment, 3 studios (TV, Radio and Film) and a computer lab.

**Supplies:** Average supply costs for copies and other miscellaneous.

**Marketing Costs:** We've included \$2500 for initial marketing efforts and \$1000 per year after that. This number will address our marketing to our partner schools and developing materials for our recruiters. We will initially be focused on online/video marketing materials produced by our graduates and targeted to students interested in Art, Media and Communication Studies, both first-time college students and those who have completed their AA at local community colleges. In subsequent years we will work with our student Advertising Agency to create a print campaign with advice from our recruiters and feedback from student surveys of majors. Once we are ready to offer an online degree pathway, we will work with the Office of eLearning to come up with a marketing strategy.

**Travel & Training:** Some training funds are budgeted for technical training.

**Misc. Expenses:** This is budget for additional repair and support of equipment and computers.

**Course Development:** All of the course development has been completed and the courses have been approved at the campus level.

**Start-up:** \$10,000 of startup costs have been budgeted for the new faculty hire's research activities. These expenses will be incurred only if the conditions for hiring the new faculty member are met (see Faculty Salaries, above).

### **3.B.2. Revenue**

Revenue for the Media, Art and Design Program will come from tuition and fees. Fee revenue will be reinvested to support the equipment, computer and software needs of the program.

### 3.B.3. Net Revenue

Revenue will exceed expenses in year one of the program. Though there are expenses associated with the production courses, they are already covered by the other degree programs they support and would therefore not be new or additional expenses. For example, COMM-ST 250 is required for the Film & Media Arts B.A. and is an elective for the Media, Art and Design B.A. and the Communication Studies B.A. This course has a course fee so that students get both Adobe software and media equipment to use.

**Table 2. Financial Projections for Proposed Program for Years 1 Through 5.**

	Year 1	Year 2	Year 3	Year 4	Year 5
<b>New Student Enrollment</b>		<b>28</b>	<b>58</b>	<b>65</b>	<b>74</b>
<b>1. Expenses per year</b>					
<b>A. One-time</b>					
<i>New/Renovated Space</i>	-	-	-	-	-
<i>Equipment</i>	-	-	-	-	-
<i>Library</i>	-	-	-	-	-
<i>Consultants</i>	-	-	-	-	-
<i>Others</i>	-	-	10,000	-	-
<b>Total one-time</b>	-	-	10,000	-	-
<b>B. Recurring</b>					
<i>Faculty</i>	6,120	6,242	80,652	95,254	97,159
<i>Staff</i>	-	-	-	-	-
<i>Benefits</i>	468	478	28,426	29,988	30,587
<i>Equipment</i>	-	-	1,840	1840	-
<i>Library</i>	-	-	-	-	-
<i>Other</i>	21,498	32,578	52,483	51,709	62,252
<b>Total recurring</b>	28,086	39,294	163,401	178,791	183,876
<b>Total expenses (A+B)</b>	28,086	39,294	164,401	178,791	183,876
<b>2. Revenue per year</b>					
<i>Tuition/Fees</i>	254,286	390,677	510,711	589,022	643,721
<i>Institutional Resources</i>	-	-	-	-	-
<i>State Aid – CBHE</i>	-	-	-	-	-
<i>State Aid – Other</i>	-	-	-	-	-
<b>Total revenue</b>	254,286	390,677	510,711	589,022	643,721
<b>3. Net Margin (Campus)</b>					
	158,390	334,091	328,672	392,241	432,496
<b>4. Cumulative Net Margin (Campus)</b>					
	154,162	488,254	816,926	1,209,167	1,641,663

### 3.B.4. Academic and Financial Viability

One of the strengths of the Media, Art, and Design program is the re-use of existing resources. As the program builds on already vibrant departments, faculty and degree programs, it can immediately sustain academic and financial viability within already existing structures. It has low risk – needing only 2 new courses that will be taught by existing tenure-track faculty and that will also be electives for other degree programs. Given this architecture, a small number of students makes the program economically viable, and although we anticipate growth, even in the first year the program will be profitable. Notably, by waiting to make new hires, the program can absorb both the start-up and salary costs of those faculty by building enrollment before making hires.

As outlined in the exit plan there are assessments in place to evaluate the success of the program, student interest and student outcomes that will help to guide the program’s future. Even as the program grows and requires new equipment or space, there are course fees in place to cover those costs. The B.A. in Media, Art and Design has a balance of high-impact, hands-on courses and larger studies courses which create a balance between giving students the expertise they need while having economically viable class size averages over the program.

**Table 3. Enrollment for Academic and Financial Viability**

<b>Viability</b>	<b>Minimum Enrollment</b>
<b>Academic</b>	<b>15</b>
<b>Financial</b>	<b>15</b>
<b>Overall</b>	<b>15</b>

### 3.C. Business Plan: Marketing, Student Success, Transition & Exit Strategies

#### 3.C.1. Marketing Plan

The College of Arts and Sciences has two recruiters who work with the Office of Admissions to recruit students for all the programs in the college. We have already started conversations with them about marketing this degree, focusing on our transfer student population. We will continue to develop those plans and in addition to traditional recruitment, a digital campaign is under consideration with MCOM, our media/communication department, and Egghead, the student advertising agency who will develop a student-driven social media campaign to bring attention to the major.

In addition to adding the Media, Art and Design degree to degree offerings discussed by our unit recruitment office, we plan to do extensive outreach to promote this new major. Faculty will work with our community college partners to find opportunity for class and campus visits, and we are already working on 2+2 agreements to make transfer students ready to enter already having done some of their required course work. Once the major is approved, Caitlin Horsmon, Interim Associate Dean Undergraduate Programs and Associate Professor in Communication Studies, will work with the College of Arts and Sciences recruiters on video content marketing for the major made by recent UMKC graduates. This activity is a part of her service responsibilities and would continue regardless of her role in the Dean’s office.



### 3.C.2. Student Success Plan

The program will plan to support and retain students through graduation by proven methods – clear advising, faculty mentorship and offering hands-on engagements in and outside of the classroom. Both departments offer scholarships, student organizations and frequent exhibition opportunities. Research has shown that flexibility and student-driven curriculum planning is effective in retaining students and supporting diversity and inclusion<sup>3</sup>.

This learning agreement will clarify individual student goals, course of study, faculty mentors and internship opportunities. We have learned through a student survey in the Department of Art that students like a variety of formats that include both in-class and online options. Our new program offers options where we will utilize hybrid, in-class and online class format during study to give flexibility to students in various modes of class delivery. We have already had many successful years of online and hybrid class delivery, so we are prepared for delivering courses in modalities that best serve students.

### 3.C.3. Transition Plan

There is no single individual who is primarily responsible for the program. The chairs of Communication Studies and Art & Art History will collaborate on the success of the program, and if the people in those roles shift, the program will remain a part of their responsibilities.

### 3.C.4. Exit Strategy

If the Media, Art and Design major is significantly under-enrolled or not attracting students as predicted after two years, faculty will do research with current and former students to address inadequacies. **If the program doesn't have an average graduation of 10 students a year at the 5<sup>th</sup> year, the program would be placed on inactive status.**

## 4. Institutional Capacity

Since the program is made up mostly of already existing courses, at the start, the only additional burden will be offering ART 320 and COMM 266, the two new foundation courses for the degree. These courses were designed by and will be offered by full-time faculty. Other courses these faculty might have taught will be covered by adjuncts until we have substantial enough enrollment to move ahead with new hires. We already have excellent infrastructure in place to offer high-impact production courses like our Advertising Agency course, media production courses and data journalism. Media, Art and Design students will make these operations even more efficient by adding to the number of students being served. The staff members who support the Communication Studies and Art and Art History departments will be able to absorb the additional students, as will Kevin Mullin – Media Specialist II, who oversees our equipment and media labs.

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<sup>3</sup> Nelson Laird, Thomas F., "Reconsidering the Inclusion of Diversity in the Curriculum." *Diversity & Democracy*. Fall 2014, Vol.17 No. 4. Accessed February 1, 2021 <https://www.aacu.org/diversitydemocracy/2014/fall/nelson-laird>

Our new program will utilize a mix of teaching modalities, including online and hybrid delivery as well as traditional in-person classes. We believe this variety of teaching modes will add to the success of our program as students are looking for more flexibility in their education. As our two departments teach both lecture-style classes as well as creative production classes in specific lab spaces (like video production), we have learned that all classes do not translate online equally. In a student survey on class modality in the fall of 2020, we collected data that showed which modes were the most successful, had positive student feedback and provided insight on how to best organize our class in future semesters. This knowledge will be used to bring success to the new Media, Art and Design degree.

Both the Departments of Art and Art History and Communication Studies have the instructors, experience and technical support to offer some of this degree for online instruction, both synchronously and asynchronously. The Department of Art and Art History has a long tradition of offering classes online, teaching foundation and digital design courses online since 2016. This department also has a minor in Art and Visual Communication, offered almost entirely online. The Department of Communication Studies offers online courses in film, journalism and communication studies, balancing online offerings with hands-on production courses. The UMKC Instructional Design & Technology group and the UMKC Technology Support Center have provided the resources and support for faculty and student success. All instructors and courses in both departments are online certified, build social interactions between students, and deliver dynamic content to keep students engaged.

We have also considered where extra costs and other difficulties might arise in teaching specific skills online and remotely. For example, as many of our production classes use specific software, we have been providing students with remote licenses for imaging software as they work off campus. Student feedback makes clear that providing remote software has been vital in student retention and academic success. Through ongoing discussions with students and faculty, we are highly aware that it is necessary to balance the needs of students working remotely while also managing those costs.

## **5. Program Characteristics**

### **5.A. Program Outcomes**

The B.A. in Media, Art and Design will prepare students to think critically about visual culture and its impact on society, to generate and apply visual knowledge to the effective analysis of information coming from different fields, and to produce images and objects of great aesthetic and social relevance. The interdisciplinary curriculum offers students the opportunity to acquire valuable skills for developing careers in advertising, art, data visualization, digital media, graphic design, and public relations. It also offers a solid foundation in the history of visual technologies and their recent developments.

#### **Goals:**

- Become accomplished producers and interpreters of visual culture in visual and written form using an interdisciplinary lens.
- Create visual artifacts that effectively communicate ideas.
- Produce a body of work demonstrating technical and creative command of visual and written forms.

- Communicate concisely, coherently, and effectively, both orally and in writing.

#### **Student Learning Outcomes:**

- Analyze information coming from multiple fields of study and identify meaningful correlations. *Assessed/Artifact for Portfolio gathered in the Ways of Seeing Course with project on Historical Context of Visual Technology*
- Create visual products for diverse audience groups and purposes. *Assessed/Artifact for Portfolio gathered in Design Thinking Course and Portfolio.*
- Balance aesthetic and usability goals in the design of images and objects. *Assessed/Artifact for Portfolio gathered in Design Thinking Course and Portfolio.*
- Interpret visual culture using an interdisciplinary lens. *Assessed/Artifact for Portfolio gathered in the Ways of Seeing Course with Comparative Analysis of Visual Artifacts*
- Apply design thinking to creative work and problem solving. *Assessed/Artifact for Portfolio gathered in Design Thinking Course and Portfolio.*

Additional Courses where Artifacts would be gathered for Portfolio Assessment:

COMM-ST 439 Student Advertising Agency

COMM-ST 339 Introduction to Film Theory

COMM-ST 471 Advanced Media Production

ART 375 Interdisciplinary Studio Projects

ART 488 Creative Project Development

## **5.B. Program Design & Content**

A Curriculum Committee consisting of Art, Art History, and Communication Studies faculty was established to design the curriculum. We first examined comparable programs of study to identify their strengths and study how they structure their course offerings.

The degree program was designed to address student demand, to consolidate degree programs and think creatively about how to work across disciplines. The committee established that successful degrees in art, media, and design typically require students to acquire not only practical abilities in the implementation of visual technologies, but also theoretical and historical perspectives on their uses. They also emphasize interdisciplinary study over area-specific knowledge to prepare students for an evolving job market which calls for a wide range of aptitudes. The committee also found that such degrees cultivate critical thinking skills to train professionals who can easily assess visual information and come up with creative solutions for making evident data correlations that might otherwise go unnoticed.

Based on these findings, the committee designed a well-balanced curriculum to offer foundational skills for future advertisers, artists, designers, data visualization developers, graphic designers, media producers and analysts, and PR professionals. At the beginning of the program, all courses will be covered by current faculty members of the Art and Art History Department and the Communication Studies Department. Hires in data visualization, design and visual studies will enhance the initial course offerings and prepare students even more so for the job market demands.

## 5.C. Program Structure

MAD includes the following course range:

### Required Foundational Coursework [9 credit hours]

(3 courses offering a foundation in media, design, and visual studies)

- **Art 114 Foundation Digital Design**

This is an introductory course on techniques, practical applications, and aesthetic considerations for digital arts, graphic design, and computer multimedia. Students will create visual projects and learn to participate in a creative class community.

- **COMM-ST 266 Design Thinking**

This new introductory course will familiarize students with how to conceptualize and implement design ideas.

- **ART-HIST 320WI Ways of Seeing**

This new writing-intensive course introduces students to the history and theory of visual culture. It offers interdisciplinary tools for interpreting images in relation to changing visual technologies and cultural perceptions.

### Required Electives [9 credit hours]

(Students will choose 3 of the following introductory courses; after completing 9 credits, all of these courses can count as electives too.)

- Art 121 Foundation 2D Design
- Art 105 Introduction to Photography or Art 206 Photography I
- ART-HIST 110 Introduction to History of Art: From Pyramid to Picasso
- COMM-ST 230 Introduction to Film Studies
- COMM 250 Introduction to Film and Video Production
- COMM 3XX Digital Media Toolkit

### Required Upper-Level Course [3 credit hours]

(Students will take 1 of the following upper-level courses; all of these courses also count as electives.)

- ART 488 Creative Project Development
- ART/COMM-ST 439 Student Advertising Agency
- ART-HIST 303 World Currents of Contemporary Art
- ART-HIST 315 Arts of African and New World Cultures
- COMM-ST 339 Introduction to Film Theory
- COMM-ST 471 Advanced Media Production
- ART 375 Interdisciplinary Studio Projects

### Electives = 15 credit hours

(Students will take 5 courses out of any of the following three advising tracks (digital media, visual studies, and design/advertising/PR; at least 15-credit hours out of the total number needed for the degree need to be taken at 300-400 level).

**5.C.1. Program Structure Form**

1. **Total Credits Required for Graduation:** 120 (UMKC standard)
2. **Residence requirements, if any:** 30 credit hours (UMKC standard)
3. **General education**
  - a. Total general education credits: 30 (UMKC Essentials)

Courses (specific course or distribution area and credit hours):

Course	Hrs	Course	Hrs	Course	Hrs
GEFSE	3	GECRT-SC	3		
ENGLISH 110	3	GECRT-SS	3		
ENGLISH 225	3	GECDV	3		
Oral Comm.	3	GECUE	3		
Math Pathway	3				
GECRT-AH	3				

4. **Major Requirements**
  - a. Total credits specific to degree: 36

Courses (specific course or distribution area and credit hours):

Course	Hrs	Course	Hrs	Course	Hrs
Foundations of Digital Media	3	<i>3 courses of the following:</i>	9	<i>1 course of the following:</i>	3
Design Thinking	3	Foundations of 2D Design		Creative Project Development	
Art History: Ways of Seeing	3	Intro to Photography		Student Advertising Agency	
		Intro to the History of Art		World Currents of Contemporary Art	
		Intro to Film Studies		Arts of African and New World Cultures	
		Intro to Film & Video Production		Advanced Media Production	
		Digital Media Toolkit		Interdisciplinary Studio Projects	

Advising Tracks – 15 credit hours from any of these electives – Advising tracks are suggestions for specialization but are not required.

Digital Media	15 hrs	Visual and Cultural Studies	15 hrs	Design, Advertising and PR	15 hrs
Course	Hrs	Course	Hrs	Course	Hrs
Photography I	3	From Cave Paintings to Cathedrals	3	Photography I	3

Digital Video & Motion Design I	3	From Michelangelo to Modernism	3	Intermediate Drawing	3
3D Modeling and Animation	3	Asian Art	3	Painting I	3
Special topics in Studio Art	3	Museums, Monuments, and American Life	3	Print Media I	3
Art Internship	3	Made in the USA: Latinx Art	3	Figure Drawing I	3
Intro to Journalism	3	Whose America: Modern Art	3	Graphic Design and Typography I	3
Radio & TV Performance	3	Northern European Art: 15 <sup>th</sup> and 16 <sup>th</sup> Centuries	3	Graphic Design and Typography II	3
Data Journalism	3	15 <sup>th</sup> Century Italian Art and Architecture	3	Interdisciplinary Studio Projects	3
Art of the Short Film	3	Greek Art and Architecture	3	Advertising Campaigns	3
Art of the Interview	3	History of Photography	3	Special Topics in Studio Art	3
Screenwriting	3	Participatory Forms of Spectatorship	3	Creative Project Development	3
The New Feature Writing	3	Contemporary Art & the Mind	3	Art Internship	3
U-News Practicum	3	Art Museums: History and Practice	3	History of the Designed Environment I	3
Radio Production I	3	Site-Specific Art	3	History of the Designed Environment II	3
Intermediate Media Production	3	Painting I	3	History of the Designed Environment III	3
History of the Film Industry	3	Art Internship	3	Intro to Web Communication	3
Cross-cultural Journalism	3	Special topics in Studio Art	3	Data Journalism	3
Documentary Production	3	Intro to Film Theory	3	Computer-Mediated Communication	3
Animation	3	Art of the Short Film	3	Principles of Advertising	3
Media Ethics	3	Film Adaptation	3	Interactive and Social Media Advertising	3
Topics: Sound & Cinema	3	Ancient World in Cinema	3	Principles of Public Relations	3
Topics: Gender & Cinema	3	Concepts of the Hero	3	Communication in Organizational Settings	3
Interactive and Social Media Advertising	3	German Film	3	Strategic Communication Research	3
Electronic Journalism	3	Intro to Screenwriting	3	Publication Practicum	3
Advanced Electronic Journalism	3	History of the Film Industry	3	Creative Non-Fiction	3
Advanced Screenwriting	3	The Worlds of Alfred Hitchcock	3	Digital Humanities	3
Client-based Media Production	3	Topics in World Cinema	3		
Directing Actors and Scenes	3	Topics: Sound & Cinema	3		
Media Law	3	Topics: Gender & Cinema	3		
Oral History	3	Intercultural Communication	3		
Rhetorics of New Media	3	Museum Studies	3		
Creative Non-Fiction	3	Rhetorics of New Media	3		

Digital Humanities	3	Digital Humanities	3		
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- a. Note: At least 15 credit hours of the major course work must be on 300 or 400 level.
5. **Free elective credits**
  - a. Total free elective credits: 54
6. **Requirement for thesis, internship or other capstone experience:**  
Internships are recommended and can be included in any advising track.
7. **Any unique features such as interdepartmental cooperation:**  
The Departments of Communication Studies and Art and Art History are the main collaborators for this degree. Other departments such as REGS, Computer Science, English and History may provide coursework as well.

## 5.D. Program Goals and Assessment

### Assessment of Student Learning:

#### Portfolio Assessment:

The assessment of student learning for the program will be based on a portfolio compiled from work completed in the three required courses and the upper-level course they've chosen from the list. We will use Portfolium in Canvas to gather the artifacts.

#### Reflective Assessment:

In the Design Thinking course, students in the Media, Art & Communication program will create a learning contract that addresses their goals for the program. With the help of their advisor, they will create a course mapping that fits their specific career and artistic goals. Using their portfolios, students will do a reflective assessment at the end of their 3<sup>rd</sup> and 4<sup>th</sup> years to assess their progress, adjust their goals and reflect on their learning.

Our goals for retention and graduation are to be at or above UMKC averages, so we're striving for 75% retention and a 6-year graduation rate of 50%.

Our initial pooling of employers and Burning Glass data shows promise for placement rates, and data from our peer institutions shows that our enrollments should be strong and steady. As Courtney Wasson, Executive Director of Studios Inc. says, *"Again, this shared degree seems like a logical next step for UMKC as it reflects current workforce demands and trends."*

## 5.E. Student Preparation

The Media, Art and Design program does not require any specialized admission procedures or student qualifications. This degree program was designed with our large transfer population in mind and creates an excellent pathway for students from area community colleges who have AA degrees in Art, Communications and Design. The flexibility of the degree and 36-hour major mean that any transfer student coming to UMKC as a Junior should be able to easily complete the degree

in two years. The degree program will also be appealing to first-time college students who want a more exploratory option than the more structured studio degrees. We will be gathering data during the first few years of the program to determine if the Media, Art and Design degree might someday replace the Art History degree and even possibly the Studio Art BA.

## 5.F. Faculty and Administration

The faculty in the Communication Studies and Art & Art History departments will be responsible for the teaching in the program along with colleagues in other departments that have electives included in the program. Because this is primarily a repackaging of existing courses, there are no additional faculty expectations beyond their current responsibilities. Many of the courses model real-world experiences and some give students the opportunity to interact with clients – like the Advertising Agency course. Advising will be handled by the centralized advising structure, but faculty in the Film & Media Arts area, Art History and Studio Art will serve as faculty mentors for students in the program. Production activities will be supported by staff member Kevin Mullin, who oversees the equipment, and lab activities in Communication Studies. The program will be supported by the administrative staff from both departments. The expectations for faculty engagement will be as it is now – with faculty engaged in field trips, connecting with internship sites, hosting a student media showcase each semester, overseeing student groups and so on.

The percentage of credit hours assigned to full-time faculty members is hard to determine because of the overlaps between majors and programs. The new courses will be taught by full-time faculty – Cristina Albu, Larson Powell and Caitlin Horsmon.

### Department of Art and Art History

Gowin 1/1 (TT; Chair release)

**Elijah Gowin, Professor**, specializes in photography, both analog and digital, with an eye on post-graduation readiness courses such as Art & Entrepreneurship.

Allman 2/2 (TT)

**Ricky Allman, Professor**, specializes in painting, drawing, public art murals and installation art.

Anderson 2/2 (TT)

**Barry Anderson, Professor**, specializes in new media with particular interest in video production, virtual reality (VR), and 3-D animation.

Shin 2/2 (TT)

**Hye Young Shin, Associate Professor**, teaches print media, with expertise also including drawing and book arts.

Albu 2/2 (TT)

**Cristina Albu, Associate Professor**, specializes in research focused on interconnections between contemporary art, technology, and cognitive sciences.



Hartman 2/2 (TT)

**Joseph R. Hartman, Assistant Professor**, specializes in research focused on modern/contemporary Latinx and Latin American art, architecture, and experience.

Toivanen 2/2 (TT; presently Interim Dean)

**Kati Toivanen, Professor**, teaches Digital Foundations, with a focus on Digital Imaging, as well as Capstone courses for our Studio Art Minors and Majors.

Tosh 3/4 (TT)

**Paul Tosh, Associate Professor**, teaches Graphic Design and Illustration with a focus on facilitating freelance readiness with the Egghead Design Agency course.

Watne 4+4+gallery service (NTT)

**Davin Watne, Lecturer**, teaches a variety of foundation courses including drawing, painting, digital design and 2D fundamentals. In addition to his teaching, Davin is the director of the UMKC Gallery of Art which provides hands-on experience for students in exhibition curation, art handling, and the fundamentals of art & commerce.

## Department of Communication Studies

Brian 4/4 (NTT)

**Mitch Brian, Associate Teaching Professor**, specializes in Screenwriting and American Cinema history.

Dufresne 5/5 (NTT)

**Jean Dufresne, Lecturer**, specializes in Gender and Interpersonal Communication.

Elam 4/4 (NTT)

**Angela Elam, Assistant Teaching Professor**, is an award-winning radio host specializing in digital storytelling.

Elliot 2/2 (TT)

**Lyn Elliot, Professor**, is an internationally recognized narrative filmmaker specializing in short-form filmmaking and screenwriting.

Horsmon 2/2 (TT; presently serving as Interim Associate Dean)

**Caitlin Horsmon, Associate Professor**, has exhibited her experimental and non-fiction film, videos and installations around the world. Her areas of specialty are animation, experimental and non-fiction film and video.

Kraske 3/1/4 (NTT)

**Steve Kraske, Associate Teaching Professor**, is a well-known journalist who hosts a daily radio talk show on KCUR, Up to Date, and was a reporter and member of the Kansas City Star's editorial board.

Kurz 4/4 (NTT)

**Linda Kurz, Associate Teaching Professor**, specializes in public speaking.

McCormick 4/4 (NTT)

**Judy McCormick, Teaching Professor**, specializes in interpersonal communication.

Melling 4/4 (NTT)

**Steven Melling, Associate Teaching Professor**, specializes in the rhetorics of political speech.

Morello 3/3 (TT)

**Peter Morello, Associate Professor**, was an on-air reporter and specializes in media performance.

Powell 2/2 (TT)

**Larson Powell, Curators' Professor**, is a scholar specializing in the history and theory of German cinema, film music and historiography.

Wang 2/2 (TT; presently serving as Interim Chair)

**Ye Wang, Associate Professor**, does research on advertising on the internet and data journalism.

## **5.G. Alumni and Employer Survey**

Feedback from alumni and employers is an important aspect of the Media Art and Design degree. We will have a regularly occurring exit survey for all graduates in order to seek input regarding their satisfaction and potential revisions to our MAD curriculum. Feedback from these surveys will be instructive to the development of this proposal. We intend to continue with periodic surveys of alumni and employers from both Departments of Art & Art History and Communication Studies.

## **5.H. Program Accreditation**

The program will not seek accreditation as there is no accrediting body for programs of this kind.

## 6. Appendices

### Letter of Support from Associate Dean Beth Vonnahme



College of Arts and Sciences  
Office of the Dean

#### MEMORANDUM

To: UMKC Academic Innovation Team  
From: Dr. Beth Vonnahme  
Date: October 7, 2020  
RE: MAD Degree

Dear Members of the Academic Innovation Team,

The College of Arts and Sciences Dean's Office supports the proposed undergraduate degree program in Media Art and Design and the estimated budget plan put forth by the Department. Please let me know if there are any further questions about the proposed degree program.

Sincerely,

A handwritten signature in black ink, appearing to read "Elizabeth Vonnahme", is positioned above a faint, light-colored rectangular stamp.

Dr. Beth Vonnahme  
Associate Dean, College of Arts & Sciences  
Associate Professor, Department of Political Science

## Appendix 7: Letters of Support



Office of the Provost and Executive Vice Chancellor

April 6, 2021

Board of Curators  
University of Missouri System

Dear Board of Curators,

I am writing to share my full support for the Bachelor of Arts (BA) in Media, Art, and Design (MAD) degree program at the University of Missouri-Kansas City. I'd like to highlight four aspects of the program that distinguish it from similar programs and/or that increase its likelihood of success. First, UMKC has recently undergone UMKC Forward a comprehensive University assessment and re-envisioning. As part of that process we identified several programs to eliminate on the basis of lack of student demand, with the goal of redirecting faculty and staff resources to other programs for which there is demand on the part of our students and our regional and state-wide economy. The Media, Art, and Design BA is a great example of a core discipline re-design to focus on highly relevant and applied competencies linked to student career opportunities. One only needs to look at their phone to be reminded of the ways in which applied arts grounded in visual communication and design thinking impact us and our work on a daily basis. Notably, the Department of Art and Art History is closing its under-enrolled MA in studio art, which allows faculty additional capacity to support this new program.

A second strength of this proposal is its delivery in an urban community known for its support and promotion of [visual and performing arts](#), as well as its [technology and communications sectors](#) (e.g., headquarters for Cerner, Garmin, Sprint). The opportunities for service learning and internship experiences for students enrolled in this program, as well as job placement upon graduation are abundant. Our campus-wide investments in student support, including career services will support students in this program in their professional development and employment post-graduation.

Third, this program builds on UMKC's strength in interdisciplinarity. This program highlights the possibilities for students when disciplines break-free from traditional boundaries and focus on innovation and applied competencies. The faculty who will teach in this program bring with them disciplinary and interdisciplinary expertise and experiences that will provide students with the foundational knowledge and technical skills necessary to succeed upon graduation. As noted in the proposal, this is going to be a highly attractive degree to students transferring to UMKC, particularly those with interest in traditional liberal arts education with highly applied relevance at the bachelors degree level.

Board of Curators

Page 2

April 6, 2021

Lastly, this program can be launched with very few new resources (two new courses approved by the campus curriculum committees) and a collaborative group of faculty who have been planning this degree proposal with intentionality and a spirit of innovation. The faculty who will teach in this program are productive, dedicated professionals who will ensure its success. They have thoughtfully designed the curriculum with a mix of core competencies and flexibility necessary to serve students with diverse interests and desired career outcomes. This program is poised to be a keystone for the new School of Arts, Culture, and Social Sciences that will launch in Fall 22 (another UMKC Forward outcome).

In summary, this program is well designed, interdisciplinary, and envisioned with student success (based on market demand) as the ultimate goal. It has my full support and assurance that it is ready to launch without significant additional investment. Please do not hesitate to reach out to me if you have questions or need clarification about the degree proposal.

Best regards,

A handwritten signature in black ink that reads "Jenny D. Lundgren". The signature is written in a cursive, flowing style.

Jenny Lundgren, PhD  
Provost and Executive Vice Chancellor  
UMKC

TO: Caitlyn Horsmon, Interim Associate Dean for Undergraduate Programs,  
College of Arts and Sciences, University of Missouri-Kansas City  
RE: New Degree Proposal, BA in Media, Art & Design  
From: Lee Ann Garrison, Director, School of Visual Studies, College of Arts & Science  
University of Missouri-Columbia

I am writing to give my thoughts on your Bachelor of Arts in Media, Art and Design (MAD) program proposal for a new degree you hope to begin in Fall 2022.

Below I have a few specific thoughts for the new MAD degree.

I spoke with you earlier and understand the focus of the new program is with transfer students, who now make up approximately 54% of students in the Department of Art and the Department of Communication Studies. I am a big proponent of working with community colleges to provide easy transitions from the 2-year Associates degree to the 4-year BA degree. It is a great benefit to increase college degrees to citizens of Missouri.

In your proposal, the Required Foundational Coursework (3 courses offering a foundation in media, design, and visual studies) are:

- Art 114 Foundation Digital Design

This is an introductory course on techniques, practical applications, and aesthetic considerations for digital arts, graphic design, and computer multimedia. Students will create visual projects and learn to participate in a creative class community.

- COMM-ST 266 Design Thinking

This new introductory course will familiarize students with how to conceptualize and implement design ideas.

- ART-HIST 320 Ways of Seeing

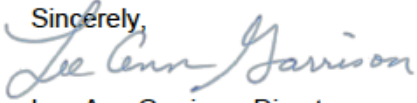
This new writing-intensive course introduces students to the history and theory of visual culture. It offers interdisciplinary tools for interpreting images in relation to changing visual technologies and cultural perceptions.

My question: Do the Kansas City area community colleges offer these three courses or equivalents or will students need to go back and take these 100 level courses once they enter UMKC? If not, have you spoken to them about the new BA proposal and suggested they create equivalent courses for easy transfer and graduation from UMKC in four years?

This letter is written to support your proposal to create a new Bachelor of Arts in Media, Art & Design. The University of Missouri-Columbia's School of Visual Studies programs and the related programs at UMKC are allies in the state, and we hope to increase opportunities for partnership and collaboration in the future. Your new proposal is different enough from our Digital Storytelling BA program and Graphic Design track in the Art BA program that I do not see a duplication. I am happy to fully endorse this proposal.

Please let me know if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Lee Ann Garrison".

Lee Ann Garrison, Director  
School of Visual Studies



March 26, 2021

University of Missouri Board of Curators  
316 University Hall  
Columbia, MO 65211

Dear Board of Curators:

Faculty at the University of Missouri – Kanas City have discussed with us the development of their new, interdisciplinary program in Media, Art, and Design. This proposed program and UMSL's program in Applied Visual Communication target different markets and have different areas of focus. Therefore, we see them as complementary rather than competitive. We do not anticipate that one will impact the enrollment of the other. Furthermore, we believe there are areas where we can collaborate to allow each university to deliver its programs and meet the needs of its respective communities more efficiently. For example, we are currently exploring cross-listed elective courses in subjects that are suitable for distance learning that could be taken by students at either university.

We look forward to continuing to work alongside our colleagues at UMKC in order to strengthen opportunities for students across our state in these dynamic and exciting fields.

Sincerely,

A handwritten signature in blue ink, appearing to read "Alice Hall".

Alice Hall  
Chair, Department of Communication and Media  
University of Missouri -St. Louis





## METROPOLITAN COMMUNITY COLLEGE

Blue River | Business & Technology | Longview | Maple Woods | Penn Valley | Online

Elijah,

I am so excited to offer my support and encouragement for a joint BA Degree in Media, Art and Design between the Department of Communication Studies and the Department of Art and Art History at UMKC!

As the coordinator of art at the Blue River campus of Metropolitan Community College I can attest to creative artistically driven students desire for a major that offers skill-building leading to job placement. Not just repeating the intention of the major, I do have students that desire a clear education tract and clear job prospects. I also love that the broad range of courses would still allow for exploration of interests while they were building those skills.

MCC is working to clearly define pathways to graduation. These are not majors but, are a clear grouping of classes within an area of interest that would lead to a timely graduation and a clear transfer. In that MCC and UMKC already have a transfer agreement and that we have clearly identified our core 42 and MOTR classes (the Missouri transfer number), this new major would benefit our students greatly.

I am really optimistic about this plan, especially for our students who have persevered through the challenges this year offered. This degree would be an exciting direction to offer my students personally and to offer to the district art students at large.

Please keep me informed on how we can support this.

Best.

**DeAnna Skedel**  
Coordinator of Art  
MCC-Blue River  
Office: 816-604-1000 20301

East 78 Highway, Independence, MO 64057-2052 [DeAnna.Skedel@mccck.edu](mailto:DeAnna.Skedel@mccck.edu) | [www.mccck.edu](http://www.mccck.edu)



JOHNSON COUNTY  
COMMUNITY COLLEGE

12345 College Blvd. • Overland Park, KS • 66210-1299

November 17<sup>th</sup>, 2020

To Whom It May Concern:

It is with much enthusiasm that I recommend the development of a Media, Art and Design degree at UMKC. This type of interdisciplinary degree path exemplifies where careers in the arts function best. We are people of collaboration and creativity. We thrive in worlds with flexibility. This degree will offer the flexibility artists thrive in as it allows for students to imagine how they would like to map out their education and tailor it to their own ambitions. For some students, that would mean focusing on industry and commercial work. While for other students, the focus would lean toward preparation for a career in Fine Arts and gallery work. Still others might want to prepare to straddle both. New Media programs in particular enable students to graduate with skills that suit them well for the production of art that can also serve commercial paths. All in all, I believe that the program proposed as it is tentatively laid out will prove to be extremely beneficial for students. It is a relevant and forward-thinking approach to teaching the arts and will facilitate training of highly prepared graduates.

Please don't hesitate to contact me if you would like any further information. I would be happy to discuss this idea at length.

Warmest regards:

Tonia Hughes

Tonia Hughes, MFA  
Associate Professor of Photography and Filmmaking  
Co-chair of the Academic Branch Council  
Department of Fine Arts, Photo, and Film  
Johnson County Community College  
[www.toniaindigohughes.com](http://www.toniaindigohughes.com)  
(email) thughe38@jcc.edu  
(cell) 816-572-0252



Missouri Western State University  
4525 Downs Drive, St. Joseph MO 64507  
www.missouriwestern.edu

School of Fine Arts  
(816) 271-4282  
Fax (816) 271-4181

November 22, 2020

To Whom It May Concern:

I am writing in support of the proposed new BA degree in Media, Art and Design under the purview of the Department of Art and Art History and the Department of Communication Studies at UMKC.

As someone who has lived in the region and engaged with the arts here for almost 20 years, I believe I can speak well to the need for such a program in Kansas City. It would provide students with knowledge and skills connected to visual studies, technical production, and creative problem-solving. The arts comprise an integral part of the identity of Kansas City, perhaps best conveyed in a *KC Studio* interview with Mayor Quinton Lucas (November 22, 2019) who stated, “Art is what makes this community special. I think KC without the arts is like barbecue without the sauce. It is vital for us in every neighborhood that people know about culture, history, the future and how to dream. I think the arts, in all their forms, encapsulate that.” But this degree expands beyond just pure art. This interdisciplinary degree—weaving together courses in studio art, art history, and communication studies—is precisely what is needed to prepare students for the fast-changing employment landscape in a number of fields, allowing graduates flexibility to adapt and integrate into various avocations. Numerous recent studies have demonstrated the value of engaging with visual culture—for example, medical programs have found great success in integrating the study of art in museums as it teaches close looking and empathy, both imperative for care workers—regardless of the explicit connection to art. Understanding visual culture, how to talk about it, interpret it, and apply it to community engagement is an invaluable skill regardless of one’s specific career path.

I have spoken with Dr. Cristina Albu, Associate Professor of Art History, about the proposed program and am excited as it would be a unique offering in this region. I believe it will attract students to UMKC, and its graduates will become an integral part of improving the Kansas City (and larger regional) community—in the arts and beyond.

Sincerely,

Madeline Rislow, PhD  
Assistant Professor & Director of Art History  
School of Fine Arts  
Missouri Western State University  
816-271-4282  
mrislow@missouriwestern.edu



November 9, 2020

Dear Colleague,

We are proud to have been a part of the UMKC Department of Communications Studies since we were invited by Tom Poe to team-teach Public Relations several years ago. Drawing from our careers in advertising, public relations, journalism, writing and social entrepreneurship, we knew that a focus only on public relations would not prepare our students for the real world. So, with Tom's approval, we implemented an experiential curriculum teaching integrated marketing communications.

Fast forward to today: How excited we are to see that Professors Linda Kurz and Angela Elam continue to make sure that the academic program keeps pace with the needs of our community's employers. Linda, Angela and Professor Caitlin Horsmon, the Associate Dean of Undergraduate Program, of the College of Arts and Sciences, shared with us the newly proposed degree program, Media, Art and Design.

We are writing to state our support for this program, which we think is ideally positioned for the needs of our corporate community.

As in the case of so many communications professionals, we are witnessing firsthand how the definition of marketing communications continues to expand. Our "tool kit" must include digital story-telling, graphic arts, media production, graphic design, advertising, public relations...which are all areas of study in this proposed program.

Please let us know how we can offer internship and mentoring opportunities for the students in this program. We are very excited.

Sincerely,

Two handwritten signatures in black ink. The first signature is "Barbara Unell" and the second is "Robert A. Unell".

Barbara and Robert Unell  
Co-founders, Raised with Love and Limits Foundation



February 11th, 2021

To the Curators of the University of Missouri,

I am writing a letter of support for the creation of a shared degree between the Communications Studies and Art/Art History programs at the University of Missouri of Kansas City (UMKC).

Studios Inc has consistently engaged with UMKC students via our intern program. Each of our interns are assigned a particular area of focus; be it exhibitions, social media, editorial content, design, etc. Regardless of the particular area of focus, we actively work to cross-train our interns.

Working for smaller organizations and small businesses throughout my career has taught me the importance of having, building, and maintaining a diverse skill set. Design/aesthetics and content creation are a valuable and marketable skill set to have as a young professional entering the workforce. As an employer, I seek to develop staff with the flexibility and capability to assist outside of a particular focus or title, as this allows our small organization to be more productive.

Students pursuing this degree would be a perfect fit for the following tasks at Studios Inc: developing social media strategy, specialized communications and outreach to press and media contacts, catalog content and design, promotional posters and mailers, online newsletters, website content and layout, development of online marketing campaigns, and so on and so forth.

Again, this shared degree seems like a logical next step for UMKC as it reflects current workforce demands and trends.

We look forward to continuing to work with UMKC and its amazing students!

Sincerely,

A handwritten signature in black ink, appearing to read "CW", written in a cursive style.

Courtney Wasson, Executive Director





October 26<sup>th</sup>, 2020

To Who it May Concern:

I am writing on behalf of Isbell Creative and as a T-Mobile employee to support the proposal to create a joint BA Degree in Media, Art and Design, between the Department of Communication Studies and the Department of Art and Art History. As a Graphic Design student who graduated from the Department of Art and Art History, I believe this union will create so many more opportunities for future students.

When I got an internship at T-Mobile, I only came in with the skills of design. It was a huge learning curve to understand the world of advertisement and PR in a corporate setting. I had to teach myself new media outside of graphic design including video, audio, web design, etc. I used those skills then to strengthen my photo and video business, Isbell Creative. If I would have had the opportunity to learn more while I was at UMKC, I would have been more prepared and well-rounded for success.

In this industry, you have to be a jack of all trades. They want you to know everything and then some. Without my internship at T-Mobile, I fear I may have lost out of the job opportunity. I believe this new combined path will prepare students for the industry better than before. I am in huge support to create this joint BA degree and I only wish they had it when I was a student.

I am happy to share my experiences with future students about what I have learned from the corporate world and running my own successful business. Thank you for your time and consideration.

Sincerely,

Heather Isbell

A handwritten signature in black ink that reads 'Heather Isbell'.

Isbell Creative, Owner  
[isbellcreative@gmail.com](mailto:isbellcreative@gmail.com)

T-Mobile, Graphic Designer  
[heather.isbell@t-mobile.com](mailto:heather.isbell@t-mobile.com)

The T-Mobile logo, featuring a stylized 'T' with a speech mark inside, followed by the word 'Mobile' in a bold, sans-serif font.

# BIC MEDIA

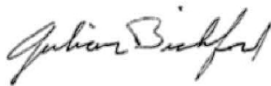
To Whom It May Concern:

I am a co-owner of BicMedia, a video agency based in Kansas City's Crossroads Arts District. In a world that relies more and more on dynamic video content, we've made it our mission to "Make Video Easy" for brands and corporations. Our flexible model allows us to work in a variety of capacities, combining the creative capabilities of an advertising agency with the technical execution abilities of a world-class video production company, all staffed under one roof. This model requires a multidisciplinary approach that combines an understanding of business, marketing, and a variety of artistic abilities including creative and technical writing, graphic design, animation, cinematography, photography, video editing, 2D and 3D animation, sound design, and original music.

As a company, we struggle to find new college graduates that possesses a real-world understanding of how art can be applied to practical business needs. We see this acutely in the animation space, where design principals need to be paired with animation capabilities and an understanding of the client's business and marketing goals in order to develop effective video content. Additionally, we take things like media ethics and media law such as copyright law very seriously, so I am pleased to see those courses included in this new degree program.

By combining the skills outlined in the BA Degree in Media, Art and Design, I feel UMKC has the opportunity to provide students with a broad understanding of the industry and a leg up when interviewing for highly coveted creative jobs. And this is why I encourage the development of this degree program as a logical approach to preparing student for careers in media.

Thank you,  
Julian Bickford



Creative Partner  
BicMedia, Inc.

**A VIDEO AGENCY**

bicmedia.com | 2130 Washington Street, KCMO

**Amendments to the Collected Rules and Regulations  
300.040 Faculty Bylaws of the University of Missouri – St. Louis**

**Background:**

The UMSL Faculty Senate and its committees have vetted the following proposals and presented the proposed changes to the UMSL faculty, which approved the proposals. The Faculty Senate requests the following three proposed changes to Collected Rules and Regulations, section 300.040, Faculty Bylaws of the University of Missouri – St. Louis:

- Merge the Academic Advisory Committee with the Assessment of Educational Outcomes Committee to form a new Academic Advisory and Assessment Committee to improve efficiency and allow for more strategic initiatives.
- Correct the name of the Intercampus Faculty Council to Intercampus Faculty Cabinet to align with UM System guidance.
- Edit the “membership” paragraph of the University Assembly of the University of Missouri – St. Louis to eliminate continuous updates as members’ titles change and reduce unnecessary administrative work.

These revisions were vetted by the UMSL Faculty Senate’s Bylaws and Rules Committee, by the full UMSL Faculty Senate and University Assembly, by the full faculty at the Spring Faculty Meeting, and reviewed by the Office of General Counsel and endorsed by UMSL Chancellor Kristin Sobolik.



No. 4

Recommended Action – Revisions to Collected Rules and Regulations 300.040,  
Faculty Bylaws of the University of Missouri – St. Louis

It was recommended by Sr. Associate Vice President Steve Graham, endorsed by President of the University of Missouri Mun Choi, recommended by the Academic, Student Affairs and Research & Economic Development Committee, moved by Curator \_\_\_\_\_, seconded by Curator \_\_\_\_\_ that the following action be approved:

that Collected Rules and Regulations, Section 300.040, Faculty Bylaws of the University of Missouri – St. Louis, be revised as attached.

Roll call vote of the Committee: YES NO

Curator Graves

Curator Hoberock

Curator Layman

Curator Wenneker

The motion \_\_\_\_\_.

Roll call vote of Board: YES NO

Curator Brncic

Curator Chatman

Curator Graham

Curator Graves

Curator Hoberock

Curator Holloway

Curator Layman

Curator Wenneker

Curator Williams

The motion \_\_\_\_\_.

# 300.040 Faculty Bylaws of the University of Missouri - St. Louis

Bd. Min 3-19-71; Amended 10-12-73; 2-18-77; 12-15-78; 6-18-82; 2-11-83; 6-24-83; 5-4-84; 5-3-85; 7-29-88; 3-10-89; 6-22-90; 5-3-91; 1-29-92; 5-8-92, 5-6-93; 3-29-94; 3-24-95; 4-25-96; 5-29-97; 10-16-98; 5-27-99; 3-23-00; 9-28-01; 12-01-05; 12-15-06; 06-06-08, 12-10-10; 11-21-13; 4-10-15; 6-26-15; 10-7-16; 6-21-18; 9-24-20

- A. **PURPOSE OF GOVERNING PRACTICES** - The purpose of these Bylaws is to establish a body that represents the voice of the Faculty and to establish an effective vehicle for the needs and concerns of the Faculty to be presented for discussion and debate. These Bylaws assume that Faculty may participate in academic decision processes. The right of the Faculty to organize and to carry out the responsibilities and functions delegated to them by the Board of Curators (Board) is recognized in Section 10.030.D.2 of the Collected Rules and Regulations of the University of Missouri.
- B. **FACULTY**
1. **Membership** - The Faculty of the University of Missouri-St. Louis shall consist of the President, the Chancellor, tenured and tenure-track faculty, and all full-time, ranked, non-tenure track (NTT) faculty with professorial designation, and others elected by the Faculty. Elected members so designated by the Faculty shall be non-voting members of the Faculty. Campus-wide faculty votes on issues specific to tenure or tenured/tenure track (T/TT) faculty will be restricted to T/TT faculty.
  2. **Faculty Rights** -
    - a. **Academic Rights** - Each faculty member has the right to freedom of inquiry, discourse, teaching, research and publication, as well as the responsibilities correlative with this right.
    - b. **Civil Rights** - The constitutional rights of the Faculty members shall be preserved.
    - c. **Employment Rights** - Faculty members shall have rights consistent with their continuous appointment or term appointment (during the term), except for cause, retirement or financial exigencies.
    - d. **Notification for Appointment or Changes Thereto** - Faculty members shall be notified of their appointments and workload, or any changes thereto, as much in advance of the beginning of institutional responsibilities as possible (as stated in the Board's Rules and Regulations).
    - e. **Right to be Kept Informed** - The Faculty shall be kept informed of actions and activities of committees and executive officers, and of other occurrences that pertain to the University of Missouri-St. Louis. When possible, such information shall be made available to the Faculty before being made available to the general public.

3. **Responsibilities** - The Faculty of the University of Missouri-St. Louis shall bear primary responsibility for recommending and implementing educational policy, particularly in areas of curriculum, degree requirements, methods of instruction, research, requirements for admission, student affairs, and faculty status. The Faculty may also make recommendations to the Chancellor and other persons or offices concerning general policy matters affecting the University.
4. **Authority** - The faculty's authority, as delegated by the Board of Curators, is of three types: primary and direct, in which the Faculty has essential decision-making authority; shared, in which the Faculty participates with others; and advisory, in which the Faculty counsels with the person or offices with ultimate decision-making authority. (On those matters requiring multi-campus coordination, the Faculty shall act through its appropriate bodies, [UM System 300.040.B.5.](#))
  - a. **Primary and Direct Authority** - The UMSL faculty has essential decision-making authority in matters directly affecting the educational program of UMSL, including but not limited to:
    - (1) Articulation and maintenance of standards of academic performance--this includes but is not limited to guidelines for appropriate research, service, and scholarships; requirements for graduation; and related matters.
    - (2) Development and approval of courses of instruction and curricula.
    - (3) Development and approval of procedures governing educational support programs on the UMSL campus.
    - (4) Formulation of criteria determining professional standing of faculty--including but not limited to such matters as tenure, promotion, termination, guidelines for responsibility, faculty standing with regard to graduate faculty membership and doctoral dissertation supervision.
    - (5) Determination of an appropriate faculty committee structure.
    - (6) Determination of minimum admission requirements.
    - (7) Selection of awardees for academic scholarships.
  - b. **Shared Authority** - The UMSL faculty has shared authority by which it participates cooperatively with other persons or offices in matters such as:
    - (1) Development and articulation of students' rights and responsibilities.
    - (2) Determination of an appropriate academic calendar.
    - (3) Selection of awardees for honorary degrees.

- (4) Application of criteria affecting professional standing of faculty, such as required professional licensure.
- c. **Advisory Authority** - The UMSL faculty has advisory authority and responsibility with other persons or offices in matters such as:
- (1) Budget and resource allocation.
  - (2) Planning, including capital expenditures and physical facilities.
  - (3) Selection of departmental, divisional, campus, and university-level administrators.
  - (4) Determination of the campus standing committee structure.
  - (5) Development and implementation of general business procedures that facilitate academic program excellence.
  - (6) Use of facilities for program activities.
  - (7) Application of criteria affecting promotion, tenure and termination.
  - (8) Structure of academic departments and units.
- d. **Faculty Delegation of Authority** - The Faculty, recognizing that handling matters through meetings of the Faculty is cumbersome, that attendance at such meetings varies, and that it is often difficult to have complete discussion of issues at such meetings, may delegate its authority to separate schools, colleges, or such other parallel units as may be created from time to time, and to the Faculty Senate within the University of Missouri-St. Louis. The actions of the Senate, in those areas in which they have delegated authority, shall be deemed final unless challenged within 10 days. Such challenge shall require a petition signed by at least twenty-five (25) faculty members from at least two parallel units calling for a review by the Faculty of a particular Senate action.
5. **Meetings** - The Faculty of the University of Missouri-St. Louis shall meet at least twice each year and at such additional times as the President, Chancellor, or the Faculty itself may determine. Upon written request of at least twenty-five (25) members of the Faculty, the Chancellor shall call a meeting within two weeks.
- a. The President, or in the President's absence, the Chancellor, or in the Chancellor's absence, a member of the Faculty designated by the Chancellor shall preside at each faculty meeting.
  - b. A quorum shall consist of at least ten (10) percent of the voting members of the Faculty representing at least two parallel units when business described in the published agenda is being

considered. When other items of business not described in the published agenda are being considered, a quorum shall consist of at least fifty (50) percent of the voting members representing at least two parallel units.

- c. Notice of all meetings of the Faculty shall be sent to each member of the Faculty at least five school days prior to the meeting. Such notice includes the agenda for the meeting.
  - d. Proceedings in Faculty meetings shall be in accordance with the rules set forth in the most recent edition of Robert's Rules of Order except where otherwise provided for in these Bylaws or the regulations of the University of Missouri-St. Louis.
  - e. Official minutes shall be kept and made available to each member of the Faculty within a week of the meeting.
6. **The Intercampus Faculty Council Cabinet** - Three campus representatives will serve on the Intercampus Faculty **Council Cabinet**. Two of the three shall be elected by the University of Missouri-St. Louis Faculty to serve three-year staggered terms so that no more than one of the two elected members will be replaced or reelected in any year. The Senate Chairperson shall serve as the third member of the Intercampus Faculty **Council Cabinet**.
7. **Campus Standing Committees** -
- a. **Grievance Resolution Panel (GRP)** - The Panel shall perform the responsibilities prescribed by the Collected Rules and Regulations of the University of Missouri (370.010.C.1), "Academic Grievance Procedure." The role of the GRP is to address grievances brought by faculty members. The panel should consist of a senior administrator appointed by the Chancellor and two tenured faculty members, and two alternate faculty members. The faculty members will be chosen by the Faculty Senate after consultation with the Chancellor or the Chancellor's designee. Members shall serve two-year staggered renewable terms.
  - b. **Degree Revocation Committee** - In accordance with 220.025, this committee shall have jurisdiction to consider any case in which revocation of a degree, diploma and/or certificate is proposed. The Committee shall be called the Campus Degree Revocation Committee. Four (4) members of the Campus Degree Revocation Committee and an alternate to serve in the event one of the four (4) members cannot serve, shall be appointed annually by the Chancellor after consultation with the Faculty Council or Faculty Senate. Each of the members of the Committee and the alternate shall be a faculty member on continuous appointment at the rank of Professor or Associate Professor. In the event that the Chancellor approves the initiation of the procedures for revocation of a degree, diploma and/or certificate, the Chancellor shall appoint a fifth member of the Campus Degree Revocation Committee, who shall also be a faculty member at one of the campuses of the University of Missouri System on continuous appointment at the rank of Associate Professor or Professor and who shall be from the same discipline or a related discipline as the department faculty who recommended the award of the degree, diploma and/or

certificate, but who shall not be a faculty member in such department. The Campus Degree Revocation Committee shall elect a Chair from among its five (5) members.

**C. STUDENT BODY**

1. **Membership** - The student body of the University of Missouri-St. Louis shall consist of all persons who are officially enrolled as regular full-time or part-time students in the University of Missouri-St. Louis.
2. **Responsibilities**- The student body shall have the responsibility to participate in the recommending and implementing of educational policy, particularly in the areas of academic and student affairs. The student body may, through its official representatives, make recommendation to the Vice Provost for Student Affairs or the Chancellor concerning general policy matters affecting the University of Missouri-St. Louis.

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**E. FACULTY SENATE OF THE UNIVERSITY OF MISSOURI-ST. LOUIS**

(Hereinafter referred to as Senate)

1. **Responsibilities** - The Faculty Senate is the legislative and policy-making body of the Faculty. It carries out the responsibilities of the Faculty (see Section 300.040 B.3) not reserved by the Faculty as a body or specifically delegated to the University Assembly (Section 300.040 E). The Senate, as a representative faculty voice, shall advise the chancellor and the UMSL faculty on questions of UMSL policy submitted by either to the Senate. It may also initiate recommendations concerning changes in UMSL policy for consideration and appropriate action by the chancellor or UMSL faculty.
2. **Delegation of Authority**
  - a. Since the authority of the Senate is delegated to it by the Faculty, it is subject to over-rule by the Faculty.
  - b. All authority delegated by the Senate to committees or individuals is subject to revocation by the Senate.
3. **Committees of the Senate** - In their deliberations the committees shall, when appropriate, consult with the Chancellor or other administrative officers; with representatives of the separate schools, colleges, and other parallel units which may be created from time to time; with departments and concerned faculty; and with students and student organizations. Committee recommendations shall be made to the Senate or to the appropriate administrative officer. The Senate shall establish the following standing committees:

- a. **Committee on Committees** - The Committee on Committees shall be responsible for nominating for election all faculty members of the committees of the Senate and the University Assembly. The chair of the Committee shall be a faculty Senator.
- b. **Steering Committee of the Faculty Senate and University Assembly** (hereinafter referred to as the Steering Committee) - The Steering Committee shall consist of the Senate Chairperson, who shall serve as Chairperson of the Steering Committee, the Chancellor, the Secretary of the Senate, and three elected Senators. Chairs of Senate and Assembly Committees will be asked to attend Steering Committee meetings when their committees have items for the agenda of the next Senate or Assembly meeting. It shall be the responsibility of the Steering Committee:
  - (1) To call regular and special meetings of the Senate and Assembly and to prepare the agenda prior to each meeting.
  - (2) To coordinate the work and activities of the Senate and Assembly and of Senate and Assembly committees.
  - (3) To meet regularly and frequently with the Chancellor to discuss matters of policy concerning the University of Missouri-St. Louis.
  - (4) As an agency of the Senate and Assembly, to maintain avenues of communication with the Faculty and student body of the University of Missouri-St. Louis, with campus administrative officers and the governing board of the University.
  - (5) To establish all guidelines for elections for membership in the Senate and Assembly and to supervise said elections.
- c. **Committee on Curriculum and Instruction** - The Committee shall have general responsibility for recommending to the Senate policies and procedures in the area of curriculum and instruction. It shall also recommend policies regarding graduation requirements, special honors programs, and academic publications such as catalogs and schedules of courses.
  - (1) The Committee also shall regularly recommend to the Senate the calendar of the University. It shall recommend policies relating to schedules of classes and final examination schedules. Departures from calendars and examination schedules will be recommended by this Committee.
  - (2) New degrees and degree programs proposed by the separate schools, colleges, and such other parallel units as may be created from time to time, shall be submitted by the appropriate dean or equivalent to the Committee for recommendation to the Senate.
  - (3) Curricular additions and changes will be sent by the appropriate dean or equivalent to the Committee to be examined for overlap and duplication. In the absence of overlap and/or duplication, such proposals will be reported to the Senate.
- d. **Committee on Appointments, Tenure, and Promotion** -

The Committee shall consist of full professors holding a tenure appointment. There shall be one member on the Committee elected from each of the parallel units. There shall also be two members elected at large from the campus. The Committee shall elect a chairperson from among its members.

(1) Initial academic appointments to the University of Missouri-St. Louis recommended as tenure appointments shall be submitted by the Department or Division concerned through the Dean or equivalent of the appropriate school, college, or other parallel unit. The Dean or equivalent shall forward the Department's or Division's recommendations with the Dean's or equivalent's own recommendations for approval or disapproval. After consideration, the Committee on Appointments, Tenure, and Promotion shall submit its recommendations to the Chancellor.

(2) Tenure recommendations for Faculty holding term appointments, and recommendations for promotion above the rank of assistant professor, shall be made in accordance with the procedure outlined above.

(3) It shall be the responsibility of this Committee together with the appropriate administrative officers, to establish, develop, and maintain in all areas of the University the highest standards of faculty quality.

- e. **Committee on Promotion of Non-Tenure Track Faculty** – The Committee shall consist of eligible faculty holding the rank of Teaching Professor, Clinical Professor, Extension Professor, or Research Professor and at least one full professor. There shall be one member on the Committee elected from each of the parallel units. There shall also be two faculty members elected at large from the campus. The Committee shall elect a chairperson from among its members.

(1) The Dean or equivalent shall forward the Department's or Division's recommendations with the Dean's (or equivalent) own recommendation for approval or disapproval of promotion to the Committee. After consideration, the Committee shall submit its recommendation to the Chancellor.

(2) Promotion recommendations will be made in accordance with procedures determined by the Committee, consistent with the *Collected Rules and Regulations of the University of Missouri*.

(3) The committee shall use standards created by the academic units and shall not create additional campus-wide standards.

(4) It shall be the responsibility of this Committee, together with the appropriate administrative officers, to establish, develop, and maintain in all areas of the University the highest standards of faculty quality.

- f. **Committee on Research** - The Committee shall consist of two panels, one meeting in the fall semester and the other meeting in the spring semester.



(1) The Fall and Spring panels shall meet in the fall to elect a committee chairperson for each panel, to clarify program objectives, to coordinate deadlines, and to set guidelines for research proposals and awards. Thereafter, the panels shall meet during their semester of service to advise and make recommendations on:

(a) Competitions for internal grant funds, including financial support during the summer and during research leaves, support for research assistants, grants for equipment and supplies, and funds for travel to research locations, and

(b) Nominations for campus, University, and external research awards that are available campus-wide.

(2) Each panel shall also meet after completing its work in order to review procedures and develop recommendations for the following year's committee to consider.

(3) The committee chairperson shall vote only as a member of the panel to which he/she has been elected.

(4) Panel members are ineligible to receive funding and awards under the jurisdiction of the panel on which they serve during the period of their service on the panel. The committee chairperson is ineligible to receive funding and awards under the Committee's jurisdiction during the entire year of his/her service as chairperson.

- g. **Committee on Research and Libraries** - The Research and Libraries Committee shall be responsible for recommending and reviewing issues and policy in the areas of research, research administration, and libraries, including library budgetary issues. It shall advise the Vice Chancellor for Research and the Dean of Libraries, serve as a liaison between the libraries and the university research community via the Senate, and consider any matter referred by the Senate, the Dean of Libraries, the Vice Chancellor for Research, or any member of the campus community.
- h. **Committee on Faculty Teaching and Service Awards** - The Committee shall formulate and publish guidelines for campus-wide teaching and service awards; solicit nominations for these awards as well as University and external teaching and service awards; and recommend candidates to the Chancellor. Members of the Committee are ineligible to receive awards under the Committee's jurisdiction during the entire period of their service on the Committee.
- i. **Committee on the Assessment of Educational Outcomes Academic Advisory and Assessment** - ~~The Committee shall have the general responsibility of making recommendations concerning policies in the area of assessment of educational outcomes and related matters. The Committee shall also regularly review and advise on policies and procedures in this area and recommend changes when appropriate. The Committee shall have the general responsibility for making~~

recommendations to the Provost on academic issues affecting the University, including general policies and procedures governing the evaluation of academic instruction and advising, and assessment of educational outcomes and other related academic and educational assessment matters. The Committee shall also regularly review and advise on policies and procedures in this area and recommend changes when appropriate.

~~**j. Academic Advisory Committee** - The Committee shall have the general responsibility of making recommendations to the Vice Chancellor for Academic Affairs on academic issues affecting the University, including recommending general policies and procedures governing the evaluation of academic instruction and advisement.~~

- j. Committee on Bylaws and Rules for the Faculty Senate and University Assembly** - The Committee shall:
- (1) Receive all proposals for changes to the Bylaws and the Collected Rules and Regulations, review proposed changes to the Bylaws and the Collected Rules and Regulations, and initiate the process of Bylaws changes as smoothly and infrequently as possible.
  - (2) Recommend interpretation of the Bylaws and Collected Rules and Regulations upon the written request of the Senate Chairperson, and report its conclusions to the Senate.
  - (3) Compile and maintain a current set of Senate and Assembly Operating Rules, consider changes in Operating Rules, and report recommendations regarding Operating Rules to the Senate.
- k. Committee on Research Misconduct** - The Committee shall perform the responsibilities prescribed by the Collected Rules and Regulations of the University of Missouri (420.010), "Research Misconduct."
- l. Committee on Issues of Tenure Removal** - The Committee shall conduct hearings in removal cases or in disputed cases involving tenure rights and status as provided for in the Academic Tenure Regulations of the University of Missouri. This committee is referred to as the Campus Faculty Committee on Tenure in the Academic Tenure Regulations (310.050). Grievances by faculty members shall be handled through the Academic Grievances Procedure.
- m. Oversight Committee** - The Committee shall perform the responsibilities prescribed by the Collected Rules and Regulations of the University of Missouri (370.010.C.11), "Academic Grievance Procedure." The role of the Oversight Committee is to monitor the grievance process as neutral observers and provide feedback on the process to the Faculty Senate, the Faculty, and the Provost's and Chancellor's offices.
- n. Ad hoc Committees** - As the need arises, the Senate shall establish or recommend to the Chancellor establishment of ad hoc committees.  
Ad hoc Senate Committees shall be established through Senate

approval of nominees selected by the Senate Committee on Committees or by nomination from the floor of the Senate. The faculty composition for each ad hoc committee shall be determined by the Senate.

- o. **University-Wide and Statewide Committees** - Reports from University-wide and statewide committees may be presented to the Senate. Whenever possible, representatives of the University of Missouri-St. Louis serving on University-wide and/or statewide committees should advise the Senate Steering Committee if a report to the Senate is necessary.

F. **UNIVERSITY ASSEMBLY OF THE UNIVERSITY OF MISSOURI-ST. LOUIS**  
(Hereinafter referred to as Assembly)

1. **Membership** - ~~The voting members of the Assembly shall consist of the elected members of the Senate; the President; the Chancellor; the Vice Chancellor for Academic Affairs; the Dean of the Graduate School; the Vice Provost for Student Affairs; student representatives equal in number to one-third of the Faculty members of the Assembly; two members of the adjunct faculty; and three staff members, including the President of the Staff Association. Non-voting members shall consist of vice chancellors and vice provosts not already included, deans of all colleges and schools (whether or not their faculties are represented), the Dean of Libraries, and the President of the Student Government Association.~~ The voting members of the Assembly shall consist of the elected members of the Faculty Senate; the UM System President; the Chancellor; and such others as are designated by the Senate in the Faculty Senate Operating Rules.
2. **Responsibilities** - The Assembly provides a forum for many of the major stakeholders of the University, including administrators, faculty, staff and students, to work together. The Assembly may exercise those responsibilities of the Faculty (see Section 300.040 B.3) that are delegated by the Faculty as a body.
3. **Meetings and Officers** - The Assembly shall meet regularly every other month during the academic year or in special meetings as called by the Steering Committee of the Senate and the Assembly (hereinafter referred to as the Steering Committee). The Steering Committee shall call a special meeting of the Assembly on request of the Chancellor or of any five members of the Assembly. Proceedings in Assembly meetings shall be in accordance with the rules set forth in the most recent edition of Robert's Rules of Order. A quorum shall consist of a majority of elected representatives.
  - a. The elected officers of the Assembly shall be the same as those for the Senate.
  - b. The Chairperson, or in the Chairperson's absence a voting member of the Assembly designated by the Chairperson, shall be the presiding officer at each meeting of the Assembly.
4. **Committees of the Assembly** - All members of the eligible faculty, Administration, and Staff shall be eligible to serve on Assembly committees. Students who satisfy the eligibility requirements for service on the Assembly shall also be eligible to serve on Assembly committees. The standing committees of the Assembly shall be elected each year at the second organizational meeting of the Senate. The Assembly shall establish the following standing committees:

- a. **Administrator Evaluation** - The Committee shall annually conduct an evaluation of administrators on the UM-St. Louis campus.
- b. **Budget and Planning Committee** - This Committee makes recommendations to the Faculty Senate, the Chancellor and the Vice-Chancellor for Administration and Finance on matters concerning the long-range vision of the campus; plans to fulfill this vision; and budgetary matters as a consequence of the vision. This includes, but is not limited to, significant matters of a budgetary nature, and policies and priorities for strategic action plans. The Committee studies the Campus budget, keeps informed of its preparation and status, and consults with and advises the Chancellor on significant matters pertaining to budgetary affairs.
- c. **Committee on Recruitment, Admissions, Retention, and Student Financial Aid** - The Committee shall:
  - (1) Monitor processes associated with recruitment, admissions, retention, and student financial aid and facilitate reporting to the Assembly.
  - (2) Recommend policies and procedures to the Assembly, the Dean of Enrollment, the Director of Student Retention Services, and the Director of Student Financial Aid regarding recruitment, admissions, retention, and student financial aid.
  - (3) Facilitate discussion with administrators and students on policies and procedures regarding scholarships, advisement and appeals.
- d. **Committee on Student Affairs** - The Committee on Student Affairs shall be responsible for recommending and reviewing policy in the areas of non-academic regulations and student services, such as student organizations and student publications, advising administration on policies related to students, and recommending approval of new student organizations. The responsibilities of the committee may be exercised by subcommittees established in any of the above areas. Faculty and staff members with administrative responsibilities in these areas shall be members of the subcommittees dealing in those areas.
- e. **Committee on Physical Facilities, Space, and General Services** - The Committee shall have the general responsibility for recommending to the Assembly policies and procedures in the areas of campus facilities and general services. It shall act in an advisory and fact-finding capacity for the planning of physical facilities, review and report priority matters relating to maintenance, construction, and support services to the Assembly, and review and process complaints and suggestions regarding physical facilities and services.

The Committee shall be responsible for formulating long-range space recommendations including the type and amount of space needed, and priorities. Proposals for a long-term or campus-wide nature will be brought to the Assembly for discussion, debate, and ultimate recommendation to the Chancellor.

Allocation of existing unused space will be recommended to the Chancellor by the Committee and reported to the Assembly.

f. **Committee on Information Technology** – The Committee shall be responsible for general policy issues regarding campus information technology.

g. **Ad hoc Committees** - As the need arises, the Assembly shall establish or recommend to the Chancellor establishment of ad hoc committees. Ad hoc Assembly committees shall be established through Assembly approval of nominees selected by the Senate/Assembly Committee on Committees or by nomination from the floor of the Assembly. The composition for each ad hoc committee shall be determined by the University Assembly.

## G. **AMENDMENTS**

1. Proposed changes to these Bylaws shall be submitted to, or initiated by, the Bylaws and Rules Committee, which will follow the relevant procedures outlined above (D.2.I) and then provide them in written form to the Senate or Assembly as appropriate. The appropriate body shall then recommend passage or rejection of the proposed amendment(s) by majority vote. Upon passage of an amendment by the Senate or Assembly, the Chancellor shall submit the proposed change to the Faculty of the University of Missouri-St. Louis for a vote at the Spring Faculty Meeting. Bylaw changes recommended by the Senate or Assembly shall be adopted by a majority of votes cast by the Faculty. Any amendments or modifications shall be presented by the Chancellor through the President to the Board of Curators for its approval before becoming effective.
2. Senate Operating Rules may be amended by majority vote of the Senate.
3. Assembly Operating Rules may be amended by majority vote of the Assembly.

# 300.040 Faculty Bylaws of the University of Missouri - St. Louis

Bd. Min 3-19-71; Amended 10-12-73; 2-18-77; 12-15-78; 6-18-82; 2-11-83; 6-24-83; 5-4-84; 5-3-85; 7-29-88; 3-10-89; 6-22-90; 5-3-91; 1-29-92; 5-8-92, 5-6-93; 3-29-94; 3-24-95; 4-25-96; 5-29-97; 10-16-98; 5-27-99; 3-23-00; 9-28-01; 12-01-05; 12-15-06; 06-06-08, 12-10-10; 11-21-13; 4-10-15; 6-26-15; 10-7-16; 6-21-18; 9-24-20

- A. **PURPOSE OF GOVERNING PRACTICES** - The purpose of these Bylaws is to establish a body that represents the voice of the Faculty and to establish an effective vehicle for the needs and concerns of the Faculty to be presented for discussion and debate. These Bylaws assume that Faculty may participate in academic decision processes. The right of the Faculty to organize and to carry out the responsibilities and functions delegated to them by the Board of Curators (Board) is recognized in Section 10.030.D.2 of the Collected Rules and Regulations of the University of Missouri.
- B. **FACULTY**
1. **Membership** - The Faculty of the University of Missouri-St. Louis shall consist of the President, the Chancellor, tenured and tenure-track faculty, and all full-time, ranked, non-tenure track (NTT) faculty with professorial designation, and others elected by the Faculty. Elected members so designated by the Faculty shall be non-voting members of the Faculty. Campus-wide faculty votes on issues specific to tenure or tenured/tenure track (T/TT) faculty will be restricted to T/TT faculty.
  2. **Faculty Rights** -
    - a. **Academic Rights** - Each faculty member has the right to freedom of inquiry, discourse, teaching, research and publication, as well as the responsibilities correlative with this right.
    - b. **Civil Rights** - The constitutional rights of the Faculty members shall be preserved.
    - c. **Employment Rights** - Faculty members shall have rights consistent with their continuous appointment or term appointment (during the term), except for cause, retirement or financial exigencies.
    - d. **Notification for Appointment or Changes Thereto** - Faculty members shall be notified of their appointments and workload, or any changes thereto, as much in advance of the beginning of institutional responsibilities as possible (as stated in the Board's Rules and Regulations).
    - e. **Right to be Kept Informed** - The Faculty shall be kept informed of actions and activities of committees and executive officers, and of other occurrences that pertain to the University of Missouri-St. Louis. When possible, such information shall be made available to the Faculty before being made available to the general public.

3. **Responsibilities** - The Faculty of the University of Missouri-St. Louis shall bear primary responsibility for recommending and implementing educational policy, particularly in areas of curriculum, degree requirements, methods of instruction, research, requirements for admission, student affairs, and faculty status. The Faculty may also make recommendations to the Chancellor and other persons or offices concerning general policy matters affecting the University.
4. **Authority** - The faculty's authority, as delegated by the Board of Curators, is of three types: primary and direct, in which the Faculty has essential decision-making authority; shared, in which the Faculty participates with others; and advisory, in which the Faculty counsels with the person or offices with ultimate decision-making authority. (On those matters requiring multi-campus coordination, the Faculty shall act through its appropriate bodies, [UM System 300.040.B.5.](#))
  - a. **Primary and Direct Authority** - The UMSL faculty has essential decision-making authority in matters directly affecting the educational program of UMSL, including but not limited to:
    - (1) Articulation and maintenance of standards of academic performance--this includes but is not limited to guidelines for appropriate research, service, and scholarships; requirements for graduation; and related matters.
    - (2) Development and approval of courses of instruction and curricula.
    - (3) Development and approval of procedures governing educational support programs on the UMSL campus.
    - (4) Formulation of criteria determining professional standing of faculty--including but not limited to such matters as tenure, promotion, termination, guidelines for responsibility, faculty standing with regard to graduate faculty membership and doctoral dissertation supervision.
    - (5) Determination of an appropriate faculty committee structure.
    - (6) Determination of minimum admission requirements.
    - (7) Selection of awardees for academic scholarships.
  - b. **Shared Authority** - The UMSL faculty has shared authority by which it participates cooperatively with other persons or offices in matters such as:
    - (1) Development and articulation of students' rights and responsibilities.
    - (2) Determination of an appropriate academic calendar.
    - (3) Selection of awardees for honorary degrees.

- (4) Application of criteria affecting professional standing of faculty, such as required professional licensure.
- c. **Advisory Authority** - The UMSL faculty has advisory authority and responsibility with other persons or offices in matters such as:
- (1) Budget and resource allocation.
  - (2) Planning, including capital expenditures and physical facilities.
  - (3) Selection of departmental, divisional, campus, and university-level administrators.
  - (4) Determination of the campus standing committee structure.
  - (5) Development and implementation of general business procedures that facilitate academic program excellence.
  - (6) Use of facilities for program activities.
  - (7) Application of criteria affecting promotion, tenure and termination.
  - (8) Structure of academic departments and units.
- d. **Faculty Delegation of Authority** - The Faculty, recognizing that handling matters through meetings of the Faculty is cumbersome, that attendance at such meetings varies, and that it is often difficult to have complete discussion of issues at such meetings, may delegate its authority to separate schools, colleges, or such other parallel units as may be created from time to time, and to the Faculty Senate within the University of Missouri-St. Louis. The actions of the Senate, in those areas in which they have delegated authority, shall be deemed final unless challenged within 10 days. Such challenge shall require a petition signed by at least twenty-five (25) faculty members from at least two parallel units calling for a review by the Faculty of a particular Senate action.
5. **Meetings** - The Faculty of the University of Missouri-St. Louis shall meet at least twice each year and at such additional times as the President, Chancellor, or the Faculty itself may determine. Upon written request of at least twenty-five (25) members of the Faculty, the Chancellor shall call a meeting within two weeks.
- a. The President, or in the President's absence, the Chancellor, or in the Chancellor's absence, a member of the Faculty designated by the Chancellor shall preside at each faculty meeting.
  - b. A quorum shall consist of at least ten (10) percent of the voting members of the Faculty representing at least two parallel units when business described in the published agenda is being



considered. When other items of business not described in the published agenda are being considered, a quorum shall consist of at least fifty (50) percent of the voting members representing at least two parallel units.

- c. Notice of all meetings of the Faculty shall be sent to each member of the Faculty at least five school days prior to the meeting. Such notice includes the agenda for the meeting.
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6. **The Intercampus Faculty Cabinet** - Three campus representatives will serve on the Intercampus Faculty Cabinet. Two of the three shall be elected by the University of Missouri-St. Louis Faculty to serve three-year staggered terms so that no more than one of the two elected members will be replaced or reelected in any year. The Senate Chairperson shall serve as the third member of the Intercampus Faculty Cabinet.
7. **Campus Standing Committees** -
- a. **Grievance Resolution Panel (GRP)** - The Panel shall perform the responsibilities prescribed by the Collected Rules and Regulations of the University of Missouri (370.010.C.1), "Academic Grievance Procedure." The role of the GRP is to address grievances brought by faculty members. The panel should consist of a senior administrator appointed by the Chancellor and two tenured faculty members, and two alternate faculty members. The faculty members will be chosen by the Faculty Senate after consultation with the Chancellor or the Chancellor's designee. Members shall serve two-year staggered renewable terms.
  - b. **Degree Revocation Committee** - In accordance with 220.025, this committee shall have jurisdiction to consider any case in which revocation of a degree, diploma and/or certificate is proposed. The Committee shall be called the Campus Degree Revocation Committee. Four (4) members of the Campus Degree Revocation Committee and an alternate to serve in the event one of the four (4) members cannot serve, shall be appointed annually by the Chancellor after consultation with the Faculty Council or Faculty Senate. Each of the members of the Committee and the alternate shall be a faculty member on continuous appointment at the rank of Professor or Associate Professor. In the event that the Chancellor approves the initiation of the procedures for revocation of a degree, diploma and/or certificate, the Chancellor shall appoint a fifth member of the Campus Degree Revocation Committee, who shall also be a faculty member at one of the campuses of the University of Missouri System on continuous appointment at the rank of Associate Professor or Professor and who shall be from the same discipline or a related discipline as the department faculty who recommended the award of the degree, diploma and/or

certificate, but who shall not be a faculty member in such department. The Campus Degree Revocation Committee shall elect a Chair from among its five (5) members.

**C. STUDENT BODY**

1. **Membership** - The student body of the University of Missouri-St. Louis shall consist of all persons who are officially enrolled as regular full-time or part-time students in the University of Missouri-St. Louis.
2. **Responsibilities**- The student body shall have the responsibility to participate in the recommending and implementing of educational policy, particularly in the areas of academic and student affairs. The student body may, through its official representatives, make recommendation to the Vice Provost for Student Affairs or the Chancellor concerning general policy matters affecting the University of Missouri-St. Louis.

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(Hereinafter referred to as Senate)

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2. **Delegation of Authority**
  - a. Since the authority of the Senate is delegated to it by the Faculty, it is subject to over-rule by the Faculty.
  - b. All authority delegated by the Senate to committees or individuals is subject to revocation by the Senate.
3. **Committees of the Senate** - In their deliberations the committees shall, when appropriate, consult with the Chancellor or other administrative officers; with representatives of the separate schools, colleges, and other parallel units which may be created from time to time; with departments and concerned faculty; and with students and student organizations. Committee recommendations shall be made to the Senate or to the appropriate administrative officer. The Senate shall establish the following standing committees:

- a. **Committee on Committees** - The Committee on Committees shall be responsible for nominating for election all faculty members of the committees of the Senate and the University Assembly. The chair of the Committee shall be a faculty Senator.
  
- b. **Steering Committee of the Faculty Senate and University Assembly** (hereinafter referred to as the Steering Committee) - The Steering Committee shall consist of the Senate Chairperson, who shall serve as Chairperson of the Steering Committee, the Chancellor, the Secretary of the Senate, and three elected Senators. Chairs of Senate and Assembly Committees will be asked to attend Steering Committee meetings when their committees have items for the agenda of the next Senate or Assembly meeting. It shall be the responsibility of the Steering Committee:
  - (1) To call regular and special meetings of the Senate and Assembly and to prepare the agenda prior to each meeting.
  - (2) To coordinate the work and activities of the Senate and Assembly and of Senate and Assembly committees.
  - (3) To meet regularly and frequently with the Chancellor to discuss matters of policy concerning the University of Missouri-St. Louis.
  - (4) As an agency of the Senate and Assembly, to maintain avenues of communication with the Faculty and student body of the University of Missouri-St. Louis, with campus administrative officers and the governing board of the University.
  - (5) To establish all guidelines for elections for membership in the Senate and Assembly and to supervise said elections.
  
- c. **Committee on Curriculum and Instruction** - The Committee shall have general responsibility for recommending to the Senate policies and procedures in the area of curriculum and instruction. It shall also recommend policies regarding graduation requirements, special honors programs, and academic publications such as catalogs and schedules of courses.
  - (1) The Committee also shall regularly recommend to the Senate the calendar of the University. It shall recommend policies relating to schedules of classes and final examination schedules. Departures from calendars and examination schedules will be recommended by this Committee.
  - (2) New degrees and degree programs proposed by the separate schools, colleges, and such other parallel units as may be created from time to time, shall be submitted by the appropriate dean or equivalent to the Committee for recommendation to the Senate.
  - (3) Curricular additions and changes will be sent by the appropriate dean or equivalent to the Committee to be examined for overlap and duplication. In the absence of overlap and/or duplication, such proposals will be reported to the Senate.

- d. **Committee on Appointments, Tenure, and Promotion** – The Committee shall consist of full professors holding a tenure appointment. There shall be one member on the Committee elected from each of the parallel units. There shall also be two members elected at large from the campus. The Committee shall elect a chairperson from among its members.
- (1) Initial academic appointments to the University of Missouri-St. Louis recommended as tenure appointments shall be submitted by the Department or Division concerned through the Dean or equivalent of the appropriate school, college, or other parallel unit. The Dean or equivalent shall forward the Department's or Division's recommendations with the Dean's or equivalent's own recommendations for approval or disapproval. After consideration, the Committee on Appointments, Tenure, and Promotion shall submit its recommendations to the Chancellor.
- (2) Tenure recommendations for Faculty holding term appointments, and recommendations for promotion above the rank of assistant professor, shall be made in accordance with the procedure outlined above.
- (3) It shall be the responsibility of this Committee together with the appropriate administrative officers, to establish, develop, and maintain in all areas of the University the highest standards of faculty quality.
- e. **Committee on Promotion of Non-Tenure Track Faculty** – The Committee shall consist of eligible faculty holding the rank of Teaching Professor, Clinical Professor, Extension Professor, or Research Professor and at least one full professor. There shall be one member on the Committee elected from each of the parallel units. There shall also be two faculty members elected at large from the campus. The Committee shall elect a chairperson from among its members.
- (1) The Dean or equivalent shall forward the Department's or Division's recommendations with the Dean's (or equivalent) own recommendation for approval or disapproval of promotion to the Committee. After consideration, the Committee shall submit its recommendation to the Chancellor.
- (2) Promotion recommendations will be made in accordance with procedures determined by the Committee, consistent with the *Collected Rules and Regulations of the University of Missouri*.
- (3) The committee shall use standards created by the academic units and shall not create additional campus-wide standards.
- (4) It shall be the responsibility of this Committee, together with the appropriate administrative officers, to establish, develop, and maintain in all areas of the University the highest standards of faculty quality.
- f. **Committee on Research** - The Committee shall consist of two panels, one meeting in the fall semester and the other meeting

in the spring semester.

(1) The Fall and Spring panels shall meet in the fall to elect a committee chairperson for each panel, to clarify program objectives, to coordinate deadlines, and to set guidelines for research proposals and awards. Thereafter, the panels shall meet during their semester of service to advise and make recommendations on:

- (a) Competitions for internal grant funds, including financial support during the summer and during research leaves, support for research assistants, grants for equipment and supplies, and funds for travel to research locations, and
- (b) Nominations for campus, University, and external research awards that are available campus-wide.

(2) Each panel shall also meet after completing its work in order to review procedures and develop recommendations for the following year's committee to consider.

(3) The committee chairperson shall vote only as a member of the panel to which he/she has been elected.

(4) Panel members are ineligible to receive funding and awards under the jurisdiction of the panel on which they serve during the period of their service on the panel. The committee chairperson is ineligible to receive funding and awards under the Committee's jurisdiction during the entire year of his/her service as chairperson.

- g. **Committee on Research and Libraries** - The Research and Libraries Committee shall be responsible for recommending and reviewing issues and policy in the areas of research, research administration, and libraries, including library budgetary issues. It shall advise the Vice Chancellor for Research and the Dean of Libraries, serve as a liaison between the libraries and the university research community via the Senate, and consider any matter referred by the Senate, the Dean of Libraries, the Vice Chancellor for Research, or any member of the campus community.
- h. **Committee on Faculty Teaching and Service Awards** - The Committee shall formulate and publish guidelines for campus-wide teaching and service awards; solicit nominations for these awards as well as University and external teaching and service awards; and recommend candidates to the Chancellor. Members of the Committee are ineligible to receive awards under the Committee's jurisdiction during the entire period of their service on the Committee.
- i. **Committee on Academic Advisory and Assessment** - The Committee shall have the general responsibility for making recommendations to the Provost on academic issues affecting the University, including general policies and procedures

governing the evaluation of academic instruction and advising, and assessment of educational outcomes and other related academic and educational assessment matters. The Committee shall also regularly review and advise on policies and procedures in this area and recommend changes when appropriate.

- j. **Committee on Bylaws and Rules for the Faculty Senate and University Assembly** - The Committee shall:
  - (1) Receive all proposals for changes to the Bylaws and the Collected Rules and Regulations, review proposed changes to the Bylaws and the Collected Rules and Regulations, and initiate the process of Bylaws changes as smoothly and infrequently as possible.
  - (2) Recommend interpretation of the Bylaws and Collected Rules and Regulations upon the written request of the Senate Chairperson, and report its conclusions to the Senate.
  - (3) Compile and maintain a current set of Senate and Assembly Operating Rules, consider changes in Operating Rules, and report recommendations regarding Operating Rules to the Senate.
- k. **Committee on Research Misconduct** - The Committee shall perform the responsibilities prescribed by the Collected Rules and Regulations of the University of Missouri (420.010), "Research Misconduct."
- l. **Committee on Issues of Tenure Removal** - The Committee shall conduct hearings in removal cases or in disputed cases involving tenure rights and status as provided for in the Academic Tenure Regulations of the University of Missouri. This committee is referred to as the Campus Faculty Committee on Tenure in the Academic Tenure Regulations (310.050). Grievances by faculty members shall be handled through the Academic Grievances Procedure.
- m. **Oversight Committee** - The Committee shall perform the responsibilities prescribed by the Collected Rules and Regulations of the University of Missouri (370.010.C.11), "Academic Grievance Procedure." The role of the Oversight Committee is to monitor the grievance process as neutral observers and provide feedback on the process to the Faculty Senate, the Faculty, and the Provost's and Chancellor's offices.
- n. **Ad hoc Committees** - As the need arises, the Senate shall establish or recommend to the Chancellor establishment of ad hoc committees.  
Ad hoc Senate Committees shall be established through Senate approval of nominees selected by the Senate Committee on Committees or by nomination from the floor of the Senate. The faculty composition for each ad hoc committee shall be determined by the Senate.

- o. **University-Wide and Statewide Committees** - Reports from University-wide and statewide committees may be presented to the Senate. Whenever possible, representatives of the University of Missouri-St. Louis serving on University-wide and/or statewide committees should advise the Senate Steering Committee if a report to the Senate is necessary.

F. **UNIVERSITY ASSEMBLY OF THE UNIVERSITY OF MISSOURI-ST. LOUIS**  
(Hereinafter referred to as Assembly)

1. **Membership** - The voting members of the Assembly shall consist of the elected members of the Faculty Senate; the UM System President; the Chancellor; and such others as are designated by the Senate in the Faculty Senate Operating Rules.
2. **Responsibilities** - The Assembly provides a forum for many of the major stakeholders of the University, including administrators, faculty, staff and students, to work together. The Assembly may exercise those responsibilities of the Faculty (see Section 300.040 B.3) that are delegated by the Faculty as a body.
3. **Meetings and Officers** - The Assembly shall meet regularly every other month during the academic year or in special meetings as called by the Steering Committee of the Senate and the Assembly (hereinafter referred to as the Steering Committee). The Steering Committee shall call a special meeting of the Assembly on request of the Chancellor or of any five members of the Assembly. Proceedings in Assembly meetings shall be in accordance with the rules set forth in the most recent edition of Robert's Rules of Order. A quorum shall consist of a majority of elected representatives.
  - a. The elected officers of the Assembly shall be the same as those for the Senate.
  - b. The Chairperson, or in the Chairperson's absence a voting member of the Assembly designated by the Chairperson, shall be the presiding officer at each meeting of the Assembly.
4. **Committees of the Assembly** - All members of the eligible faculty, Administration, and Staff shall be eligible to serve on Assembly committees. Students who satisfy the eligibility requirements for service on the Assembly shall also be eligible to serve on Assembly committees. The standing committees of the Assembly shall be elected each year at the second organizational meeting of the Senate. The Assembly shall establish the following standing committees:
  - a. **Administrator Evaluation** - The Committee shall annually conduct an evaluation of administrators on the UM-St. Louis campus.
  - b. **Budget and Planning Committee** - This Committee makes recommendations to the Faculty Senate, the Chancellor and the Vice-Chancellor for Administration and Finance on matters concerning the long-range vision of the campus; plans to fulfill this vision; and budgetary matters as a consequence of the vision. This includes, but is not limited to, significant matters of a budgetary nature, and policies and priorities for strategic action plans. The Committee studies the Campus budget, keeps informed of its preparation and status, and consults with and advises the Chancellor on significant matters pertaining to budgetary affairs.

**c. Committee on Recruitment, Admissions, Retention, and Student Financial Aid** - The Committee shall:

(1) Monitor processes associated with recruitment, admissions, retention, and student financial aid and facilitate reporting to the Assembly.

(2) Recommend policies and procedures to the Assembly, the Dean of Enrollment, the Director of Student Retention Services, and the Director of Student Financial Aid regarding recruitment, admissions, retention, and student financial aid.

(3) Facilitate discussion with administrators and students on policies and procedures regarding scholarships, advisement and appeals.

**d. Committee on Student Affairs** - The Committee on Student Affairs shall be responsible for recommending and reviewing policy in the areas of non-academic regulations and student services, such as student organizations and student publications, advising administration on policies related to students, and recommending approval of new student organizations. The responsibilities of the committee may be exercised by subcommittees established in any of the above areas. Faculty and staff members with administrative responsibilities in these areas shall be members of the subcommittees dealing in those areas.

**e. Committee on Physical Facilities, Space, and General Services** - The Committee shall have the general responsibility for recommending to the Assembly policies and procedures in the areas of campus facilities and general services. It shall act in an advisory and fact-finding capacity for the planning of physical facilities, review and report priority matters relating to maintenance, construction, and support services to the Assembly, and review and process complaints and suggestions regarding physical facilities and services.

The Committee shall be responsible for formulating long-range space recommendations including the type and amount of space needed, and priorities. Proposals for a long-term or campus-wide nature will be brought to the Assembly for discussion, debate, and ultimate recommendation to the Chancellor.

Allocation of existing unused space will be recommended to the Chancellor by the Committee and reported to the Assembly.

**f. Committee on Information Technology** – The Committee shall be responsible for general policy issues regarding campus information technology.

**g. Ad hoc Committees** - As the need arises, the Assembly shall establish or recommend to the Chancellor establishment of ad hoc committees. Ad hoc Assembly committees shall be established through Assembly approval of nominees selected by the Senate/Assembly Committee on Committees or by nomination from the floor of the Assembly. The composition for each ad hoc committee shall be determined by the University Assembly.



## G. **AMENDMENTS**

1. Proposed changes to these Bylaws shall be submitted to, or initiated by, the Bylaws and Rules Committee, which will follow the relevant procedures outlined above (D.2.1) and then provide them in written form to the Senate or Assembly as appropriate. The appropriate body shall then recommend passage or rejection of the proposed amendment(s) by majority vote. Upon passage of an amendment by the Senate or Assembly, the Chancellor shall submit the proposed change to the Faculty of the University of Missouri-St. Louis for a vote at the Spring Faculty Meeting. Bylaw changes recommended by the Senate or Assembly shall be adopted by a majority of votes cast by the Faculty. Any amendments or modifications shall be presented by the Chancellor through the President to the Board of Curators for its approval before becoming effective.
2. Senate Operating Rules may be amended by majority vote of the Senate.
3. Assembly Operating Rules may be amended by majority vote of the Assembly.

# AUDIT, COMPLIANCE AND ETHICS COMMITTEE

The Audit, Compliance and Ethics Committee (“Committee”) will review and recommend policies to enhance the quality and effectiveness of the University’s financial reporting, internal control structure and compliance and ethics programs.

## I. Scope

In carrying out its responsibilities, the Committee monitors and assesses the University’s financial reporting systems and controls, internal and external audit functions, and compliance and ethics programs.

## II. Executive Liaison

The Chief Audit and Compliance Officer of the University or some other person(s) designated by the President of the University, with the concurrence of the Board Chair and the Committee Chair, shall be the executive liaison to the committee and responsible for transmitting committee recommendations.

## III. Responsibilities

In addition to the overall responsibilities of the Committee described above and in carrying out its responsibilities, the charge of the Committee shall include:

- A. Reviewing and making recommendations to the Board in the following matters:
  - 1. the University risk assessment, audit plan and compliance plan;
  - 2. in conjunction with the Governance, Compensation and Human Resources Committee, the appointment, compensation, annual performance evaluation and termination of the University’s Chief Audit and Compliance Officer;
  - 3. the appointment, compensation, and termination of the university’s external auditors.
- B. Providing governance oversight regarding:
  - 1. development and monitoring a University code of conduct;
  - 2. effectiveness of the internal control framework;
  - 3. ensuring that the significant findings and recommendations are received, discussed and appropriately resolved;
  - 4. procedures for reporting misconduct without the fear of retaliation;
  - 5. university compliance with applicable laws, regulations, and policies that govern all aspects of University operations including but not limited to the following:
    - 1. Administrative compliance risks
    - 2. Healthcare compliance risks
    - 3. Research compliance risks
    - 4. Information security compliance risks
    - 5. Privacy compliance risks
  - 6. those additional matters customarily addressed by the audit, compliance and ethics committee of a governing board for an institution of higher education.
- C. Reviewing periodic reports regarding:
  - 1. the independence, performance, resources and structure of the internal audit, compliance and ethics functions;
  - 2. audit reports and open audit issue status updates;
  - 3. management’s written responses to significant findings and recommendations by the auditors;
  - 4. the adequacy of the University’s information technology methodology with regards to security, internal controls and data integrity assurance;

5. annual external audit reports, including audited financial statements, single audit and required procedures; and
6. the effectiveness of the compliance and ethics program ensuring it has appropriate standing and visibility across the system.

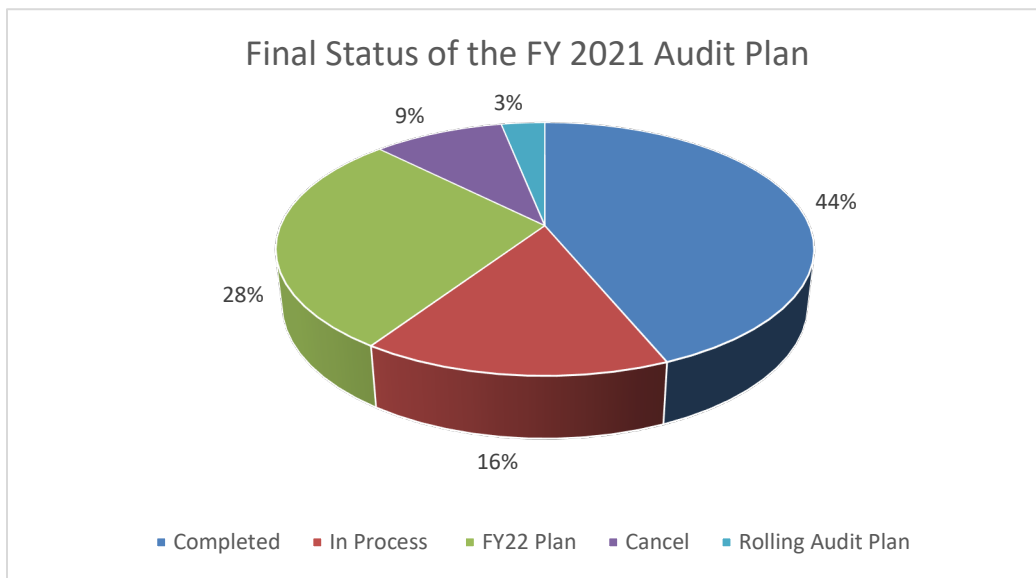
Approved by the Board of Curators: Feb 4, 2021

Internal Audit, Compliance and Ethics Annual Report  
UM

Final Status of the FY 2021 Annual Audit Plan

The Office of Ethics, Compliance and Audit Services completed 14 projects from the fiscal year 2021 Internal Audit Plan with another five in process. The FY 2021 Internal Audit Plan was adjusted as resources, events, emerging issues, or management concerns changed. Throughout the year, eight projects were added to the plan.

- Fourteen projects completed
- Five in process
- Nine included on FY2022 Audit Plan
- One included on Rolling Audit Plan for future consideration
- Three canceled



The table below details the completed internal audit projects and investigations by unit.


<b>Unit</b>	<b>Assurance Projects</b>	<b>Consulting Projects</b>	<b>Investigations</b>	<b>Total</b>
<b>UM System</b>	4	4	0	8
<b>MU</b>	3	0	8	11
<b>MU Health</b>	2	1	1	4
<b>UMKC</b>	0	0	1	1
<b>Missouri S&amp;T</b>	1	0	0	1
<b>UMSL</b>	2	0	2	4
<b>Total</b>	12	5	12	29

Note: One assurance project benefited UM System, MU, and MU Health and another benefited both UM System and MU Health.

Audit and consulting engagements continue to identify opportunities to improve outcomes and manage risk by clarifying guidance roles and responsibilities; evaluating control activities to improve achievement of desired outcomes; and connecting processes across functions and departments.

**Completed Audit & Consulting Engagements by Risk Area (Investigations excluded)**

<b>Audit Engagement</b>	<b>Finance</b>	<b>Compliance</b>	<b>Operations</b>	<b>Reputation</b>
Campus Re-Opening Plans			X	X
MU Conflicts of Interest		X		
UMSL Behavioral Health use of counties children's service funds.		X		
UMSL Children's Advocacy Center affiliated with the psychology department use of the St. Louis County Children's Service Funds (CSF).		X		
UM System Benefits Rates vs Hospital Discounts		X	X	
MU Data Center Operations			X	
S&T Lab Safety		X	X	
Monitoring of management action plan implementation				
HRSA Administered CARES Act Provider Relief Funds		X		
CRF & GEERS (COVID related) funding compliance support		X		
Cash reconciliation process between University Physicians and MUHC post revenue cycle implementation (part of revenue cycle implementation ongoing monitoring of risks)	X		X	
Benefits payroll process	X		X	
Risk assessment and audit plan development				


 Indicates a consulting engagement

In addition, an attorney client privilege assurance engagement and twelve investigations were completed in FY2021.

## Audit Completions since the April 2021 Board of Curator’s Meeting

Listed below is the internal audit assurance report issued since the April 2021 meeting of the Board of Curators. An executive summary of the audit is included for your information.

There is a time-lag between when field work is completed and when a report is issued to provide appropriate time for agreed upon action plans to be written. The full audit reports are available upon request from the Office of Ethics, Compliance and Audit Services.

Internal Audit Assurance Reports	Report Risk Rating
Lab Safety, S&T March 12, 2021	

The reports include an executive summary including our assessed level of risk, as well as a summary of issues and management's action plan. The following page contains the criteria used for the assessment of risk.

In addition, Ethics, Compliance and Audit Services completed the Risk Assessment and FY 2022 Audit Plan Development work and performed procedures to substantiate implementation of agreed to management action plans.

### Assessment of Risk:

- 5 **Extreme** – Very significant impact to the Institution, campus, or unit. Significantly material in terms of financial impact, external compliance violation, adverse publicity, significant or pervasive weakness in control environment, significant inefficiencies, etc. Typically requires campus and UM System administration along with Board attention to resolve.
- 4 **High** – Major impact to the Institution, campus, or unit. Material in terms of financial impact, external compliance violation, adverse publicity, significant or pervasive weakness in control environment, significant inefficiencies, etc. Typically requires campus and/or UM System administration to resolve.
- 3 **Medium** – Moderate in terms of impact to the Institution, campus, or unit. Individual instance or an aggregate of low risk items considered moderate in terms of financial impact, compliance violation, adverse publicity, weakness in control environment, efficiency, etc. Typically requires leadership attention for the selected audit area to resolve with some input from campus and/or UM System administration.
- 2 **Low** – Minor in terms of impact to the Institution, campus, or unit. Relatively immaterial in terms of financial impact, no external compliance violation, little adverse publicity, minor inefficiencies, etc. Typically limited to leadership of the selected audit area to resolve.
- 1 **Negligible** – Incidental or no impact to the Institution, campus, or unit. Immaterial or no financial impact, no external compliance violation, no adverse publicity, minor inefficiencies, etc. Typically requires little or no action to resolve.



### **Background**

Academic labs which house hazardous materials are not as closely regulated as other types of labs, such as those which house radioactive materials or that house research involving animal or human test subjects. At Missouri University of Science and Technology (S&T), there are many stakeholders responsible for lab safety including academic faculty, researchers, lab staff, and the Environmental Health and Safety (EHS) Office. To help ensure that lab safety is a priority at S&T, EHS staff have built a relationship with faculty and staff working in labs where hazardous materials are present, and they also sit and advise on the two safety committees established on the campus. Further, the University has a several documented policies including the Chemical Hygiene Plan which outlines many of the procedures regarding lab safety.

### **Issues Summary**

An accurate list of lab space and pertinent characteristics is not available nor is an accurate inventory of hazardous chemicals and their locations. Systems that either are, or could be used to document this information are at the end of their useful life and are no longer supported by IT. Improvements are needed in the following areas:

1. Updating policies and procedures to prevent and mitigate incidents and/or accidents in labs
2. Identifying, documenting, and updating lab space information.
3. The process to resolve EHS inspection recommendations.
4. Chemical inventory and waste management.
5. Training students, faculty, and/or staff in general lab safety
6. Accident reporting and prevention

### **Management Action Plan Summary**

EHS and the academic deans have agreed to strengthen lab safety operations through a series of control processes. First, EHS will leverage existing Space Planning processes to definitively identify lab spaces. Further, EHS' inspection/verification processes will be updated to include verifying that lab staff are trained, chemical inventory is accurate, and appropriate hazards are noted on the exterior of the lab space. EHS will also provide a timeframe for lab managers to correct inspection issues, and if they are not resolved within the given timeframe, the issues will be escalated to the next level of management. The academic deans will assign departmental staff in applicable areas to be responsible for oversight of laboratory chemical inventory, hazardous waste disposal, and training of lab staff.

June 24, 2021



## **Risk Rating Rationale**

Knowing where lab space is located and what hazardous chemicals are present is necessary to determine what safety measures should be in place, to prevent theft and misuse of hazardous chemicals, to know how to respond to emergencies and to determine whether there are federal regulatory obligations that must be met.

### **Audits Currently in Process**

<b>Audit Area</b>	<b>Overall Objective</b>	<b>Status</b>	<b>Risk Area(s)</b>
MUH – EMR Extension to Lake Regional	Organized Health Care Arrangement (OHCA) post-implementation review	Fieldwork	Compliance
UMKC – Lab Safety	Determine if adequate controls are in place to provide safe working conditions for faculty, students and staff who work in labs which house hazardous chemicals.	Fieldwork	Compliance
S&T – Conflicts of Interest/Commitment	Review the policies and procedures S&T has established to determine adequacy for complying with the Collected Rules and Regulations governing conflicts of interest and commitment.	Fieldwork	Compliance
UMSL – College of Business	Review of key business and academic processes.	Planning	Operations
Fraud Procedures	Finalizing testing work with a consultant to identify anomalies in research data for further investigation. This tool has potential usefulness for business managers to monitor grants.	Beta Testing	Research

In addition, we are actively working one investigation.

June 24, 2021

# University of Missouri System Board of Curators

June 24, 2021

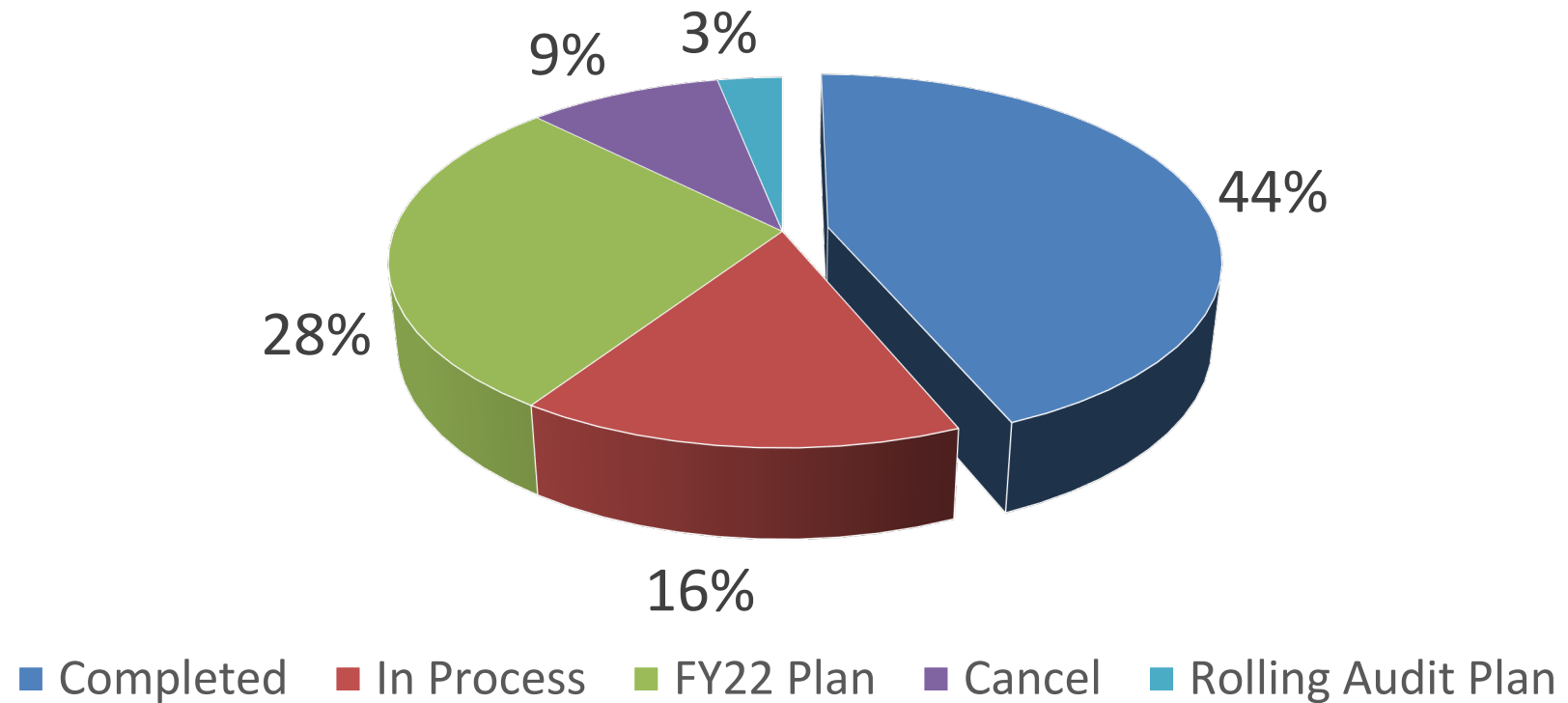
Audit, Compliance and Ethics Committee

Audit, Compliance and Ethics Annual Report

UM



# Final Status of the FY2021 Plan



# Summary of Audit Findings

## Opportunities to improve outcomes and manage risk by:

- Clarifying guidance, roles and responsibilities
- Evaluating control activities to improve achievement of desired outcomes
- Connecting processes across functions and departments

# Summary of Audit Activity

## Since the April 2021 Audit Committee Meeting

- Completed one internal audit, risk assessment, and procedures to substantiate implementation of agreed to management action plans
- Finalizing development of a monitoring tool for research grants
- Completing fieldwork for three audits
- Planning in process for one audit
- Actively working one investigation

# Lab Safety, Missouri S&T

Report Risk Rating:



## ■ Summary Observation

An accurate list of lab space and hazard chemicals inventory, including location is not available. Without an accurate listing of these items, it is difficult to determine necessary safety measures, prevent theft and misuse of hazardous chemicals, know how to respond to emergencies, and understand any applicability of federal regulations.

## ■ Management Actions

Environmental Health and Safety and the academic deans will strengthen lab safety operations by developing an accurate list of lab space and through the lab inspection process verify and track training and chemical inventory. The academic deans will assign departmental staff responsibility for chemical inventory, hazardous waste disposal and training of lab staff.



# University of Missouri System

COLUMBIA | KANSAS CITY | ROLLA | ST. LOUIS

No. 1

Recommended Action – Fiscal Year 2022 Risk Assessment and Proposed Internal Audit and Compliance Plans, UM

It was recommended by Vice President Rapp, endorsed by President Choi, recommended by the Audit, Compliance and Ethics Committee, moved by Curator \_\_\_\_\_, seconded by Curator \_\_\_\_\_, that the attached Fiscal Year 2022 Risk Assessment and Proposed Internal Audit and Compliance Plans be approved.

Roll call vote of Committee:            YES            NO

Curator Brncic  
Curator Graham  
Curator Holloway  
Curator Layman

Roll call vote:                            YES            NO

Curator Brncic  
Curator Chatman  
Curator Graham  
Curator Graves  
Curator Hoberock  
Curator Holloway  
Curator Layman  
Curator Wenneker  
Curator Williams

The motion \_\_\_\_\_.

June 24, 2021





# **Ethics, Compliance and Audit Services**

## **FY22 Risk Assessment and Proposed Internal Audit and Compliance Plans**

June 2021

June 24, 2021

OPEN – ACE – 1-2

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## **Introduction**

This report provides the results of the annual risk assessment for the UM System, its four universities and MU Health and includes the proposed fiscal year 2022 Internal Audit and Compliance Plans. The objective of this risk assessment is to align internal audit resources to the areas of most concern now. Risk assessment is a continuous and iterative process.

## **Higher Education Risk Assessment and Internal Audit Plan Development**

A study by Duke Corporate Education expresses well the situation higher education is experiencing. “It’s time to get comfortable being perpetually uncomfortable. The known, mostly predictable, rhythms associated with universities of the past 100 years have given way to syncopation caused by two off-beat-troublemakers: technological change and cost pressures.”

The 2020 academic year was an ongoing experience of uncomfortableness. Higher education has demonstrated its resiliency in quickly adapting to the impacts from the pandemic as the industry pivoted to on-line and hybrid models of learning, retrofitted campus space for social distancing, and adapted many standard practices to keep the faculty, staff, and students safe while providing a path forward for those students who did not want to delay their educational journey. The UM System universities: MU, UMKC, UMSL and S&T accepted these challenges and exceeded expectations.

The imperative to continue transforming the business and operating models for higher education continues and has been accelerated by the COVID-19 pandemic. Ongoing concerns (risks) also offer an invitation to new opportunities. The major concerns include:

1. Undergraduate population trends are declining nationally, and geopolitical uncertainty continues to impact the enrollment of international students. This results in increased competition for students.
2. State and national funding for higher education continues to decline, forcing universities to find new revenue streams.
3. Increasing digitization exposes universities to increased cybersecurity breaches, through ransomware, breaches of third-party vendors, or phishing.
4. Increasing complexity and number of compliance regulations for higher education, particularly in research.

### University of Missouri System

In addition to the external trends affecting the University of Missouri System, below are continuing initiatives underway for increasing the likelihood of achieving strategic objectives with specific risks noted. An overarching concern is the ability to take on additional priorities is limited, without further developing organizational bandwidth and capacity.

June 24, 2021

1. Continuing to build external partnerships with employers, corporations, and communities to enhance student and research opportunities. (*contracting, intellectual property, and partnership oversight risks*).
2. Building the infrastructure to support increasing research grants, contracts, and clinical trials, to contribute to the University of Missouri System becoming a premier research university and destination employer for top researchers. (*Research compliance, talent management, and operating model risks*).
3. Increasing importance of protecting sensitive, confidential, and protected information from cybersecurity events as digitization increases and hacker schemes continue outpacing the technology designed to protect organizations. (*Cybersecurity, reputational, compliance and disaster recovery/business continuity risks*).
4. The national concern related to “undue foreign influence” and its impact on the UM universities research and academic activities. (*Reputational and compliance risks*).
5. The need for a disaster recovery/business continuity (DR/BC) plan that will prepare the organization to manage the impacts due to the loss of communications, power, data, supply chain disruptions, and employee casualties. (*Business continuity/disaster recovery risks*).

### **MU Health Risk Assessment and Internal Audit Plan Development**

Several shifts are occurring that impact how healthcare is provided and reimbursed. These shifts introduce risk as patient care processes, and coding and billing adapt to the necessary changes. Some changes require new skill sets that may not be available in the current workforce. An understanding of the impact to costs and reimbursement is also needed so new revenue streams can be planned and cost strategies implemented to keep pace with current and/or increased net operating revenue. These shifts include:

1. The number of procedures shifting from inpatient to outpatient (23-hour care), has accelerated for MU Health.
2. The movement from fee-for-service to value-based care and bundled payments, as evidenced by changing payer contracts.
3. Pharmaceutical management shifting from providers to health plans.
4. State of Missouri managed Medicaid plans reimbursement reductions.
5. Continuing escalation of changes to the preauthorization process.

### **Major Initiatives Underway for MU Health and the School of Medicine**

Understanding the strategic direction of the organization and the major initiatives currently underway can direct the internal audit activities to areas where assurance or consulting engagements are of value to leaders. As with the universities, MU Health is limited in its ability to take on additional priorities without further developing organizational bandwidth and capacity.

June 24, 2021

Current major initiatives include:

- Research – building the infrastructure to support increasing research grants, contracts, and clinical trials, to contribute to the University of Missouri becoming a premier research university and destination employer for top researchers. The anticipated investment in the next 12-24 months is \$25 million to support this initiative.
- Integration of Women’s and Children’s Hospital into the University Hospital.
- Extension of the MU Health market area by sharing of the electronic medical record through Organized Health Care Arrangements.
- Completing the Next Gen building and beginning the Children’s Hospital construction.
- School of Medicine is in the process of implementing an HR function and moving to a pod structure for finance and HR.
- In final stages of the revenue cycle implementation effort. Continuing the focus on identifying and fixing issues impacting the revenue stream is critical at this juncture.
- The Custom Network for Missouri

#### Other Contributing Factors

- Emerging from the COVID-19 pandemic, how do we help staff get beyond the fatigue and burnout to being energetic, motivated, creative, and thriving again.
- Uncertainty around the regulatory environment due to the relaxation of regulations during the pandemic and anticipated changes post pandemic.
- MU Health and the School of Medicine operate in a faster pace environment than MU. What is an optimal relationship with MU that will allow MU Health and the School of Medicine to respond more quickly to the fast-paced business changes of health care?

#### **Criteria for Plan Development**

- Avoid audit or consulting engagements in areas undergoing changes in processes, systems, or integration with other units unless Internal Audit is part of assessing current state to identify challenges/gaps to get to future state; or provide consulting work, i.e., processes/controls, research of other universities, etc.
- Focus audit and consulting work to assist in achieving major initiatives and strategic objectives.

June 24, 2021

## FY2022 Internal Audit Plan

Area	Proposed Audit/Project	Entity
Consolidation Work	<b>Support consolidation efforts</b> - through pre- or post-work in selected areas.	UM/MU
Third Party Management Conditions of Participation DNV Accreditation	<b>Partner/Vendor Management Program</b> – Research the different aspects of partner and vendor management programs and a possible fit - <b>Consulting</b>	MUHC/UM System
Quality & Safety	<b>Respiratory Protection Program</b> – Evaluation of program effectiveness. - <b>Assurance</b>	MU Health
Strategy/Compliance	<b>Telehealth/Virtual Visits</b> – Assess opportunities to align the strategies of Missouri Telehealth Network with MUHC and validate the use of State Appropriations - <b>Assurance</b>	MU Health
Compliance	<b>Regulatory Change Management</b> - Assess process to track and monitor regulatory changes and controls in place to ensure communicated changes are implemented in a manner aligned with compliance requirements. - <b>Assurance</b>	MU Health
Quality & Safety Compliance	<b>Anesthesia Drugs</b> – Evaluation of processes for stocking, dispensing, tracking, and wasting of anesthesia drugs in the operating rooms.	MU Health

June 24, 2021

Area	Proposed Audit/Project	Entity
Data Access/Fraud	<b>Insurance payer websites</b> – evaluation of controls for protecting PII and ePHI, and for preventing unauthorized user access and ability to divert payments. <b>-Assurance</b>	MU Health
Human Resources	<b>Disciplinary Practices</b> – Review to assess consistency in disciplinary practices. - <b>Assurance</b>	MU Health
Research Infrastructure	<b>Research Equipment Inventory</b> – Validate process for equipment valuation, inventory, and tracking. - <b>Assurance</b>	School of Medicine
Compliance	<b>EMR Extension to Lake Regional</b> – Complete the evaluation begun in FY2020 of the Organized Health Care Arrangement that governs the electronic medical record extension to Lake Regional. - <b>Assurance</b>	MU Health
Fraud Procedures	<b>Grant/Research</b> Complete development of the grants/research tool for use in performing fraud procedures. - <b>Assurance</b>	System
Information Technology	<b>Logging/Monitoring</b> – Assessment of logging and monitoring practices of selected critical systems. - <b>Assurance</b>	TBD
Information Technology	<b>Selected Information Security Areas</b> – Conduct an evaluation of selected areas related to information security processes. - <b>Assurance</b>	TBD

June 24, 2021

Area	Proposed Audit/Project	Entity
Operations and Information Technology	<b>Disaster Recovery/Business Continuity</b> – If needed, support the Director of Emergency Management in assessing current state. <b>-Consulting</b>	System
Academic Enterprise/Reputational	<b>Scholarship Awards</b> – Assessment of scholarship awards to donor restrictions and/or established criteria. <b>-Assurance</b>	UMKC, S&T, UMSL, MU
Compliance	<b>Export Controls</b> – Assessment of export control processes. <b>-Assurance</b>	UMKC, S&T, UMSL, MU
Environmental Health and Safety	<b>Lab Safety</b> – Determine if adequate controls are in place to provide safe working conditions for faculty, students and staff who work in labs which house hazardous chemicals. <b>-Assurance</b>	UMKC
Operations	<b>MOREnet</b> – Evaluation of the business model. – <b>Assurance/Consulting</b>	System
Research	<b>Invoicing and Collections</b> – Assessment of the research grants and contracts invoicing and collections process. <b>-Assurance</b>	MU
Academic Enterprise	<b>Academic Integrity in a Remote Learning Environment</b> – Assessment of the evolving academic integrity risks and the program controls to prevent/detect integrity issues in a remote environment. <b>-Assurance</b>	MU, UMKC, UMSL, S&T

June 24, 2021



Area	Proposed Audit/Project	Entity
Compliance	<b>Conflicts of Interest/Commitment</b> – Complete effectiveness assessments of the conflict of interest and commitment process against established criteria.	S&T, UMKC, UMSL, MUHC
Ongoing Activities	<b>Monitoring of Management Action Plan Implementation</b> - Review the status of prior audit agreed to management action plans.	System
Ongoing Activities	<b>Risk Assessment and Audit Plan Development</b> - Continue to review key and emerging risks to adjust the current audit and compliance plan and to use as the basis for the FY 2022 audit plan.	System

### Rolling Audit Plan

These internal audit engagements comprise the rolling audit plan. As risks emerge or internal audit resources allow, these engagements will move up in priority for completion as part of the FY2022 Internal Audit Plan. These areas will also be evaluated as part of the FY2023 risk assessment process.

Risk Area	Audit Description	Entity
Data Regulations	Develop current state for GLBA, FERPA and GDPR in support of the FY22 Compliance plan, if needed.	MU, UMKC, UMSL & MS&T
Compliance	<b>Controlled Substances:</b> Assessment of practices for purchasing, storing and safeguarding controlled substances. - <b>Assurance</b>	MU Health
Academic Enterprise/Reputational	<b>Student Fees:</b> Assessment of student fee use in accordance with purpose.	MU, UMKC, UMSL & MS&T
Academic Enterprise	<b>Enrollment Management:</b> Assessment of admissions processes for transparency, efficiency, effectiveness, and bias against disadvantaged populations.	MU, UMKC, UMSL & MS&T
Operations	<b>ePAF Processes:</b> Evaluation of the electronic personnel action form processes, if not addressed in the Administrative Transformation work.	System

June 24, 2021

## **FY2022 Ethics and Compliance Plan**

The system-wide Ethics and Compliance Program's overall purpose is to promote the highest standards of ethics and professional conduct and ensure compliance with all applicable laws, regulations, and policies throughout the UM Systems. The Ethics and Compliance Program's objectives are to:

- Reinforce a culture of caring, integrity and accountability
- Empower staff, faculty, and leadership to “own” and take responsibility for doing what's right and reporting concerns
- Protects the organization while finding creative ways to further our mission
- Is consistent with the Federal Sentencing Guidelines Effective Elements

In FY2022 this will be accomplished by:

- Completing implementation of the foundational components for ethics and compliance
- Engaging compliance professionals in a collaborative network to strengthen compliance with applicable laws, regulations, and policies and create an open communications channel with the universities
- Developing monitoring tools to gauge compliance with regulations in the areas of research compliance, information security and data regulations
- Creating and reporting internal and external benchmarks to demonstrate impact and signal when adjustments may be necessary
- Working collaboratively with other areas to move the system towards a continuous risk assessment approach by building out unit profiles

Following is the FY2022 Ethics and Compliance workplan for completing this work.

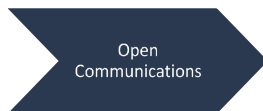
June 24, 2021



- Board approval of Compliance Program Policy CRR by end of 2021
- Development of Compliance Program Charter and system-wide Audit & Compliance Committee structure by end of 2021



- Distribution of Code of Conduct Fall Semester 2021
- Nonretaliation policy development and distribution
- Formalize hotline policy
- Formalize investigation policy



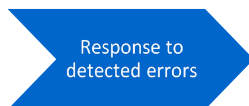
- Develop Compliance Network with compliance professionals across the system to leverage knowledge, establish regulatory change management and continuously understand risk
- Administer departmental surveys to assist in development of strategy, gaps, and controls for continuous risk assessment



- Rollout and education campaign for Code of Conduct Fall Semester 2021
- Develop communication plan for all policies as developed/distributed
- Utilize Compliance Network to broadcast training and to learn of what training opportunities are needed



- Develop pilot compliance and monitoring matrix for identified risk areas of Information Security, Data Regulations, and Research Compliance
- Develop pilot dashboard for reporting and monitoring of one time and repetitive tasks



- Draft and finalize corrective action policy and procedure for resolving serious issues regardless of where the issues have been identified
- Draft and finalize procedure that requires units to report external audits/review requests, reports, and findings to monitor for systemic issues or issues that can be proactively addressed at other locations or departments



- Ongoing updates to matrices and dashboards as needed during year one pilot
- Develop annual report on compliance to begin assessing effectiveness of the compliance program

June 24, 2021

# University of Missouri System Board of Curators

June 24, 2021

Audit, Compliance and Ethics Committee

FY2022 Risk Assessment, Internal Audit and Compliance Plans

UM



# Higher Education Industry Trends

- Undergraduate population trends declining nationally
- Geopolitical uncertainty continues to impact enrollment of international students
- Continued need to find new revenue streams beyond state and national funding sources
- Increasing digitization leading to increased potential for cybersecurity incidents
- Increasing complexity and number of compliance regulations, particularly in research

# Healthcare Industry Trends

- The accelerating shift from inpatient to outpatient procedures and the movement from fee-for-service to value-based care and bundled payments is impacting revenue
- Pharmaceutical management is shifting from providers to health plans
- State of Missouri managed Medicaid plans reimbursement reductions

**Both the Universities and MU Health are challenged to take on additional priorities without further developing organizational bandwidth and capacity**

# Criteria for Plan Development

- Avoid audit engagements in areas undergoing changes in processes, systems or integration with other units, except when Internal Audit is part of the change effort
- Focus internal audit resources to assist in achieving major initiatives and strategic objectives



# Internal Audit Plan Highlights

- Support of consolidation efforts
- Engagements in the areas of cybersecurity and research
- Consulting work to identify opportunities for managing partner/vendor arrangements
- Support for developing the disaster recovery/business continuity plan
- Engagements in emerging issues areas of telehealth, regulatory change management and academic integrity in remote learning environments

# Ethics and Compliance Program Objectives

- Reinforce a culture of caring, integrity and accountability
- Empower staff, faculty and leadership to “own” and take responsibility for doing what’s right and reporting concerns
- Protect the organization while finding creative ways to further the mission
- Is consistent with the Federal Sentencing Guidelines for Effective Elements

# Ethics and Compliance Program

FY2022 work will focus on:

- Completing implementation of the foundational elements
- Engaging compliance professionals in a collaborative network
- Formalizing compliance training and education needs
- Developing monitoring tools to gauge compliance with regulations in the areas of research compliance, information security and data regulations
- Collaboratively develop corrective action policy and consistent disciplinary guidelines to resolve serious issues
- Establish metrics to measure effectiveness

# Continuous Risk Assessment

- Wider gathering of information through surveys to supplement conversations with leadership and improve the ability to target audits and compliance initiatives in areas of most concern
- Tighter integration by collecting unit specific information:
  - Compliance obligations and regulations
  - Financial and performance data
  - Results from audits and investigations
  - Better understanding of accountability for unit specific and major initiatives
- RESULTS:
  - Ability to assess risks continuously driven by emerging events and concerns of leadership

# Key Takeaways

- Internal Audit plan focused in the areas of consolidation, research, cybersecurity, emerging issues and support for improving partner/vendor management and disaster recovery/business continuity plan development
- Compliance plan focused on completing implementation of foundational elements, building the compliance network, and establishing a method for monitoring compliance with regulations
- Work to help move the UM System to a continuous risk assessment process



# University of Missouri System

COLUMBIA | KANSAS CITY | ROLLA | ST. LOUIS

No. 2

Recommended Action - Resolution for Executive Session of the Audit, Compliance and Ethics Committee, June 24, 2021

It was moved by Curator \_\_\_\_\_ and seconded by Curator \_\_\_\_\_, that there shall be an executive session with a closed record and closed vote of the Board of Curators Audit, Compliance and Ethics Committee meeting June 24, 2021, for consideration of:

- **Section 610.021(1), RSMo**, relating to matters identified in that provision, which include legal actions, causes of action or litigation, and confidential or privileged communications with counsel; and
- **Section 610.021 (17), RSMo**, relating to matters identified in that provision, which include confidential or privileged communications between a public governmental body and its auditor.

Roll call vote of the Committee:                      YES                      NO

Curator Brncic

Curator Graham

Curator Holloway

Curator Layman

The motion \_\_\_\_\_.

June 24, 2021

# HEALTH AFFAIRS COMMITTEE

The Health Affairs Committee (“Committee”) assists the Board of Curators in overseeing the clinical health care operations of the University and in coordinating those operations in furtherance of the University’s teaching, research, and clinical missions.

## I. Scope

The Committee provides oversight for the University’s clinical health care operations in the areas of:

- Mission, vision, and strategy;
- Governance and operational oversight;
- Quality of care and patient safety;
- Regulatory compliance;
- Financial planning and performance; and
- Coordination of the clinical, teaching, and research missions.
- Specific projects that enable meaningful collaboration among UM universities.

## II. Executive Liaison

The Executive Vice Chancellor for Health Affairs of the University of Missouri-Columbia or some other person(s) designated by the President of the University, with the concurrence of the Board Chair and the Committee Chair, shall be the executive liaison to the Committee and responsible for transmitting Committee recommendations.

## III. Responsibilities

In addition to the overall responsibilities of the Committee described above and in carrying out its responsibilities regarding clinical health care operations, the charge of the Committee shall include:

- A. Reviewing and making recommendations to the Board regarding:
  1. actions that are appropriate or necessary to assist the Board in overseeing clinical health care operations or coordinating the teaching, research, and clinical missions;
  2. significant actions related to health care which should require advance notice or approval by the Committee or Board; and
  3. other matters referred to it by the Board and University officers.
- B. Requesting, receiving, and reviewing reports and other information from University officers and advisors regarding health care operations, coordination of the teaching, research, and clinical missions, and related matters, including meeting at least quarterly and receiving regular reports from appropriate officers of University of Missouri Health Care, the MU School of Medicine, and the MU Health Chief Compliance Officer.
- C. Additional matters customarily addressed by the health affairs committee of a governing board for an institution of higher education.

## IV. Committee Membership and Quorum Requirements

The Committee’s membership may include non-Curator members in addition to Curator members. Subject to approval of the Board, the Board Chair shall determine the number of Curator and non-Curator members to appoint to the Committee and shall select individuals to serve as members of the Committee; provided that, the number of non-Curator members on the Committee shall not exceed the number of Curator members on the Committee, unless the Committee temporarily has more non-Curator members than Curator members because a Curator member of the Committee has resigned from the Board or the Committee. Non-Curator members may resign their Committee membership by providing written notice to the Board Chair. Non-Curator members of the Committee serve at the pleasure of the Board and may be removed by the Board Chair at any time, subject to approval of the Board.

A quorum for the transaction of any and all business of the Committee shall exist when:



1. Both a majority of all Curator members of the Committee and a majority of all members of the Committee are participating for Committee meetings which are held in conjunction with meetings of the Board; or
2. Both all Curator members of the Committee and a majority of all members of the Committee are participating for Committee meetings which are not held in conjunction with meetings of the Board; or
3. Both a majority of all Curator members of the Committee and a majority of all members of the Committee are participating for Committee meetings which are held solely for the purpose of reviewing and overseeing compliance matters.

Approved by the Board of Curators: Feb 4, 2021

# Health Affairs Committee EVC Report

**Richard J. Barohn, MD**

Executive Vice Chancellor for Health Affairs

June 17, 2021



University of Missouri

MU Health Care | NextGen Precision Health | School of Medicine

# Shared vision for serving Missourians

## Sinclair School of Nursing



## NextGen Precision Health building



## New Children's Hospital



# MU Health Care and School of Medicine unified strategic planning

## May 18<sup>th</sup> Retreat: Strategic Priorities and Themes





**Video Clip**

## Next Steps Summary

1. **Updated Strategic Plan:** Strategic Planning is developing a more formal document that can be distributed to broad stakeholder groups.
2. **Action Plans:** Strategic Planning will convene focus area leaders and/or accountable leaders to further refine and finalize FY22 action plans.
3. **Performance Scorecard(s):** Finalize MU Health Care & SOM indicators/targets.
4. **Communication & Alignment:** Communicate corporate plan and targets and cascade strategy throughout the system through operational plan development.
5. **Implementation & Reporting:** Strategic Planning will track progress through PPM tool and support targeted implementation. Accountable leaders provide regular updates.

# COVID-19 response



*COVID-19 Commemoration Ceremony*



*We are vaccinating anyone 12 and older.*

- We gathered May 13 for a time of **remembrance, gratitude, hope and optimism**
- Boone County is the **most vaccinated county** in Missouri – **48.4%** of population has initiated vaccination (as of 6/3/21)
- Our expertise and collaboration helped drive campus response
- **Moving forward:** Masking policy, visitor policy and return-to-campus

# NextGen Precision Health – Grand opening Oct. 19

- Building is **on time** and **on budget**
- **Save the date** for the NextGen Precision Health building grand opening!
- Tuesday, Oct. 19, 2021, at 10 a.m.





# Recognizing Ron Ashworth

- Received an Attorney General Honors Award for extraordinary citizens who go “above and beyond” to make Missouri a better place to live
- \$1 million gift from Bill and Nancy Thompson established Ron Ashworth Endowed Professorship in Child Development



*Ron Ashworth with Bill and Nancy Thompson*



*Ben Black, director of medical services at the Thompson Center, holds the Ron Ashworth Professorship*

# Dean's Report

June 17, 2021

**Steven Zweig, MD**

Dean of MU School of Medicine



School of Medicine

University of Missouri

# Springfield Clinical Campus

- Completing **five-years** of our medical school in Springfield
- Under the new leadership of Associate Dean **David Haustein**



# Springfield Clinical Campus: Facts

## Program

- All students spend first two years in Columbia
- Up to 32 students will go SCC in the third year for required clerkships
- SIM centers and support staff on each campus
- Fourth year students can learn in either campus
- Close integration between Columbia and Springfield campuses to ensure equivalent educational experiences

## Students

- 2021: 19 M3s and 23 M4s at SCC
- 2022: 31 M3s and 19 M4s at SCC
- Full range of specialties selected (20% stayed in Missouri for training)

## Faculty

- Paid faculty clerkship directors
- Volunteer faculty: 170 CoxHealth, 120 Mercy Springfield

# New Leaders

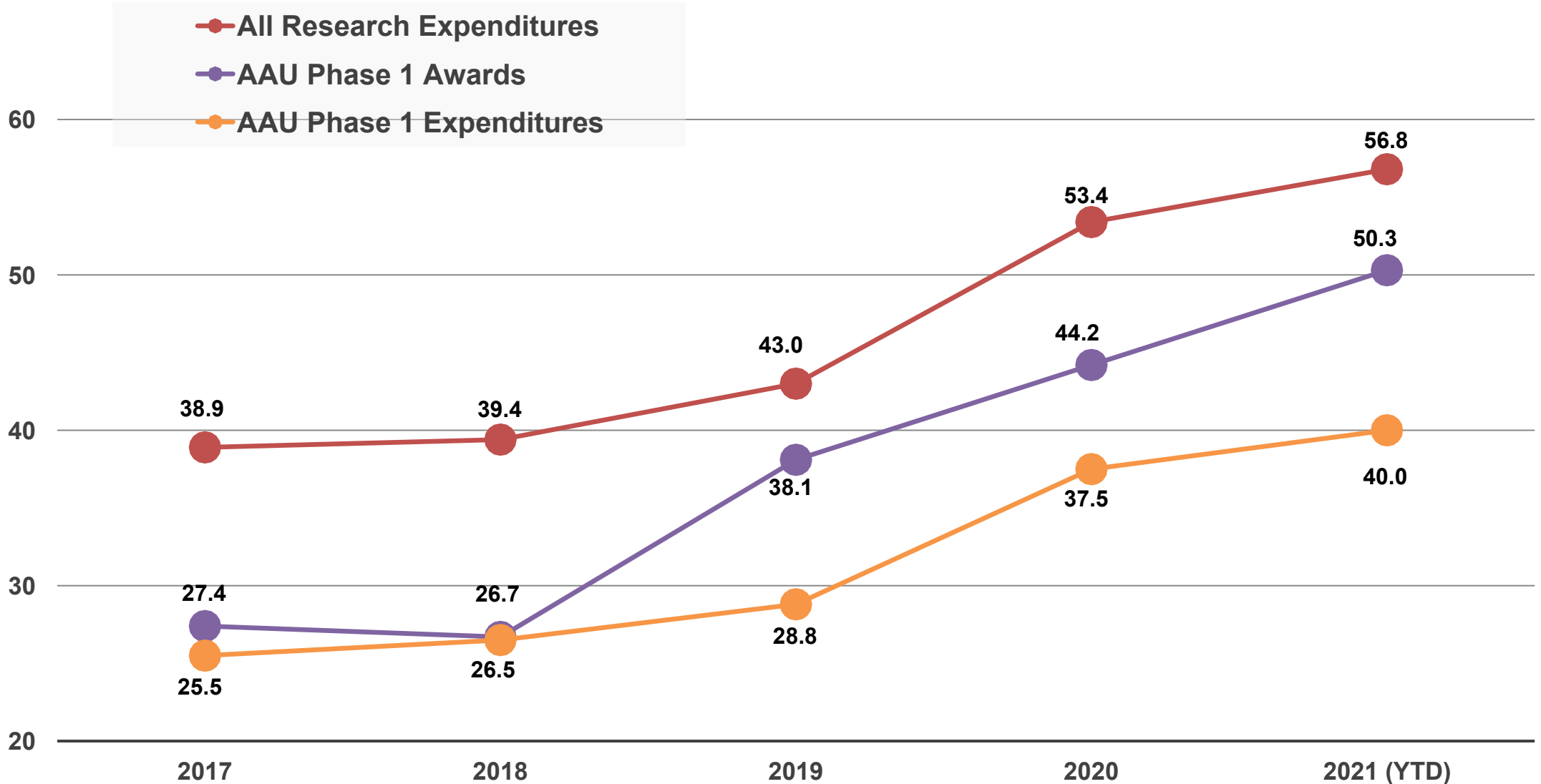
- **Dr. Parvesh Kumar**, associate dean for clinical and translational research and associate director for clinical research at Ellis Fischel Cancer Center
- Will champion clinical trials research and participation
- Expert in radiation oncology and clinical research management; came from UNLV School of Medicine where he was Vice Dean for Research
- He joins 3 other associate deans that manage the full translational continuum of medical research:
  - William Fay, MD, Laboratory
  - Russ Waitman, PhD, Informatics
  - Gillian Bartlett, PhD, Population/Health Outcomes



## Recruitment updates and Growth

- Chair searches in OB/GYN and Neurology
- Chief of Hematology/Oncology, Cancer Center Director
- Research Hiring (RISE-UP)
  - 34 positions approved
  - 12 offers made
  - 7 new faculty hired
- Clinical revenue FYTD \$204,649,000 + 2.1% over last year
  - Services by SOM faculty (through May)
    - Outpatient visits 507,476
    - Inpatient visits 208,322
    - Procedures 163,045

# Research Awards and Expenditures (by fiscal year in millions \$)



# Challenges

## 1. Competition for faculty in southwest Missouri:

- our partners are competing health systems
- large osteopathic school in Joplin (350 per class)
- tax credit for volunteer faculty (HB 689) did not pass in the MO Senate

## 2. Faculty recruitment in Columbia:

- competition for funded researchers
- post-COVID uncertainty affects desire to move
- challenging housing market

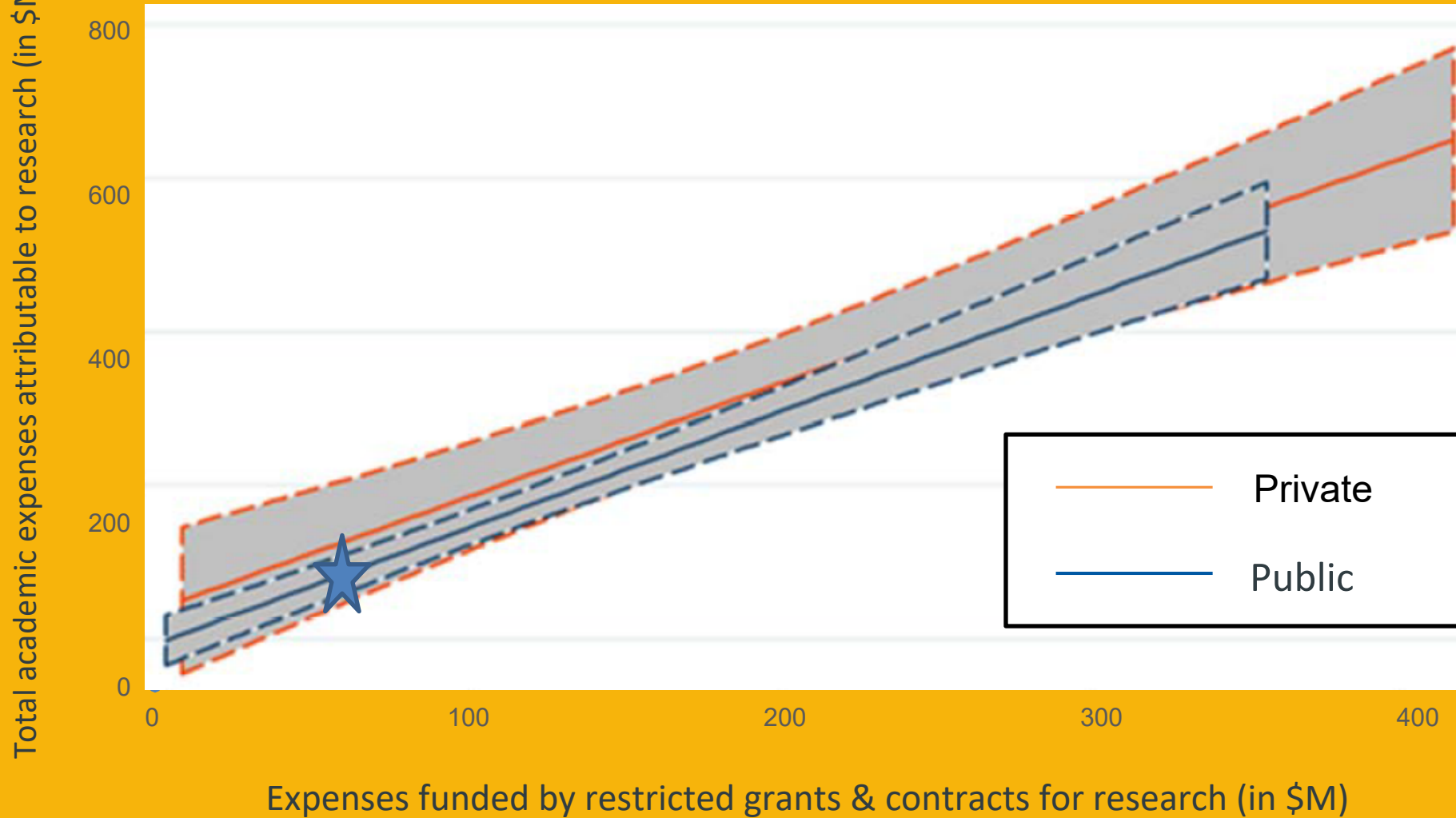
## 3. Need to sustain clinical growth and grow philanthropy to support academic mission

- each \$1 from external sources requires average \$1.52 investment



# Growth in Research Expenditures Will Require Investment

Relationship Between Externally Funded Research and Total Research Expenditures  
(On average 1.52 investment needed for every \$1 increase in Expenditures)



Source: Association of Academic Health Centers. "How much does research cost" 2014

# **CEO Report**

**June 17, 2021**

**Jonathan Curtright**

Chief Executive Officer



**Health Care**

## Quality and safety

**“Dr. Fiala and all staff members were courteous and personable. Dr. Fiala was up to date on my health records and the recent X-ray images. He discussed options for treatment with me, explained the details clearly, and answered my questions. Very helpful and friendly.”**

# System level quality and safety



Health Care

## Quality and Patient Safety Dashboard

Percentile Rank  
1 100  
\*HAI Colors Represent: Green: Top Quartile, Red: Bottom 50%



### Overall Adult Inpatient Performance

Regardless of the selected Benchmark Group and Timeframe, all results are benchmarked against an aggregated twelve month period for patients with an age of 18+. For more information about benchmarking please refer to the Benchmarking page.

Benchmark Group

Vizient Comprehensive Academic Medical Centers

Timeframe

Latest FYTD

#### Vizient Q&A Percentile Rank

FY21 Q2

28



AMC Rank:  
28 of 100



**NOTE:** Vizient Q3 and Q4 Rankings will not be released for FY20. Final FY20 scoring will be based on July 2019 - February 2020 performance in what Vizient is calling their "Pre-Covid" period.

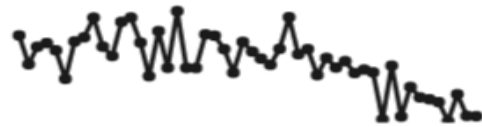
#### Survival

Jul' 20 - Feb' 21

0.57



PR: 3  
Rank: 3 of 99



#### Vizient Service Line

PR

Vizient Service Line	PR
General Surgery	1
General Medicine	3
Vascular Surgery	3
Cardiology	4
Neurology	4
Gastroenterology	6
Oncology	6
Pulmonary / Critical Care	7
Trauma	8
CT Surgery	10
Neurosurgery	20
Orthopedics and Spine	60
Transplant Services	99

#### Readmissions

Jul' 20 - Jan' 21

10.4%



PR: 38  
Rank: 38 of 99



#### Vizient Service Line

PR

Vizient Service Line	PR
Pulmonary / Critical Care	1
Transplant Services	8
Vascular Surgery	13
General Medicine	19
Neurology	29
General Surgery	42
Oncology	56
Neurosurgery	64
Orthopedics and Spine	81
CT Surgery	86
Trauma	93
Cardiology	97
Gastroenterology	98

#### Safety

RTM as of Feb' 21

0.7



PR: 8  
Rank: 8 of 99



#### Patient Safety Indicator

PR

Patient Safety Indicator	PR
PSI10	1
PSI15	13
PSI11	18
PSI13	31
PSI03	41
PSI12	44
PSI09	48
PSI14	52
PSI06	59
PSI08	80

#### Infections

Jul' 20 - Mar' 21

0.77



Target: 0.44



#### Hospital Acquired Infections

SIR

Hospital Acquired Infections	SIR
CAUTI	0.57
CLABSI	0.99
COLO	0.49
HYST	2.76

[LINK TO QUALITY & PATIENT SAFETY DASHBOARD](#)

**KEY:** PSI-03: Pressure Injuries | PSI-06: Iatrogenic Pneumothorax | PSI-08: Fall with Fracture | PSI-09: Perioperative Hemorrhage or Hematoma | PSI-10: Postoperative Acute Kidney Injury | PSI-11: Postoperative Respiratory Failure | PSI-12: Perioperative PE/DVT | PSI-13: Postoperative Sepsis | PSI-14: Postoperative Wound Dehiscence | PSI-15: Accidental Puncture / Laceration

# MU Health highlights



CMS.gov  
Centers for Medicare & Medicaid Services



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**MACRA / MIPS**



Level I Stroke Center



**VERIFIED**  
**TRAUMA**  
**CENTER**



# Children's Hospital rendering



- Expanding by **90 inpatient beds** this fall
- **On time and on budget** for summer 2024 opening
- **Oct. 1** formal groundbreaking ceremony
- Children's Hospital philanthropy team

# Challenges

## 1. Revenue pressures

- **Managed Medicaid**
- **Specialty pharmacy and imaging**
- **Inpatient to outpatient orthopaedics**

## 2. Medical inflation and construction costs

## 3. Recruitment of cardiologists, neurologists and oncologists

**University of Missouri Health Care  
Health Affairs Committee**

**Financial Report  
Fiscal Year 2021, April Year-to-Date**

Consolidated Financial Results (\$000's)	Actual	Forecast	Prior Year
Net Revenues	\$995,805	\$983,391	\$891,048
Operating Expenses	(910,091)	(909,918)	(847,603)
Operating Income	85,715	73,473	43,446
Non-operating Revenues, Net	(6,571)	(3,191)	(20,201)
Change in Net Assets/Net Income	\$79,143	\$70,282	\$23,245

**Overview**

Year-to-date financial performance for Net Income is favorable to forecast by \$8.9M. Net revenues per adjusted patient day are 11.4% higher than prior year, offsetting the 7.0% increase over prior year in operating expenses per adjusted patient day. The focus on aligning operating expenses in relation to patient revenue and volume is reflected in favorable operating performance.

**Performance Updates**

- Case Mix Index of 2.0 is 8.8% higher than forecast and 7.0% higher than prior year
- Average Daily Census is 2.1% lower than forecast and 3.2% lower than prior year
- OR Cases are 1% lower than forecast and 3.4% higher than prior year
- Clinic visits are .7% lower than forecast and 4.7% higher than prior year

**Ratios and Benchmarks**

Operating Margin, Annualized Return on Total Assets, Cash to Total Debt, Debt to Capitalization and Maximum Annual Debt Service Coverage are favorable to Moody's A rated medians, while Net Days Revenue in AR and Days Cash on Hand are unfavorable to Moody's A rated medians.

- The impacts of the Cerner Revenue Cycle Conversion on cash collections and accounts receivable are will be short term and are reflected in the financial ratios and benchmarks below.
- Construction on the Children's Hospital Facility began in March and the project is favorable to spending projections to date and funded by operating income.

Financial Ratios and Benchmarks	Actual	Forecast	Prior Year	Moody's A-Rated
Operating Margin	7.7%	6.5%	3.8%	2.7%
Annualized Return on Total Assets	6.6%	4.9%	2.2%	4.4%
Cash to Total Debt	171.0%	147.0%	195.0%	137.9%
Debt to Capitalization	24.2%	28.9%	23.8%	30.9%
Maximum Annual Debt Service Coverage	6.1	5.4	2.9	4.7
Days Cash on Hand	186.8	193.1	198.2	215.1
Net Days Revenue in AR	59.6	49.9	40.0	46.2



**University of Missouri School of Medicine  
Health Affairs Committee**

**Financial Report  
Fiscal Year 2021, April Year-to-Date**

<b>Consolidated Financial Results (\$000's)</b>	<b>Actual</b>	<b>Forecast</b>	<b>Prior Year</b>
Net Clinical Revenues	\$196,264	\$195,111	\$197,626
Operating Expenses	(199,777)	(195,350)	(194,001)
Operating Income	(3,513)	(239)	3,625
Non-operating Revenues, Net	(1,484)	(114)	5,001
Change in Net Assets/Net Income	-\$4,997	-\$353	\$8,626

**Overview**

Year-to-date financial performance for Net Income is below forecast by \$4.6M. Net clinical revenues continue to outperform forecast by \$1.2M but still below prior year primarily due to COVID and Cerner Software Conversion factors. External grants and contracts are robust at 20% higher than prior YTD. Negative change in net assets also reflect that reserves are being used to support increased research faculty hires and related startup costs.

**Performance Updates**

- Total faculty productivity as measured by Work RVU's are even with forecast and 6% higher than prior year
- Clinical FTE are 341 faculty which represents an increase of 29 over prior year
- External grants and contracts are \$9M above forest and 20% higher than prior year
- BRIMNR Ranking increased to 82 compared to 83 prior year
- Clinic visits are .7% lower than forecast and 4.7% higher than prior year
- The impacts of the Cerner Revenue Cycle Conversion on cash collections and accounts receivable will be short term

## Memo

**To:** Board of Curators – Health Affairs Committee  
University of Missouri System

**From:** Jennifer May  
MU Health Chief Compliance Officer

**Date:** June 17, 2021

**Re:** Quarterly Compliance Update

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- I. Corporate Integrity Agreement Update
  - A. Reporting Period 5
    - i. Covers dates July 1, 2020 through June 30, 2021
    - ii. Final year of the five-year agreement, term ends June 30, 2021
    - iii. Final annual report will be submitted no later than October 1, 2021
    - iv. The five locations selected for review by the Independent Review Organization, BKD, have been received. The Claims Review process will begin after the close of the fiscal year and wrap prior to the submission of the final annual report.
  - B. Status of Task Items
    - i. See CIA tracking spreadsheet
  - C. Close Out Process
    - i. Barring any requests from the OIG for additional materials, Clauses VII: OIG Inspection, Audit and Review Rights; X: Breach and Default; and XI: Effective and Binding Agreement, are set to expire on or about January 29, 2022 (based on submission date of final report)
    - ii. OIG has one year to initiate any Validation Review of the final Claims Review, which option shall expire on or about October 1, 2022 (based on submission date of final report)
  - D. Overview of CIA Annual Report items
    - i. Please note: the full report will be reviewed with this committee during the August 2021 meeting; all information below is preliminary
    - ii. Executive Compliance Committee (ECC): upon completion of the June 2021 meeting, this committee will have met each month during the reporting period; topics reviewed included CIA updates, compliance reports, risk assessment reviews, work plan updates, and other relevant areas of review
    - iii. Compliance Report Intake: staff and faculty have continued to use all three primary means of communication to report issues (direct communication, Patient Safety Network, and the UM System hotline) throughout the reporting period; overall direct reports to the compliance office continue to trend up over prior year

- iv. Training and Education: all staff and faculty are trending to complete all modules on-time
- v. Management Certifications: certifications of compliance must be made annually by management level personnel identified in the CIA; this process will begin after the close of the reporting period
- vi. Exclusion Screening: checks have been completed each month throughout the reporting period
- vii. Policy Review: this process is currently underway; scheduled for completion by June 30, 2021
- viii. FY21 Monitoring and Auditing: work plans are in the final stages of completion
- ix. FY22 Risk Assessment and Compliance Plan: UM system has completed their risk assessment and audit plan for FY22 and presented it to the ECC in May; the Office of Corporate Compliance is finalizing their risk assessment and compliance work plan for FY22 and will present it to the ECC at the scheduled June meeting
- x. CIA Resolution: the resolution below will be presented for consideration at the August 2021 Health Affairs Committee meeting:
  - 1. “The Health Affairs Committee of the Board of Curators of the University of Missouri has made a reasonable inquiry into the operations of the Compliance Program of MU Health (sometimes referred to as University of Missouri Health System or UMHS) including the performance of the Chief Compliance Officer and the Compliance Committee. Based on on its inquiry and review, the Health Affairs Committee has concluded that, to the best of its knowledge, UMHS has implemented an effective Compliance Program to meet Federal health care program requirements and the obligations of the Corporate Integrity Agreement.”

University of Missouri Health System Corporate Integrity Agreement  
Activities Summary and Completion Tracking - Reporting Period 5

CIA Section #	CIA Section Title / Content Summary	Action Item	Assigned To	Completed
III.A.1	Chief Compliance Officer	quarterly reports to BOC	CCO / BOC HAC	17-Jun-2021
III.A.2	Compliance Committee	quarterly meetings of ECC	CCO	25-May-2021
III.A.3	BOC Compliance Obligations	description of materials reviewed	BOC (CCO)	1-Oct-2021
III.A.3	BOC Compliance Obligations	resolution	BOC (CCO)	1-Oct-2021
III.A.4	Management Certification	annual certification of compliance	CCO	starts 7/1/21
III.B.1	Code of Conduct	annual review of COC	CCO	30-Jun-2021
III.B.1	Code of Conduct	annual distribution to all Covered Persons	CCO	30-Jun-2021
III.B.2	Policies & Procedures	annual review of all compliance policies	CCO	30-Jun-2021
III.C.1	Training Plan	furnish training to all Covered Persons	CCO	30-Jun-2021
III.C.3	Certification	Covered Persons certification of training	CCO	30-Jun-2021
III.C.5	Update of Training Plan	annual review of training plan	CCO	30-Jun-2021
III.C.5	Update of Training Plan	changes to training plan ( <i>requires OIG approval</i> )	CCO	n/a
Appendix B	Claims Review	annual review	IRO	1-Oct-2021
Appendix B	A.1.c. Population	furnish patient census and payor mix to OIG	CCO/ UP	31-Mar-2021
Appendix B	A.1.c. Population	proposed subset of claims for review (not req'd)	CCO / UP	31-Mar-2021
Appendix B	A.3 Repayment of Overpayments	UMHS shall repay IRO-identified overpayments	UP	if necessary
Appendix B	B. Claims Review Report	IRO prepares / CCO filed with Annual Report	IRO / CCO	1-Oct-2021
III.E	Risk Assessment and Internal Review	annual risk assessment conducted	CCO/ Internal Audit	30-Jun-2021
III.F	Disclosure Program	maintain disclosure log / record of disclosures	CCO	30-Jun-2021
III.G.2.b	Screening Requirements	screen current Covered Persons - annually - SAM	CCO	1-Jun-2021
III.G.2.b	Screening Requirements	screen current Covered Persons - montly - LEIE	CCO	1-Jun-2021
III.J.2	Reporting of Reportable Event	notification to OIG of reportable event	CCO / CPO	as necessary
V.B	Annual Reports	submission of annual report	CCO	1-Oct-2021
V.C.1	Certifying Employees	management certifications in annual report	CCO	1-Oct-2021
V.C.2	CCO and EVC-HA	certification by CCO and EVC-HA in annual report	CCO / EVC-HA	1-Oct-2021

University of Missouri Health System Corporate Integrity Agreement  
Activities Summary and Completion Tracking - Reporting Period 5

<b>COMPLETED DURING REPORTING PERIOD 1</b>				
III.A.2	Compliance Committee	appmt of Committee (ECC) / CCO chair	CCO	Completed RP1
III.A.4	Management Certification	written process for certifications	CCO	Completed RP1
III.B.1	Code of Conduct	implementation of code of conduct	CCO	Completed RP1
III.B.1	Code of Conduct	performance eval process includes Code of Conduct	HR	Completed RP1
III.B.2	Policies & Procedures	implementation of compliance policies	CCO	Completed RP1
III.B.2	Policies & Procedures	performance eval process includes policies	HR	Completed RP1
III.B.2	Policies & Procedures	(see a. - h. for policy topics)	CCO	Completed RP1
III.B.2	Policies & Procedures	policies available to all Covered Persons	CCO	Completed RP1
III.C.1	Training Plan	develop written training plan	CCO	Completed RP1
III.C.2	BOC Training	provide 2-hour training to BOC (certifications signed)	CCO / BOC Office	Completed RP1
III.D.1.a	Engagement of IRO	engage IRO, as required in Appendix A	Finance	Completed RP1
III.G.2.b	Screening Requirements	screen current CPs - initial	CCO	Completed RP1
III.G.2.b	Screening Requirements	policy for Covered Persons to disclose exclusion	CCO	Completed RP1
III.I.2	Overpayments Policies and Procedures	develop and implement written policy	Finance	Completed RP1
V.A	Implementation Report	submission of implementation report	CCO	Completed RP1
V.C.3	CFO of UMHS	first annual report only; cert of settlement agmt	CFO	Completed RP1
<b>COMPLETED PRIOR TO EFFECTIVE DATE</b>				
III.A.1	Chief Compliance Officer	appmt of CCO/job duties	EVC-HA	Completed Prior
III.E	Risk Assessment and Internal Review	annual risk assessment process established	CCO / Internal Audit	Completed Prior
III.F	Disclosure Program	establish disclosure program (hotline)	CCO / Internal Audit	Completed Prior
III.G.2.a	Screening Requirements	screening process for prospective Covered Persons	HR	Completed Prior

Informational Item  
Extension of Tiger Institute Contractual Relationship  
MUHC

The contractual collaboration between MU Health Care (MUHC) and Cerner Corporation (Cerner), known as the Tiger Institute for Health Innovation (Tiger Institute), is scheduled to auto-renew for an additional five (5) years from 7/1/2025 through 6/30/2030. The estimated total cost for the extension is \$167,235,682.

In 2010, the Board of Curators approved, and MUHC and Cerner subsequently signed, a set of 10-year contracts that created the Tiger Institute. Since the formation of the Tiger Institute, MUHC has achieved many health technology successes, including but not limited to: being ranked in the top 2 percent by Healthcare Information and Management Systems Society (HIMSS), exceeding a goal of the top 5 percent; attained “Digital Health Most Wired” status every year since 2011; and achieved HIMSS Electronic Medical Record Adoption Model Stage 7 for adoption and utilization of electronic medical record function in 2012, recertified in 2016 and 2021.

In July 2015, the contract was renewed for another ten (10) years through June 30, 2025 to reset goals, objectives, and strategies to lead MUHC into the next decade. The focus shifted to becoming a broader resource for Missouri and beyond; growing platforms, leveraging data to excel clinical outcomes, value-based care, research, and cost efficiency. All goals outlined in the 2015 contract remain in effect for the renewal period through June 30, 2030.

The existing Amended and Restated Cerner Preferred Client Relationship Agreement that was signed in 2015 automatically renews for successive five-year renewal terms unless either party provides written notice of the intent not to renew at least four years before the expiration of the then current term. A system fee schedule and master agreement renewal request were approved by the Tiger Institute Executive Committee in February 2021 and the Tiger Institute Board of Governors in April 2021. It will be presented to the Health Affairs Committee as an informational item in June 2021.

Agreements, including existing schedules and amendments, that will remain intact through the extension of the collaborative relationship include:

- Amended and Restated Cerner Preferred Client Relationship Agreement (Master Agreement) – Governs the overall Tiger Institute relationship and outlines the key initiatives the parties intend to pursue.
- Second Amended and Restated Cerner System Agreement – Governs information systems and ITWorks management.
- Research Initiative Agreement – Defines a process whereby Cerner and the University of Missouri System can collaborate on research activities.

June 24, 2021

- Iconic Status Initiative Agreement – Specifies tactics the parties are using and will continue to use to assist MUHC in attaining Iconic Status.
- Population Health Initiatives Agreement – Specifies tactics for developing population health activities, including exploring ways to utilize technology to further MUHC’s clinically integrated networks and provide population health management services to employers, including University of Missouri System.
- Amended and Restated Living Lab Agreement – Redefines the parties’ parameters for Cerner’s \$2 million per year commitment to the Living Lab and developing new, innovative products and solutions.
- Amended and Restated Health Information Exchange (HIE) Network Agreement – Governs the HIE and allows the University to resell products to outside entities.
- Schedule of ITWorks Services – Provides MUHC’s IT workforce.

The projected financial impact has not changed materially since the last contract approved by the Board of Curators in 2015. Projected annual costs for the extension period range from \$32.1M to \$34.9M per year, which includes a 3% annual CPI increase for ITWorks labor fees only. This is a change from the current contract in that all fees are subject to an increase currently, and only labor fees will be subject to the increase for the renewal period. In addition, one FTE per year will no longer be automatically added to the ITWorks fees. Additional ITWorks FTE’s will be negotiated as needed. The IT operating expense as a percentage of total MUHC operating expenses was 3.68% for FY20, which has dropped from 3.92% in FY18 and 3.75% in FY19. MUHC believes this cost is comparable to the IT costs of other health systems and represents a good value when the moderate cost is compared to the high level of IT performance that it has allowed MUHC to achieve.

The total \$167,235,682 expenditure will be paid from MU Health Care’s operating funds.

June 24, 2021

No. 1

Recommended Action - Minutes, April 13, 2021 Health Affairs Committee Meeting

It was moved by \_\_\_\_\_ and seconded by \_\_\_\_\_, that the minutes of the April 13, 2021 Health Affairs Committee meeting, held in conjunction with the April 22, 2021 Board of Curators Meeting, be approved as presented.

Roll call vote of Committee: YES NO

Mr. Ashworth

Curator Graham

Mr. Phillips

Curator Wenneker

Curator Williams

The motion \_\_\_\_\_.

June 24, 2021



# GOVERNANCE, COMPENSATION AND HUMAN RESOURCES COMMITTEE

## I. Governance, Compensation and Human Resources Committee

The Governance, Compensation and Human Resources Committee (“Committee”) will review and recommend policies to enhance quality and effectiveness of the Board as well as compensation, benefits and human resources functions of the University.

## II. Governance

### 1. Scope

In carrying out its responsibilities regarding governance, the Committee has the central authority of ensuring that board members are prepared to exercise their fiduciary duties and assisting the Board to function effectively, efficiently and with integrity.

### 2. Executive Liaison

The General Counsel of the University, or some other person(s) designated by the President of the University with the concurrence of the Board Chair and the Committee Chair, shall serve as executive liaison to the Committee on governance matters and be responsible for transmitting Committee recommendations related to governance.

### 3. Responsibilities

In addition to the overall responsibilities of the Committee described above, and in carrying out its responsibilities regarding governance, the Committee shall review and make recommendations on the following matters:

1. ensuring that Board members are prepared to carry out their fiduciary duties to the University;
2. providing and monitoring a substantive orientation process for all new Board members and a continuous board education program for existing Board members;
3. overseeing, or determining with the Board Chair and President, the timing and process of periodic Board self-assessment;
4. establishing expectations and monitoring compliance of individual Board members;
5. ensuring that the Board adheres to its rules of conduct, including conflict-of-interest and disclosure policies, and that it otherwise maintains the highest levels of integrity in everything it does;
6. periodically reviewing the adequacy of the Board's bylaws and other Collected Rules and Regulations adopted by the Board that pertain to its internal operations (all recommendations for bylaws amendment shall first be considered by this Committee);
7. identifying best practices in institutional and Board governance;
8. monitoring and assessing external influences and relationships with affiliated entities;
9. assessing areas of expertise needed in future Board members; and
10. those additional matters customarily addressed by the governance committee of a governing board for an institution of higher education.

## III. Compensation and Human Resources

### 1. Scope

In carrying out its responsibilities regarding compensation and human resources, the Committee reviews and makes recommendations to the Board of Curators on strategies and policies relating to compensation, benefits and other human resources functions and associated programs.

### 2. Executive Liaison

The Vice President and Chief Human Resources Officer of the University, or some other person(s) designated by the President of the University, with the concurrence of the Board Chair and the Committee Chair, shall serve as executive liaison to the Committee on human resources and compensation matters and

be responsible for transmitting committee recommendations related to human resources and compensation.

**3. Responsibilities**

In addition to the overall responsibilities of the Committee described above and in carrying out its responsibilities regarding human resources and compensation, the charge of the Committee shall include reviewing and making recommendations to the Board on the following matters:

1. Performance and compensation of individuals reporting directly to the Board:
  1. President
  2. General Counsel
  3. Secretary of the Board of Curators
  4. Chief Audit and Compliance Officer, in conjunction with the Audit, Compliance and Ethics Committee
2. Pursuant to Section 320.020 of the Collected Rules and Regulations, appointment or change of appointment of the following shall be reported to and approved by the Board before the effective date:
  1. Vice Presidents
  2. Chancellors
  3. Curators Professors
3. Intercollegiate Athletics  
Pursuant to Section 270.060 of the Collected Rules and Regulations, contracts for Directors of Intercollegiate Athletics and Head Coaches may not exceed five (5) years and shall not include buyout clauses calling for the individual to receive more than the balance of the annual base salary the individual would have earned under the remaining terms of the contract, unless approved by the UM Board of Curators upon the recommendation of the President.
4. Benefit, retirement and post retirement plans, including an annual benefits report, as further defined in Section 520.010, Benefit Programs, of the Collected Rules and Regulations.
5. Additional employee benefits including the Education Assistance Program for University Employees, CRR 230.070, and Layoff and Transition Assistance, CRR 350.051.
6. Labor Union Recognition and matters as further defined in Section 350.020, Labor Union Recognition, of the Collected Rules and Regulations.
7. Employment related policies including those related to employee absences, conduct and grievances.
8. Provide oversight over the University of Missouri System's diversity, equity and inclusion programs.
9. Additional matters customarily addressed by the compensation and human resources committee of a governing board for an institution of higher education.

Approved by the Board of Curators: Feb 4, 2021

# **University of Missouri System Annual Benefits Report June 2021**

This annual benefits report is provided to the University of Missouri Board of Curators pursuant to Section 520.010 of the Collected Rules & Regulations. Highlights include market analysis, trends and benchmarking; costs and contributions; and an overview of the three-year roadmap to ensure UM's ability to be competitive in the recruitment and retention of top talent. In addition, we have included in the highlights a summary of action taken due to COVID-19 to provide an overview of the impact to benefits during this unprecedented year.

Significant input and feedback were received from the Total Rewards Advisory Committee (TRAC) on the actions in this report. TRAC is comprised of a faculty and a staff member from each campus, a hospital representative and a retiree representative. Members continue to be actively engaged in benefit, retirement, compensation, leave, policy analysis and related discussions for the University of Missouri.

## I. OVERVIEW

2020 was an unusual year due to the pandemic. The Office of Human Resources (HR) responded to employee needs by quickly implementing pandemic relief programs. The following are specific changes made to support employees:

- Actions to comply with new federal regulations and relief packages, including coverage of COVID diagnosis and treatment, COVID leave, and distribution amendments within the defined contribution retirement plans.
- Developed and managed payroll reduction measures due to financial constraints.
- Developed and operationalized telework policies.
- Managed a 1,550% increase in unemployment claims.
- Processed more than 61,000+ payroll and leave events due to COVID leave requirements and financial mitigation actions.
- Eliminated the wellness cash incentive saving \$4.2 million and reducing associated administrative processes.
- Eliminated the gift card portion of Service Awards, savings approximately \$240,000 and reducing associated administrative processes.

In addition, HR accomplished the following actions in the areas of benefit and retirement plans:

Health Plan	Retirement Plans
<ul style="list-style-type: none"> <li>▪ Employee Medical Plan RFP and Benchmarking</li> <li>▪ Pharmacy benefit market check</li> <li>▪ Post-65 Retiree Medical Plan Analysis</li> <li>▪ FMLA outsourcing</li> <li>▪ Multi-year risk agreement with MUHC for Columbia Custom Network Plan</li> </ul>	<ul style="list-style-type: none"> <li>▪ New defined contribution retirement plan went live</li> <li>▪ Moved to single retirement plan administrator and platform</li> <li>▪ RFP to co-source pension administration</li> <li>▪ Benchmarked DC Plan fees</li> </ul>

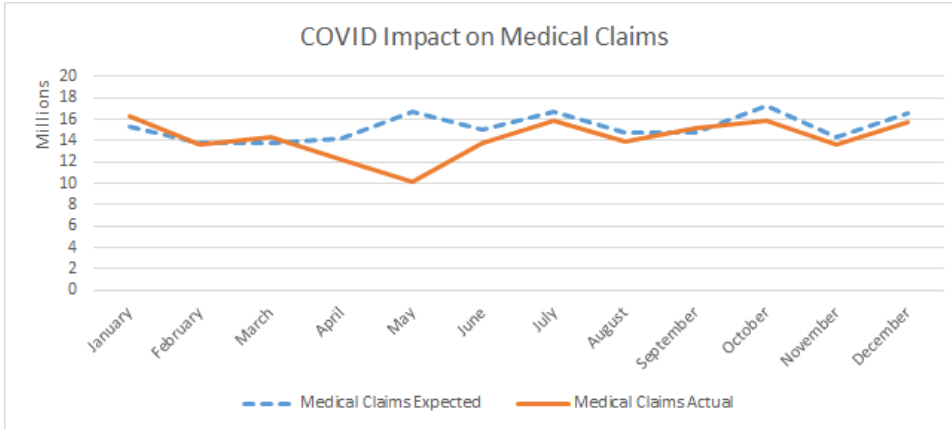
## II. COVID IMPACT

The COVID-19 pandemic and governmental response to the pandemic led many people to remain at home and forced the closure of or limitations on certain business, as well as suspended elective procedures by health care facilities. This impacted the University’s self-insured medical and dental benefit plans. The cost of treating those in the population who contracted COVID-19 did not offset the reduction in medical and dental claims expense.

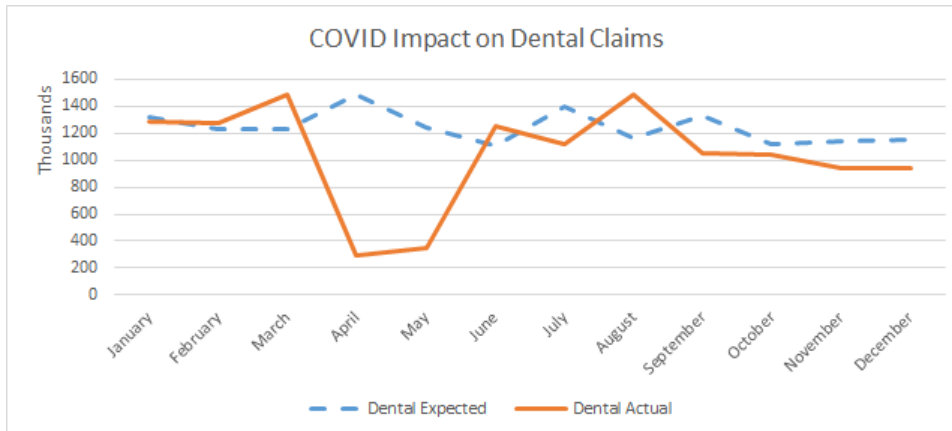
The self-insured medical plan experienced an estimated \$19.8 million, or 11% reduction in plan expenses caused by delayed or suspension of care and cancellation of elective procedures based on projected 2020 cost. Among the University’s medical plan population, there were approximately 1,436 total cases (confirmed, probable, and possible) of COVID-19 with \$6.3 million in claims cost for treatment. The plan also paid \$682,000 to test 6,718

members for COVID-19. The net impact on the medical plan was a reduction of approximately \$12.8 million in total medical cost. The absence of dental cleanings and non-emergent dental services also caused a reduction of \$2.3 million, or 18%, in dental claims cost during calendar year 2020.

**CHART 1**



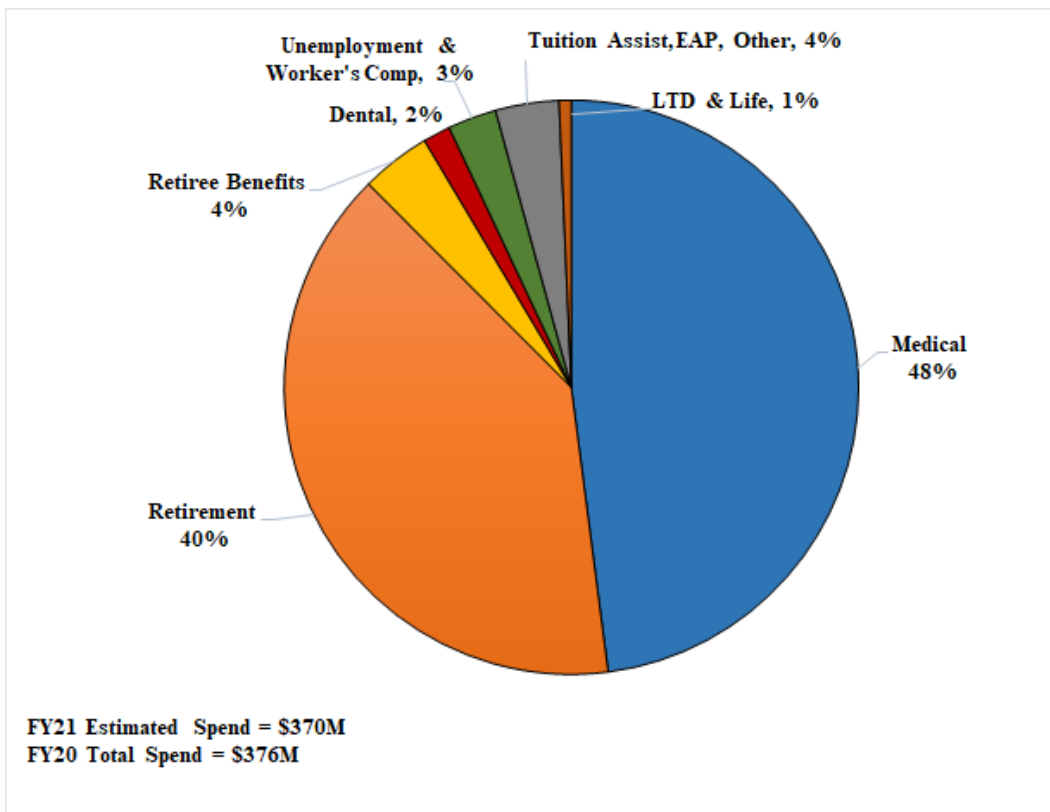
**CHART 2**



### III. UNIVERSITY BENEFIT PLANS

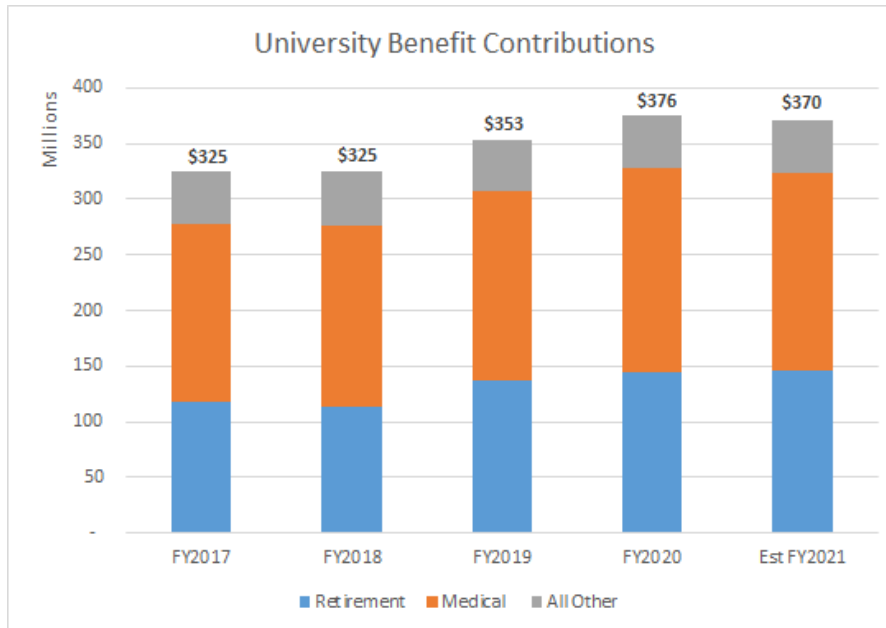
Medical, retirement and retiree benefits make up the largest portion of the UM’s benefit investment, accounting for 92% of total spend. Employers continue to experience increasing benefit costs, some due to increasing costs in the market (i.e., medical and pharmacy) and some due to legacy programs for which the opportunity for change is limited (i.e., defined benefit plans). The University’s goal is to continue to be proactive in managing and balancing competitiveness and cost. TRAC has provided feedback to our evaluation of appropriate and sustainable changes to benefit programs.

**CHART 3**



As shown above, the University has a comprehensive benefit program offering, including medical and retirement, as well as the full range of ancillary programs such as dental, life, employee assistance and disability.

**CHART 4**



**A. University Benefit Contributions**

The University makes employer contributions to the benefit plans on behalf of employees. Between FY18 and FY20, contributions to benefit plans increased by \$51 million. The increase was primarily caused by the reduction in discount rate assumption in the defined benefit retirement plan, \$32 million. With a \$1.1B net pension liability, increasing contributions into the pension plan and funding future liabilities is a key piece of the retirement plan management and sustainability.

Active medical premiums accounted for \$17 million of the increase in benefit cost over the two fiscal years. Due to the steady increase in medical cost and onset of the COVID-19 pandemic during 2020, the University targeted a 10% reduction of projected spend in the medical plans for plan year 2021. There were many cost-savings efforts and medical plan design changes approved, which are estimated to reduce approximately \$25.5 million, or 10% of projected 2021 medical cost. This has a direct impact to the benefit plan contributions estimated for FY21, offset by the continued increase in retirement contributions.

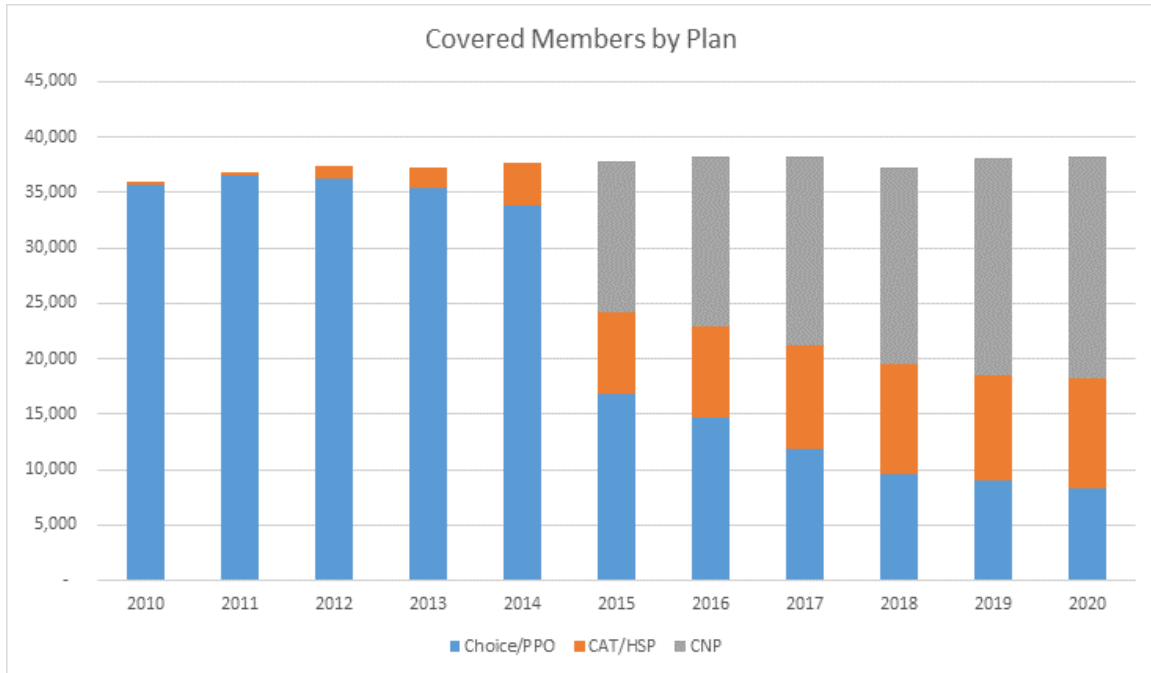
**B. Medical Plans**

**1. Medical & Pharmaceutical Trends**

The introduction of the Custom Network Plan (CNP) in 2015, a narrow network plan offered in partnership with MUHC, has resulted in lowering the overall medical spend, averaging about 2% lower than national trend. Each 1% below trend equates to a reduction in claims costs of \$2.2 million. In addition, member participation has increased in both the CNP and the Healthy Savings Plan (high deductible plan) as shown in Chart 5 below. Even with these

efforts, medical plan claims increase an average of 3% to 4% each year (excluding 2020) due to increasing health costs in the market. UM's trend is lower than the national trend of 7%.

**CHART 5**

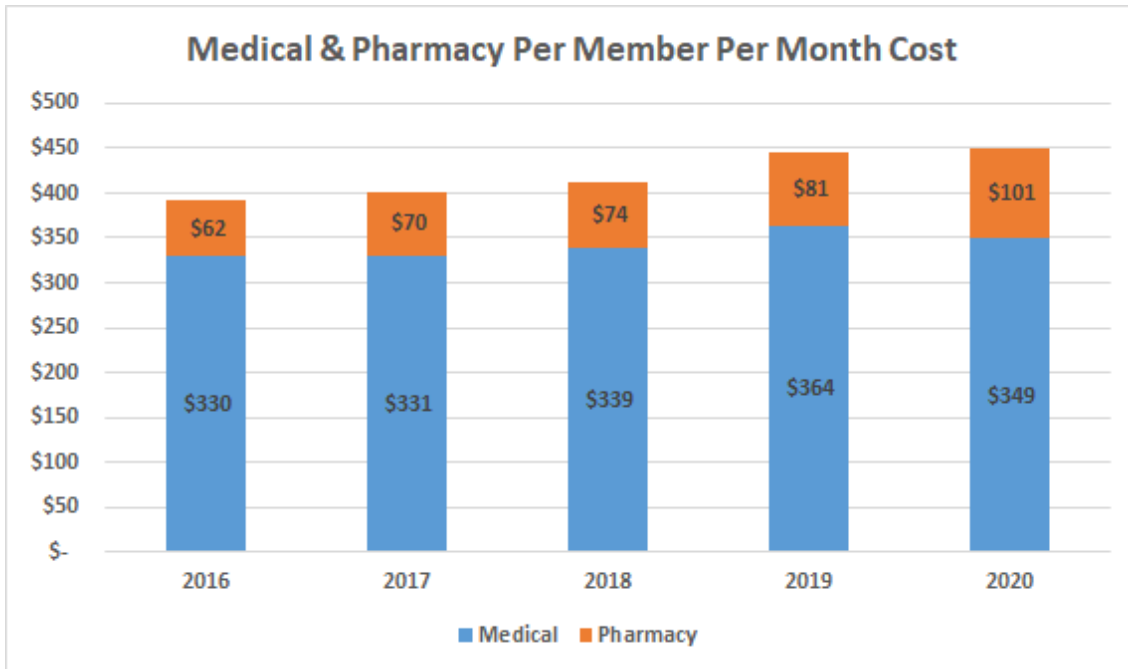


The cost of medical claims decreased between plan year 2019 and 2020 by 4% per employee member due to elective visits and procedures cancelled due to COVID restrictions. Because claims returned to a relatively normal rate by the end of 2020, we expect medical claims will return to pre-COVID levels during plan year 2021.

The cost of pharmaceuticals has increased 25 percent per member per month (PMPM) between plan years 2019 to 2020. The increase in claim cost trend continues to be due to specialty prescriptions and biologics. Although there has been a significant increase in pharmacy cost, the University's pharmacy cost in 2020 was 4.6% lower than peer benchmark PMPM cost. Chart 6 below shows the comparison of medical and pharmacy costs per member per month.

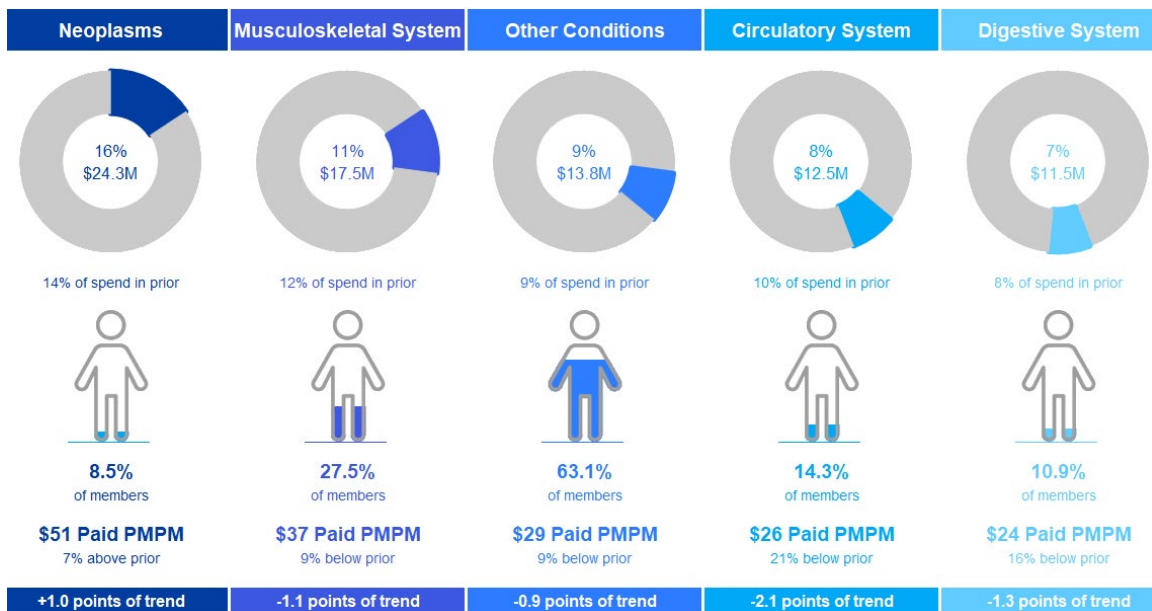


**CHART 6**



Medical claims spend in 2020 was primarily driven by five high-cost drivers: Neoplasms, Musculoskeletal System, Other Conditions, Circulatory System and Digestive System. Additional details of each high-cost drivers are highlighted in Chart 7 below.

**CHART 7**



## 2. Catastrophic Claims

A catastrophic claimant is a claimant who reaches \$100,000 in medical claims. Each year, catastrophic claims comprise a significant amount of spend. The following were cost drivers for 2020:

- 26% of total spend in the medical plans was incurred by 189 catastrophic claimants. Of those 189, the top 10 highest cost claimants contributed \$6.5 million, or 4 % of total spend.
- Catastrophic claims decreased 2.3% per covered member from the prior year.
- Facility service costs are the largest cost contributor for catastrophic events and related almost exclusively to the administration of radiotherapy/chemotherapy and inpatient room costs.
- The number of catastrophic claimants per 1,000 members decreased from the prior period by 4%.

## 3. Key Steps to Manage Plan Cost and Premium Increases

UM benchmarks its programs regularly, and in 2020 a more extensive benchmarking was undertaken for medical and pharmacy benefits. Plan changes for 2021 brought UM in alignment with market comparators. This included a \$2 million reduction in costs through a competitive Request for Proposal process for the health plan administrator. Carrier savings, and changes to the benefit design are estimated to reduce projected 2021 medical costs by \$27.1 million. See Appendix A for details of plan design changes implemented January 1, 2021.

Some highlighted administrative and benefit design programs in place in 2020 which influenced member behavior and mitigate cost increases, include:

- **Real Appeal** is an online weight loss program focused on members' goals, nutrition and exercise. It offers resources, personalized tools and support and weekly coaching. This program has continued positive impact on members with circulatory concerns, diabetes, pre-diabetes and weight management.
- **Advanced Analytics and Recovery Services** delivers a retrospective paid claim review where claims will be re-examined monthly for up to 12 months utilizing expertise in data analysis, investigation, identification and recovery.
- **Onsite Nurse Program** continues to help increase preventative care visits, assist members in utilizing appropriate care settings and promote the use of United HealthCare and the University of Missouri tools and resources to help reduce claim costs. The program promotes the use of virtual visits.
- **Arthroscopy Medical Necessity Bundle** added for all medical plans. This is a process for determining whether services, tests and procedures are cost-effective, identifying

opportunities to move from higher-cost hospital settings to an Ambulatory Surgical Center setting, when applicable.

- **Medical Necessity Review** for Genetic Testing, Inflammatory Medications, Functional Endoscopic Sinus Surgery, Hysterectomy and Sinuplasty.

A side-by-side comparison of Summary Plan Document changes from 2020 to 2021 is available in Appendix B.

Although the University minimized premium cost increases through the strategies above, premiums in 2021 increased an average of less than 1% across active employee plans and 13% across pre-65 retiree plans. The 2020-2021 active employee premiums comparison is available in Appendix C.

## C. Retirement Plans

### 1. Plans & Eligibility

Employees are enrolled in a core retirement plan based on their benefit eligible hire date. The following are the core retirement plans:

- **Defined Benefit Plan** – This is a typical pension plan.
  - Active, benefit-eligible employees hired before October, 1 2012, or returning employees hired on or after October 1, 2012 but before October 1, 2019 who were previously vested and did not take a distribution of their benefit.
- **Hybrid Plan** – This is a mixed pension and matching defined contribution plan.
  - Active, benefit-eligible employees first hired on or after October 1, 2012 but before October 1, 2019 or returning employees during this time period who either did not vest previously or who vested and took a distribution of their benefit.
- **Defined Contribution Plan** – This is an employer matching plan.
  - Active, benefit-eligible employees hired or rehired on or after October 1, 2019.

The university also offers voluntary retirement plan options for both benefit-eligible and non-benefit-eligible faculty and staff.

As of October 1, 2020, a total of 21% of the University's population is currently eligible for retirement, which is comprised of 4.6% of the population (737 employees) at full retirement\*, and 16.6% (2,633 people) eligible for early retirement\*\*. The majority of retirement eligible employees are enrolled in the Defined Benefit Plan (93.7%) compared to the Hybrid Plan (6.3%), but the total population split is more even. In fact, 40% of members enrolled in the Defined Benefit Plan are retirement-eligible compared to only 3% of those enrolled in the Hybrid Plan.

\*Full retirement is defined as those age 65 with at least 5 years of service or age 62 with at least 25 years of service

\*\*Early retirement is defined as those age 55-59 with at least 10 years of service or age 60 with at least 5 years of service

CHART 8

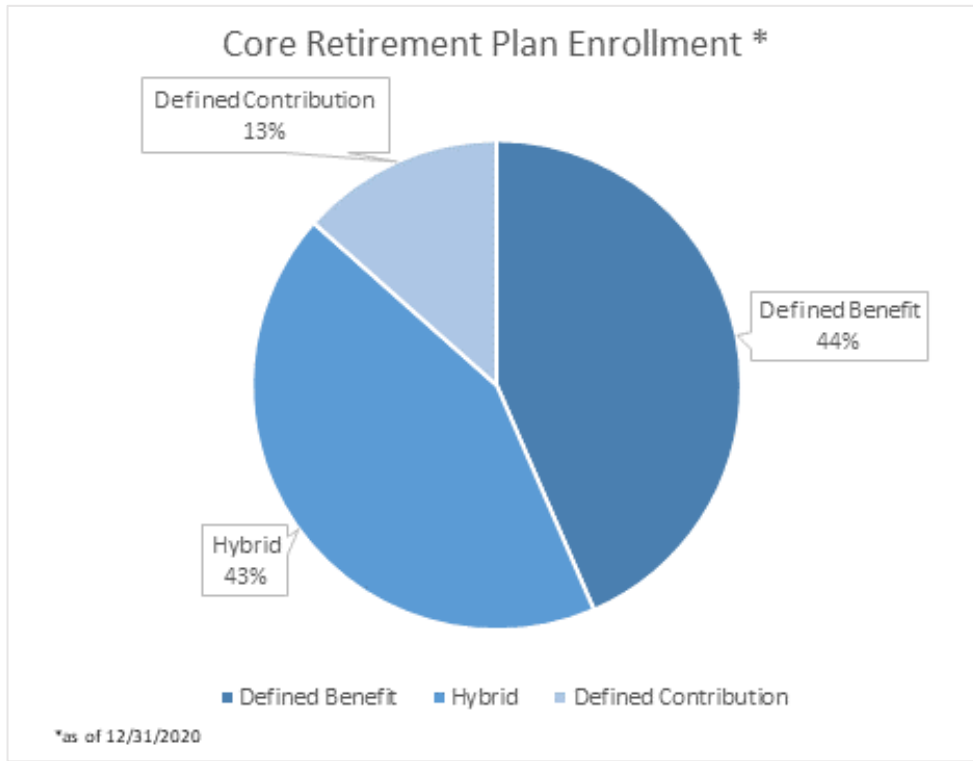
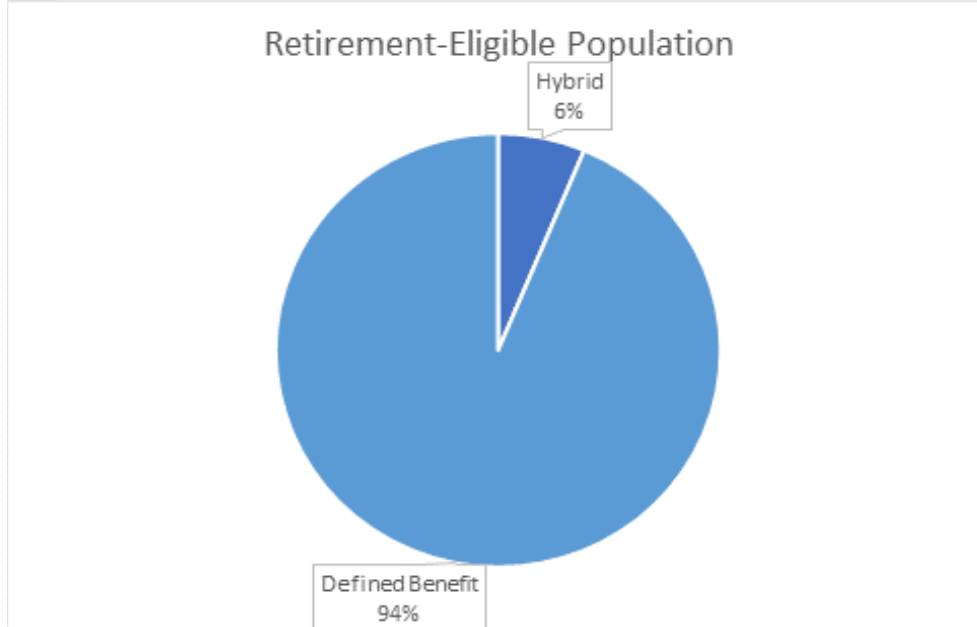
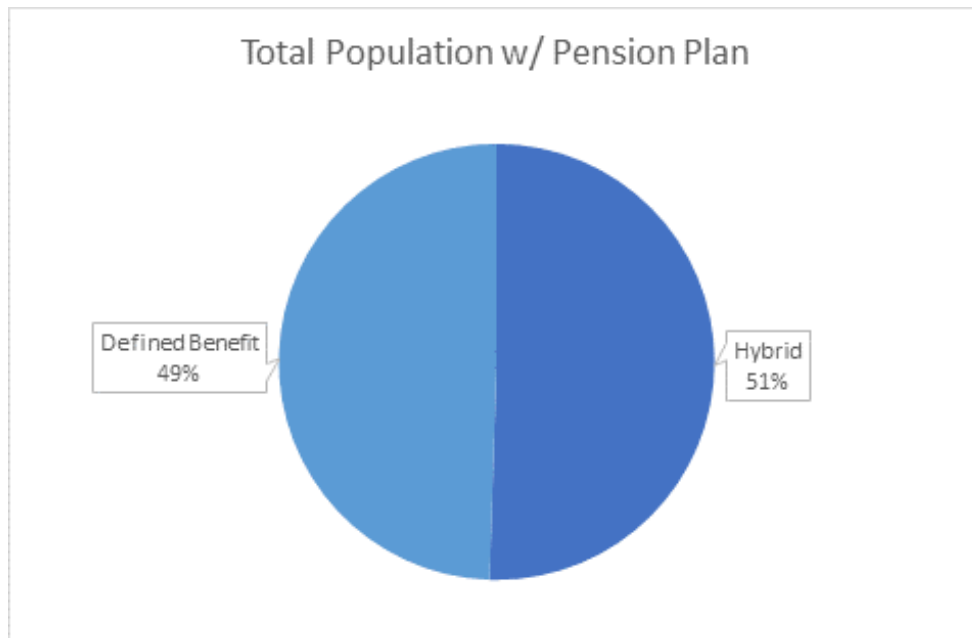


CHART 9



## CHART 10



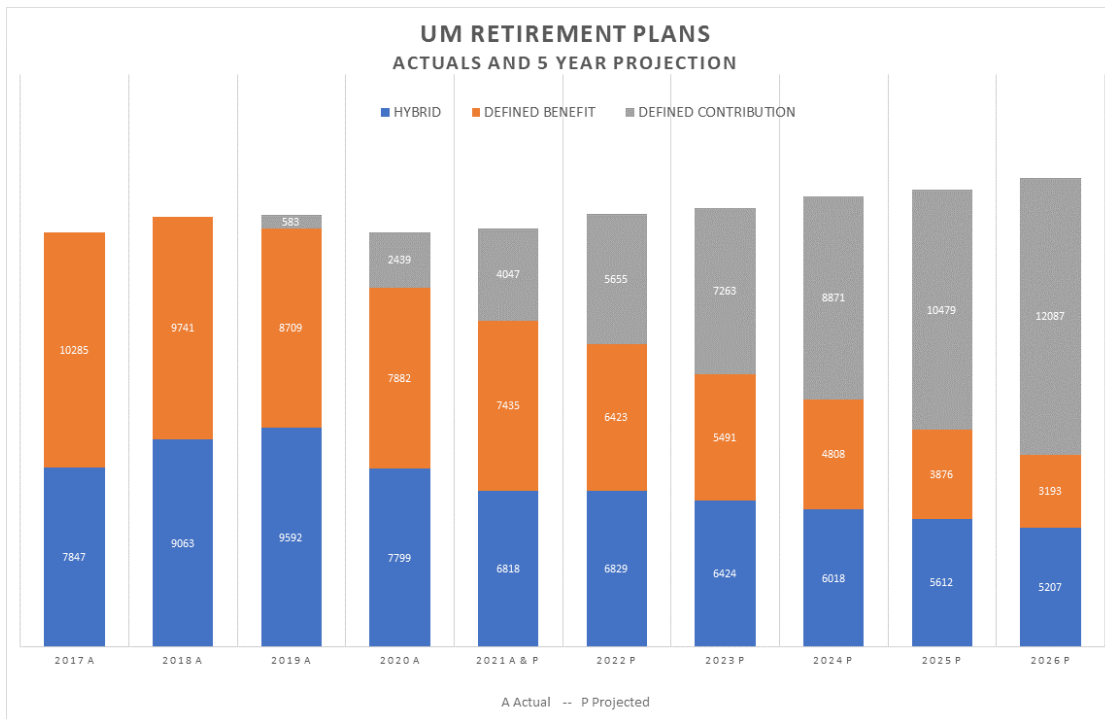
### 2. Trends

It is important the University continue to evaluate the long-term financial commitments of the plans, to perform routine reviews of the plan's assumptions and to monitor industry trends to ensure the appropriate fiduciary compliance is maintained.

A 2020 survey by Willis Towers Watson reflected that 70% of the not-for-profit sector participating in the survey have closed or frozen their defined benefit plan and have replaced it with a defined contribution plan. As outlined above, with the Board's approval the University closed the defined benefit plan to new entrants and implemented a full defined contribution retirement plan effective October 1, 2019.

Chart 11 shows that with closing the defined benefit plan to new or rehired employees, enrollment in the defined contribution plan will quickly increase as the defined benefit population retires or terminates employment.

## CHART 11



### 3. Improvements for Administrative Effectiveness & Efficiency

- Retirement Process - Implemented a standard retirement initiation process, providing subject-matter experts on each campus, thereby enabling improved employee experiences and streamlined campus processes.
- Lump sum vacation payout at retirement - Streamlined the retirement process and reduced rework by campus departments/HR, benefits and retirement by paying remaining vacation as a lump sum at retirement rather than paying over a leave period.
- Executed a review of all investor venter fees, implemented a change in investment lineups and transitioned to a per participant fee structure, resulting in improved transparency and lower fees for participants.
- The board approved a transition to a single provider for all 403(b) investments, which removes TIAA as an investment option effective January 2021.
- Automated the Retiree Insurance Notification to increase consistency, accuracy, and customer experience.

\*2017 numbers include increased retirements due to retiree insurance changes effective January 1, 2018.

### 4. Actuarial Report - Defined Benefit Plan

Each year, the University completes an actuarial valuation report for the University of Missouri Retirement, Disability and Death Benefit Plan (the “RDD Plan”), which provides

the required contribution for the upcoming fiscal year for this plan. The valuation is presented annually as an information item. A second core retirement plan, named the Hybrid Plan, was developed in 2012 and has a defined benefit component that is also included in the annual valuation. Employees hired by the University on or after October 1, 2012, are participants in the Hybrid plan. A copy of the most recent Annual Valuation can be found in Appendix D.

The RDD Plan’s required contribution for FY22 is 12.36% of payroll compared to 11.61% for FY21. The FY22 required contribution is based on an assumed 7.20% investment return and a 23-year closed amortization period. The University funds 11.03% along with the employee contribution of 1.33%, meeting the 12.36% required contribution for FY22.

#### IV. LEAVE PROGRAMS

Across the system, UM currently offers a traditional leave structure, with separate time off categories (e.g., vacation, personal and sick leave) for eligible administrative, service, and support employees. For each category, employees are provided a specific number of days or hours. Below is a summary of each individual category of time off currently offered, and key features to note.

Plan	Years of Service	Exempt	Non-Exempt
VACATION	< 5 yrs	17	12
	5-15 yrs	22	17
	>15 yrs	22	22
	Max Accrual	2x annual rate	
SICK	All Employees	12	
	Max Accrual	No Maximum	
PERSONAL		4	
WINTER BREAK		4	
HOLIDAYS		8	

} Use or lose

UM began the evaluation of leave programs and policies in 2020 and will continue this work in 2021 to ensure our programs and policies are competitive and financially sustainable. Paid time off is highly valued by employees and impacts employee recruitment, retention and engagement. Given that overall value is 14% of eligible salary and wages, it is important to ensure cost effectiveness of leave programs.

#### V. STRATEGIC DIRECTION

The Office of Human Resources, in collaboration with the Office of Finance, developed a three-year road map in 2020 to ensure we are supporting the strategic direction of the University. Below are the priorities over the next three years:

	2021	2022	2023
<b>Benefits</b>	Implement MUHC risk sharing agreement Health plan market check/benchmarking Medicare Advantage/Part D RFP Pre-65 health coverage analysis/recommendations	Phase I of CNP-like plans for other campuses Health plan & pharmacy market check/benchmarking Vision and Dental RFP Explore tools for Health Plan transparency for Provider cost and quality Pre-65 health coverage implementation (Phase II)	Health plan & pharmacy market check/benchmarking Life/LTD/AD&D/FMLA RFP Introduce enhanced network solutions to improve participant health and manage costs Pre-65 health coverage changes effective Implement tools for Health Plan transparency cost and quality tools
<b>Retirement</b>	Evaluate and recommend action to address cost, contribution, and benefit value across plans DB Discount rate analysis and recommendation	Implement actions to align retirement plan cost, contribution, and benefit value Implement DB discount rate actions	Continue to implement identified actions to align retirement plan cost, contribution, and benefit value Continue DB discount rate actions
<b>Other Programs</b>	Continue leave plan evaluation	Continued leave work and evaluation	Introduce and implement leave design changes (contingent on project work in 2022)

Thank you for the opportunity to provide this annual report. We look forward to continued improvements to ensure competitive and financially sustainable benefit and retirement programs for the University of Missouri System.



## APPENDIX A

### Medical Plan Design changes for 2021

Due to a 10% targeted cost reduction, significant changes were made to all three UM health plans. Approximately 5% of the target was achieved by conducting medical plan marketing, elimination of wellness incentives, and adding additional United Healthcare (UHC) medical management programs for high cost and/or high utilization areas, with limited impact to members. The remaining 5% of the cost target was achieved through plan design changes, directly impacting out-of-pocket costs for members who are high users of the plan. The cost reductions outlined below are permanent and will occur year over year.

#### **Plan Administrative Changes to All Plans – Financial Impact: \$15 million reduction:**

- Medical RFP - \$2 million
- Elimination of wellness incentives - \$4.2 million
- Administrative program changes - \$8.8 million

#### **PPO Changes – Financial Impact: \$3.8 million reduction:**

- Deductibles
  - St. Louis and Columbia current is \$500/\$1,500; increase to \$800/\$2,400
  - Kansas City and Rolla current is \$350/\$1,050; increase to \$500/\$1,500
- Rx out-of-pocket maximum, current is \$4,650/\$9,300; increase to \$5,050/\$10,100
- Co-insurance
  - St. Louis and Columbia current is 10%/20%; increase to 20%/40%
  - Kansas City current is 0%/10%/20%; increase to 10%/20%/40%
  - Rolla current is 0%/20%; increase to 10%/40%
- Specialist visit co-pay
  - St. Louis and Columbia current is \$30; increase to \$40
  - Kansas City current is \$25/\$30/20%; increase to \$35/\$40/40%
  - Rolla current is \$30/20%; increase to \$40/40%
- Primary care provider co-pay
  - Kansas City current is \$10/\$20/20%; increase to \$15/\$25/40%
- Labs/Radiology
  - St. Louis and Columbia current is 10%/20%; increase to 20%/40%
  - Kansas City current is 0%/10%/20%; increase to 10%/20%/40%
  - Rolla current is 0%/20%; increase to 10%/40%
- Inpatient Facility
  - St. Louis and Columbia current is \$300/20%; increase to 20%/40%
  - Kansas City current is \$300/20%; increase to 10%/40%
  - Rolla current is \$300/20%; increase to 10%/40%

- Outpatient Facility
  - St. Louis and Columbia current is \$100/20%; increase to 20%/40%
  - Kansas City current is \$0/\$100/20%; increase to 10%/20%/40%
  - Rolla current is \$100/20%; increase to 10%/40%
- Ambulance and Medical Equipment
  - All PPO plans current is \$100/\$100 copay for Ambulance; increase to \$200/\$200 copay
  - PPO plans vary in current copay for Medical Equipment; standardize to \$75 copay

**Custom Network Plan Changes – Financial Impact: \$5.8 million reduction:**

**This plan has the greatest amount of changes in 2021 because the design has been substantially better than market comparators.**

- Apply a \$200/\$600 deductible for in-network providers: current deductible is \$0
- Increase out-of-network deductible: current is \$500/\$1,500; increase to \$1,500/\$4,500
- Rx out-of-pocket maximum: current is \$4,650/\$9,300; increase to \$5,050/\$10,100
- Co-insurance: current is 0%/30%; increase to 10%/50%
- PCP visit co-pay: current is \$10/30%; increase to \$15/50%
- Specialist visit co-pay: current is \$30/30%; increase to \$40/50%
- Basic Labs/Radiology: current is \$0/30%; increase to \$5/50%
- Advanced Labs/Radiology: current is \$0/30%; increase to \$100/50%
- Medical Equipment: current is \$0/30%; increase to \$75/50%
- Ambulance: current is \$100/\$100; increase to \$200/\$200
- Inpatient Facility: current is \$300/30%; increase to 10%/50%
- Outpatient Facility: current is \$100/30%; increase to 10%/50%

**Healthy Savings Plan Changes – Financial Impact: \$900,000 reduction:**

- Deductible: current is \$1,500/\$3,000; increase to \$1,750/\$3,500
- Out-of-pocket maximum: current is \$3,000/\$6,000; increase to \$3,500/\$7,000
- Co-insurance: current is 10%/30%; increase to 15%/35%

**Total Financial Impact to Active Plans: \$10.5 million annual savings**

**Retiree Medical and Pharmacy Plans**

There are two retiree health plans, the Retiree Health Plan (RHP) which covers just under 1,000 pre-65 retirees and is self-insured by UM and the fully insured Medicare Advantage (MA) Plan for post-65 retirees.

**Executive Summary – Retirees (Pre 65 and Medicare)**

The RHP has traditionally been subsidized by the active plan premiums. UM has a 7-year plan for transitioning the full employee premium cost to RHP members in order for the plan to be

self-supporting. 2021 is the third year of this process, resulting in a recommendation to increase premiums for 2021 by an average of 13%, in addition to making some benefit design changes. In 2021, Human Resources will be exploring options in the market to replace this plan. The following supports the recommendation for the premium increase to members in the RHP:

- RHP premiums are subsidized by premiums from two of the active employee plans, which increases the cost to members and makes it difficult to keep the active plans competitive.
- In addition to the active plan subsidy, UM is contributing an additional implicit subsidy of \$2.2 million.
- The cost of claims each plan year continue to exceed the premium collected.
- Immediately moving the full cost of these subsidies to the RHP plan cannot be borne by the members since it would create a 37-54% increase for members or \$40 to \$732 increase per month to premiums, depending on the retiree's level subsidy.

**Retiree Health Plan (pre-65 retirees) – Financial Impact: \$700,000 reduction:**

In addition to plan management administrative savings of \$700,000 and an average 13% premium increase, the following benefit changes are:

- Deductible: current is \$350/\$850; increase to \$700/\$1,700
- Out-of-pocket maximum: current is \$2,400/\$4,800; increase to \$3,400/\$6,800
- Co-insurance: current is 20%/30%; increase to 30%/40%

**Medicare Advantage Plan Changes – Financial Impact \$900,000 reduction:**

There are minimal changes to the MA plan for 2021:

- Insurer fee: Currently this adds \$25 to each member's premium on the buy-up plan. Congress eliminated the insurer fee for 2021, which reduced the member premium for the buy-up plan from the current \$80 to \$59 for 2021.
- Base plan: Will continue to have a \$0 premium for the medical portion of coverage
- Rx out-of-pocket maximum: Current is \$3,250; increase to \$4,130
- Rx deductible: Current is \$75; increase to \$200
- Total member cost for both medical and Rx: Current is \$128 premium for base plan and \$208 for the buy-up plan; 2021 premium is \$120 for base plan and \$187 for buy-up plan resulting in reduction in member costs of \$8 for the base and \$21 for the buy-up.

**Total Financial Impact to Retiree Plans: \$1.6 million cost avoidance**

**Total Financial Impact to Active and Retiree Plans: \$27.1 million cost avoidance**

APPENDIX B – 2020-2021 SUMMARY PLAN DOCUMENT COMPARISON

# HEALTHY SAVINGS PLAN | What You Pay for Covered Expenses in 2020/2021

		2020 HEALTHY SAVINGS PLAN		2021 HEALTHY SAVINGS PLAN	
		In-network	Out-of-network**	In-network	Out-of-network**
DEDUCTIBLE	Medical deductible	\$1,500/self coverage \$3,000/family* coverage (combined)	\$3,000/self coverage \$6,000/family* coverage (combined)	\$1,750/self; \$3,500/family* (combined)	\$3,500/self; \$7,000/family* (combined)
	Rx deductible				
SERVICES	Preventive care	\$0	30% or more after deductible	\$0	35% or more after deductible
	Primary care	10% after deductible	30% or more after deductible	15% after deductible	35% or more after deductible
	Specialist care	10% after deductible	30% or more after deductible	15% after deductible	35% or more after deductible
	Urgent care	10% after deductible	30% or more after deductible	15% after deductible	35% or more after deductible
	Lab and x-ray	10% after deductible	30% or more after deductible	15% after deductible	35% or more after deductible
	Outpatient care	10% after deductible	30% or more after deductible	15% after deductible	35% or more after deductible
	Inpatient care (incl. maternity delivery)	10% after deductible	30% or more after deductible	15% after deductible	35% or more after deductible
	Durable medical equipment	10% after deductible	30% or more after deductible	15% after deductible	35% or more after deductible
	Emergency room	10% after deductible	10% or more after deductible	15% after deductible	15% or more after deductible
	Ambulance	10% after deductible	10% or more after deductible	15% after deductible	15% or more after deductible
RX	Rx drug: Retail	10% after deductible	30% or more after deductible	15% after deductible	35% or more after deductible
	<ul style="list-style-type: none"> <li>▪ Formulary generic</li> <li>▪ Formulary brand</li> <li>▪ Non-formulary brand</li> </ul>				
OUT-OF-POCKET*	Rx drug: Mail***	10% after deductible	30% or more after deductible	15% after deductible	35% or more after deductible
	<ul style="list-style-type: none"> <li>▪ Formulary generic</li> <li>▪ Formulary brand</li> <li>▪ Non-formulary brand</li> </ul>				
	Medical limit	\$3,000/self coverage \$6,000/family* coverage (combined)	\$6,000 or more /self coverage \$12,000 or more /family* coverage (combined)	\$3,500/self; \$7,000/family* (combined)	\$7,000 or more/self; \$14,000 or more/family* (combined)
	Rx limit				

\*Considerations for "self" and "family" are different for the Healthy Savings Plan than for the Custom Network and PPO Plans. See the glossary (umurl.us/glossary) for details.

\*\*Refer to the Summary Plan Description (SPD) for additional details on allowable and eligible expenses when using an out-of-network provider.

\*\*\*90-day fill/refill at Mizzou pharmacies at same cost as mail order.

# CUSTOM NETWORK PLAN | What You Pay for Covered Expenses in 2020/2021

		2020 CUSTOM NETWORK PLAN		2021 CUSTOM NETWORK PLAN	
		In-network	Out-of-network**	In-network	Out-of-network**
DEDUCTIBLE	Medical deductible	\$0	\$500/self coverage \$1,500/family* coverage	\$200/self; \$600/family	\$1,500/self; \$4,500/family*
	Rx deductible	Retail: \$50/person Mail order: \$0/person	Retail: \$50/person Mail order: \$0/person	Retail: \$50/person Mail order: \$0/person	Retail: \$50/person Mail order: \$0/person
SERVICES	Preventive care	\$0	30% or more after deductible	\$0	50% or more after deductible
	Primary care	\$10 copay/visit	30% or more after deductible	\$15 copay/visit	50% or more after deductible
	Specialist care	\$30 copay/visit	30% or more after deductible	\$40 copay/visit	50% or more after deductible
	Urgent care	\$50 copay/visit	\$50 copay/visit or more	\$50 copay/visit	\$50 copay/visit or more
	Lab and x-ray*****	\$0	30% or more after deductible	\$5 (basic)/\$100 (advanced)	50% or more after deductible
	Outpatient care	\$100 copay/visit	30% or more after deductible	10% after deductible	50% or more after deductible
	Inpatient care (incl. maternity delivery)	\$300 copay/confinement	30% or more after deductible	10% after deductible	50% or more after deductible
	Durable medical equipment	\$0	30% or more after deductible	\$75 copay	50% or more after deductible
	Emergency room	\$250 copay/visit	\$250 copay/visit or more	\$250 copay/visit after deductible	\$250 copay/visit or more after deductible
	Ambulance	\$100 copay/occurrence	\$100 copay/occurrence or more	\$200 copay/occurrence after deductible	\$200 or more copay/occurrence after deductible
RX	Rx drug: Retail	Greater of (after Rx deductible):	Greater of (after Rx deductible):	Greater of (after Rx deductible):	Greater of (after Rx deductible):
	<ul style="list-style-type: none"> <li>▪ Formulary generic</li> <li>▪ Formulary brand</li> <li>▪ Non-formulary brand</li> </ul>	<ul style="list-style-type: none"> <li>▪ \$7 copay/20% coinsurance</li> <li>▪ \$15 copay/25% coinsurance</li> <li>▪ \$30 copay/50% coinsurance</li> </ul>	<ul style="list-style-type: none"> <li>▪ \$30 copay or 50% network costs after annual deductible****</li> </ul>	<ul style="list-style-type: none"> <li>▪ \$7 copay/20% coinsurance</li> <li>▪ \$15 copay/25% coinsurance</li> <li>▪ \$30 copay/50% coinsurance</li> </ul>	<ul style="list-style-type: none"> <li>▪ \$30 copay or 50% network costs after annual deductible****</li> </ul>
POCKET**	Rx drug: Mail***	Greater of:	Greater of:	Greater of:	Greater of:
	<ul style="list-style-type: none"> <li>▪ Formulary generic</li> <li>▪ Formulary brand</li> <li>▪ Non-formulary brand</li> </ul>	<ul style="list-style-type: none"> <li>▪ \$15 copay/20% coinsurance</li> <li>▪ \$30 copay/25% coinsurance</li> <li>▪ \$60 copay/50% coinsurance</li> </ul>	<ul style="list-style-type: none"> <li>▪ \$30 copay or 50% network costs after annual deductible****</li> </ul>	<ul style="list-style-type: none"> <li>▪ \$15 copay/20% coinsurance</li> <li>▪ \$30 copay/25% coinsurance</li> <li>▪ \$60 copay/50% coinsurance</li> </ul>	<ul style="list-style-type: none"> <li>▪ \$30 copay or 50% network costs after annual deductible****</li> </ul>
	Medical limit	\$3,500/self coverage \$7,000/family* coverage	\$10,500 or more /self coverage \$21,000 or more /family* coverage	\$3,500/self; \$7,000/family*	\$10,500 or more/self; \$21,000 or more/family*
	Rx limit		\$4,650/self coverage \$9,300/family* coverage		\$5,050/self; \$10,100/family*

\*Considerations for "self" and "family" are different for the Healthy Savings Plan than for the Custom Network and PPO Plans. See the glossary (umurl.us/glossary) for details.

\*\*Refer to the Summary Plan Description (SPD) for additional details on allowable and eligible expenses when using an out-of-network provider.

\*\*\*90-day fill/refill at Mizzou pharmacies at same cost as mail order.

\*\*\*\*Member will be required to pay the difference between non-participating pharmacy and participating pharmacy charge.

\*\*\*\*\* For lab and x-ray services, "Basic" includes services such as x-ray, blood work, lipid panel, etc. "Advanced" includes services such as CT scan, PET scan, MRI, etc.

# PPO Plan (Columbia, Rolla, St. Louis) | What You Pay for Covered Expenses in 2020/2021

		2020 PPO PLAN		2021 PPO PLAN	
		In-network	Out-of-network**	In-network	Out-of-network**
DEDUCT- IBLE	Medical deductible	Rolla: \$350/self; \$1,050/family* Columbia and St. Louis: \$500/self; \$1,500/family *	Rolla: \$700/self; \$2,100/family* Columbia and St. Louis: \$1,000/self; \$3,000/family *	Rolla: \$500/self; \$1,500/family* Columbia and St. Louis: \$800/self; \$2,400/family *	Rolla: \$1,000/self; \$3,000/family* Columbia and St. Louis: \$1,600/self; \$4,800/family*
	Rx deductible	Retail: \$75/person Mail order: \$0/person	Retail: \$75/person Mail order: \$0/person	Retail: \$75/person Mail order: \$0/person	Retail: \$75/person Mail order: \$0/person
SERVICES	Preventive care	\$0	20% or more after deductible	\$0	40% or more after deductible
	Primary care	\$20 copay/visit	20% or more after deductible	\$20 copay/visit	40% or more after deductible
	Specialist care	\$30 copay/visit	20% or more after deductible	\$40 copay/visit	40% or more after deductible
	Urgent care	\$50 copay/visit	20% or more after deductible	\$50 copay/visit	40% or more after deductible
	Lab and x-ray	Applicable coinsurance after deductible <sup>^</sup>	20% or more after deductible	Applicable coinsurance after deductible <sup>^</sup>	40% or more after deductible
	Outpatient care	\$100 copay/visit after deductible	20% or more after deductible	Applicable coinsurance after deductible <sup>^</sup>	40% or more after deductible
	Inpatient care (incl. maternity delivery)	\$300 copay/confinement after deductible	20% or more after deductible	Applicable coinsurance after deductible <sup>^</sup>	40% or more after deductible
	Durable medical equipment	Applicable coinsurance after deductible <sup>^</sup>	20% or more after deductible	Applicable coinsurance after deductible <sup>^</sup>	40% or more after deductible
	Emergency room	\$250 copay/visit or more after deductible	20% or more after deductible	\$75 copay	40% or more after deductible
	Ambulance	\$100 copay/occurrence or more after deductible	20% or more after deductible	\$250 copay/visit after deductible	40% or more after deductible
Rx	Rx drug: Retail	Greater of (after Rx deductible):	Greater of (after Rx deductible):	Greater of (after Rx deductible):	Greater of (after Rx deductible):
	<ul style="list-style-type: none"> <li>Formulary generic</li> <li>Formulary brand</li> <li>Non-formulary brand</li> </ul>	<ul style="list-style-type: none"> <li>\$7 copay/20% coinsurance</li> <li>\$15 copay/25% coinsurance</li> <li>\$30 copay/50% coinsurance</li> </ul>	<ul style="list-style-type: none"> <li>\$30 copay or 50% network costs after annual deductible ****</li> </ul>	<ul style="list-style-type: none"> <li>\$7 copay/20% coinsurance</li> <li>\$15 copay/25% coinsurance</li> <li>\$30 copay/50% coinsurance</li> </ul>	<ul style="list-style-type: none"> <li>\$30 copay or 50% network costs after annual deductible****</li> </ul>
OUT-OF- POCKET**	Rx drug: Mail***	Greater of:	Greater of:	Greater of:	Greater of:
	<ul style="list-style-type: none"> <li>Formulary generic</li> <li>Formulary brand</li> <li>Non-formulary brand</li> </ul>	<ul style="list-style-type: none"> <li>\$15 copay/20% coinsurance</li> <li>\$30 copay/25% coinsurance</li> <li>\$60 copay/50% coinsurance</li> </ul>	<ul style="list-style-type: none"> <li>\$30 copay or 50% network costs after annual deductible****</li> </ul>	<ul style="list-style-type: none"> <li>\$15 copay/20% coinsurance</li> <li>\$30 copay/25% coinsurance</li> <li>\$60 copay/50% coinsurance</li> </ul>	<ul style="list-style-type: none"> <li>\$30 copay or 50% network costs after annual deductible****</li> </ul>
	Medical limit	\$3,500/self \$7,000/family*	\$10,500 or more /self \$21,000 or more /family*	\$3,500/self; \$7,000/family*	\$10,500 or more/self; \$21,000 or more/family*
	Rx limit	\$4,650/self coverage \$9,300/family* coverage		\$5,050/self; \$10,100/family*	

<sup>^</sup>2020 in-network coinsurance- Rolla: 0%; Columbia and St. Louis: 10%; 2021 in-network coinsurance- Rolla: 10% after deductible; Columbia and St. Louis: 20% after deductible.

\*Considerations for "self" and "family" are different for the Healthy Savings Plan than for the Custom Network and PPO Plans. See the glossary (umurl.us/glossary) for details.

\*\*Refer to the Summary Plan Description (SPD) for additional details on allowable and eligible expenses when using an out-of-network provider.

\*\*\*90-day fill/refill at Mizzou pharmacies at same cost as mail order.

\*\*\*\*Member will be required to pay the difference between non-participating pharmacy and participating pharmacy charge.

# PPO Plan (Kansas City) | What You Pay for Covered Expenses in 2020/2021

		2020 PPO PLAN		2021 PPO PLAN	
		In-network	Out-of-network**	In-network	Out-of-network**
DEDUCTIBLE	Medical deductible	\$350/self; \$1,050/family*	\$700/self; \$2,100/family*	\$500/self; \$1,500/family*	\$1,000/self; \$3,000/family*
	Rx deductible	Retail: \$75/person Mail order: \$0/person	Retail: \$75/person Mail order: \$0/person	Retail: \$75/person Mail order: \$0/person	Retail: \$75/person Mail order: \$0/person
SERVICES	Preventive care	\$0	20% or more after deductible	\$0	40% or more after deductible
	Primary care	Tier 1 (♥♥) \$10 copay/visit	Tier 2 (♥) \$20 copay/visit	Tier 1 (♥♥) \$15 copay/visit	Tier 2 (♥) \$25 copay/visit
	Specialist care	\$25 copay/visit	\$30 copay/visit	\$35 copay/visit	\$40 copay/visit
	Urgent care	\$50 copay/visit	\$50 copay/visit	\$50 copay/visit	\$50 copay/visit
	Lab and x-ray	Applicable coinsurance after deductible^	20% or more after deductible	Applicable coinsurance after deductible^	40% or more after deductible
	Outpatient care	\$0 copay/visit after deductible	\$100 copay/visit after deductible	Applicable coinsurance after deductible^	40% or more after deductible
	Inpatient care (incl. maternity delivery)	\$300 copay/confinement after deductible	20% or more after deductible	Applicable coinsurance after deductible^	40% or more after deductible
	Durable medical equipment	Applicable coinsurance after deductible^	20% or more after deductible	\$75 copay	40% or more after deductible
	Emergency room	\$250 copay/visit or more after deductible	20% or more after deductible	\$250 copay/visit after deductible	40% or more after deductible
	Ambulance	\$100 copay/occurrence or more after deductible	20% or more after deductible	\$200 copay/occurrence after deductible	40% or more after deductible
RX	Rx drug: Retail	Greater of (after Rx deductible): ▪ \$7 copay/20% coinsurance ▪ \$15 copay/25% coinsurance ▪ \$30 copay/50% coinsurance	Greater of (after Rx deductible): ▪ \$30 copay or 50% network costs after annual deductible**** ▪ \$30 copay/50% coinsurance	Greater of (after Rx deductible): ▪ \$7 copay/20% coinsurance ▪ \$15 copay/25% coinsurance ▪ \$30 copay/50% coinsurance	Greater of (after Rx deductible): ▪ \$30 copay or 50% network costs after annual deductible****
	Rx drug: Mail***	Greater of: ▪ \$15 copay/20% coinsurance ▪ \$30 copay/25% coinsurance ▪ \$60 copay/50% coinsurance	Greater of: ▪ \$30 copay or 50% network costs after annual deductible**** ▪ \$21,000 or more/self	Greater of: ▪ \$15 copay/20% coinsurance ▪ \$30 copay/25% coinsurance ▪ \$60 copay/50% coinsurance	Greater of: ▪ \$30 copay or 50% network costs after annual deductible****
	Medical limit	\$3,500/self \$7,000/family*	\$10,500 or more/self \$21,000 or more/family*	\$3,500/self; \$7,000/family*	\$10,500 or more/self; \$21,000 or more/family*
OUT-OF-POCKET**	Rx limit	\$4,650/self \$9,300/family*		\$5,050/self; \$10,100/family*	

June 24, 2021  
 ^2020 in-network coinsurance- 0% after deductible; Tier 1 providers; all durable medical equipment; services obtained at free-standing facilities, ambulatory surgical centers and physician offices; 10% after deductible; Tier 2 providers; services obtained at outpatient hospital facilities; 2021 in-network coinsurance- 10% after deductible; Tier 1 providers; services obtained at free-standing facilities, ambulatory surgical centers and physician offices; 20% after deductible; Tier 2 providers; services obtained at outpatient hospital facilities  
 \*Considerations for "self" and "family" are different for the Healthy Savings Plan than for the Custom Network and PPO Plans. See the glossary (umurl.us/glossary) for details.  
 \*\*Refer to the Summary Plan Description (SPD) for additional details on allowable and eligible expenses when using an out-of-network provider.  
 \*\*\*90-day fill/refill at Mizzou pharmacies at same cost as mail order.  
 \*\*\*\*Member will be required to pay the difference between non-participating pharmacy and participating pharmacy charge.



APPENDIX C – 2020-2021 PREMIUM COMPARISON

2020 Monthly Premiums				2021 Monthly Premiums			Cost Difference		
	Employee Premium	Employer Contribution	Total	Employee Premium	Employer Contribution	Total	Employee \$ difference over 2020	Employer \$ difference over 2020	Combined difference over 2020
<b>PPO</b>									
Self	\$171	\$657	\$828	\$176	\$589	\$765	\$5	-\$68	-\$63
Self + Sp	\$411	\$1,325	\$1,736	\$417	\$1,220	\$1,637	\$6	-\$105	-\$99
Self + Ch	\$366	\$1,204	\$1,570	\$374	\$1,152	\$1,526	\$8	-\$52	-\$44
Family	\$629	\$1,933	\$2,562	\$632	\$1,848	\$2,480	\$3	-\$85	-\$82
<b>Custom Network Plan</b>									
Self	\$83	\$487	\$570	\$84	\$461	\$545	\$1	-\$26	-\$25
Self + Sp	\$231	\$966	\$1,197	\$232	\$934	\$1,166	\$1	-\$32	-\$31
Self + Ch	\$200	\$880	\$1,080	\$203	\$884	\$1,087	\$3	\$4	\$7
Family	\$365	\$1,403	\$1,768	\$366	\$1,401	\$1,767	\$1	-\$2	-\$1
<b>Healthy Savings Plan</b>									
Self	\$44	\$445	\$489	\$58	\$385	\$443	\$14	-\$60	-\$46
Self + Sp	\$154	\$873	\$1,027	\$160	\$788	\$948	\$6	-\$85	-\$79
Self + Ch	\$129	\$798	\$927	\$133	\$751	\$884	\$4	-\$47	-\$43
Family	\$254	\$1,263	\$1,517	\$258	\$1,179	\$1,437	\$4	-\$84	-\$80

<b>Retiree Pre-65 Health Plan</b>			
Self	Varies	Varies	\$659
Self + Sp	Varies	Varies	\$1,383
Self + Ch	Varies	Varies	\$1,252
Family	Varies	Varies	\$2,042
<b>Retiree Pre-65 Healthy Savings Plan</b>			
Self	Varies	Varies	\$511
Self + Sp	Varies	Varies	\$1,073
Self + Ch	Varies	Varies	\$971
Family	Varies	Varies	\$1,584

Varies	Varies	\$725
Varies	Varies	\$1,552
Varies	Varies	\$1,450
Varies	Varies	\$2,349
Varies	Varies	\$562
Varies	Varies	\$1,203
Varies	Varies	\$1,124
Varies	Varies	\$1,821

Varies	Varies	\$66
Varies	Varies	\$169
Varies	Varies	\$198
Varies	Varies	\$307
Varies	Varies	\$51
Varies	Varies	\$130
Varies	Varies	\$153
Varies	Varies	\$237

APPENDIX D – ACTUARIAL VALUATION (OCTOBER 1, 2020)

# University of Missouri Retirement, Disability, and Death Benefit Plan

**Actuarial Valuation and Review as of October 1, 2020**



This report has been prepared at the request of the Board of Curators to assist in administering the Plan. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Board of Curators and may only be provided to other parties in its entirety, unless expressly authorized by Segal. The measurements shown in this actuarial valuation may not be applicable for other purposes.

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**Segal**



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February 19, 2021

Board of Curators  
University of Missouri  
Columbia, MO 65211

Dear Curators:

We are pleased to submit this Actuarial Valuation and Review as of October 1, 2020. It summarizes the actuarial data used in the valuation, analyzes the preceding year's experience, and establishes the funding requirements for the University's fiscal year July 1, 2021 – June 30, 2022.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Retirement Plan. The census information and financial information on which our calculations were based was prepared by the staff of the University. That assistance is gratefully acknowledged.

The actuarial calculations were directed under the supervision of Joshua Kaplan. I am a member of the American Academy of Actuaries and I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of my knowledge, the information supplied in this actuarial valuation is complete and accurate, except as noted in Section 4. Further, in my opinion, the assumptions as approved by the Board of Curators are reasonably related to the experience of and the expectations for the Plan.

We look forward to reviewing this report with your representatives and to answering any questions.

Sincerely,  
Segal

A handwritten signature in black ink that reads "Joshua Kaplan".

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Joshua Kaplan, FSA, FCA, MAAA, EA  
Vice President and Actuary

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# Actuarial Valuation Summary

## Purpose and basis

This report was prepared by Segal to present a valuation of the Plan as of October 1, 2020. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The measurements shown in this actuarial valuation may not be applicable for other purposes. In particular, the measures herein are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligations. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in plan provisions or applicable law.

The contribution requirements presented in this report are based on:

- The benefit provisions of the Pension Plan, as administered by the Board of Curators;
- The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of September 30, 2020, provided by the University;
- The assets of the Plan as of September 30, 2020, provided by the University;
- Economic assumptions regarding future salary increases and investment earnings;
- Other actuarial assumptions regarding employee terminations, retirement, death, etc. and
- The funding policy adopted by the University.

Certain disclosure information required by GASB Statements No 67 and 68 for a June 30, 2020 measurement date for the Plan was provided in a separate report.



## Section 1: Actuarial Valuation Summary

### Valuation highlights

1. Segal strongly recommends an actuarial funding method that targets 100% funding of the actuarial accrued liability. Generally, this implies payments that are ultimately at least enough to cover normal cost, interest on the unfunded actuarial accrued liability and the principal balance. The funding policy adopted by the University meets this standard.
2. The rate of return on the market value of assets was 5.26% for the October 1, 2019 to September 30, 2020 plan year. The return on the actuarial value of assets was 7.05% for the same period due to the recognition of prior years' investment gains and losses. This resulted in an actuarial loss when measured against the assumed rate of return of 7.20%. Given the low fixed income interest rate environment, target asset allocation and expectations of future investment returns for various classes, we advise the Board to continue to monitor actual and anticipated investment returns relative to the assumed long-term rate of return on investments of 7.20%.
3. The funded ratio (the ratio of the actuarial value of assets to actuarial accrued liability) is 81.2%, compared to the prior year funded ratio of 80.6%. This ratio is one measure of funding status, and its history is a measure of funding progress. Using the market value of assets, the funded ratio is 79.2%, compared to 80.0% as of the prior valuation date. These measurements are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligation or the need for or the amount of future contributions.
4. The employer Actuarially Determined Contribution (ADC) for the year beginning July 1, 2021 is \$123.2 million, a decrease of \$3.1 million from last year. As a percent of payroll, the employer contribution rate is 12.66% for Level 1 members and 9.11% for Level 2 members (11.03% of total payroll) and is based on a 23-year level dollar amortization of the unfunded actuarial accrued liability.
5. It is important to note that this actuarial valuation is based on plan assets as of September 30, 2020. Due to the COVID-19 pandemic, market conditions have been volatile. The Plan's actuarial status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the Plan Year. While it is impossible to determine how the market will perform over the next several months, and how that will affect the results of next year's valuation, Segal is available to prepare projections of potential outcomes upon request.
6. Since the actuarial valuation results are dependent on a given set of assumptions, there is a risk that emerging results may differ significantly as actual experience proves to be different from the assumptions. Although this is not a year where the actuarial assumptions are reviewed by the Curators, we have included a brief discussion of some risks that may affect the Plan in Section 2. A more detailed assessment would provide the Board with a better understanding of the inherent risks. This could be important because inactive and retired participants account for most of the Plan's liabilities, leaving limited options for reducing costs in the event of adverse experience, and the recent plan closure may result in participant choices that vary from those assumed.

## Section 1: Actuarial Valuation Summary

### Summary of key valuation results

		2020	2019
<b>Contributions for July 1 of the following year</b>	• Total actuarially determined employer contributions	\$123,154,852	\$126,340,961
	• Level 1 employer ADC as a percent of payroll	12.66%	12.01%
	• Level 2 employer ADC as a percent of payroll	9.11%	8.41%
	• Total blended employer ADC as a percent of payroll	11.03%	10.29%
<b>Actuarial accrued liability for plan year beginning October 1:</b>	• Retired members and beneficiaries	\$2,464,999,874	\$2,361,942,656
	• Inactive vested members	315,623,390	304,439,089
	• Active members	2,000,095,603	1,996,937,312
	• Inactive members due a refund of employee contributions	6,809,795	4,950,498
	• Total	4,787,528,662	4,668,269,555
	• Normal cost	59,384,615	64,797,794
<b>Assets for plan year beginning October 1:</b>	• Market value of assets (MVA)	\$3,792,152,115	\$3,735,404,966
	• Actuarial value of assets (AVA)	3,888,025,088	3,763,641,862
	• Actuarial value of assets as a percentage of market value of assets	102.53%	100.76%
<b>Funded status for plan year beginning October 1:</b>	• Unfunded actuarial accrued liability on market value of assets	\$995,376,547	\$932,864,589
	• Funded percentage on MVA basis	79.21%	80.02%
	• Unfunded actuarial accrued liability on actuarial value of assets	\$899,503,574	\$904,627,694
	• Funded percentage on AVA basis	81.21%	80.62%
<b>Key assumptions</b>	• Net investment return	7.20%	7.20%
	• Inflation rate	2.20%	2.20%
<b>Demographic data for plan year beginning October 1:</b>	• Number of retired members and beneficiaries	11,015	10,818
	• Number of inactive vested members <sup>1</sup>	5,417	5,046
	• Number of inactive members due a refund of employee contributions	10,689	9,765
	• Number of active Level 1 members	7,852	8,567
	• Number of active Level 2 members	8,031	9,785
	• Average salary for Level 1 members	\$77,026	\$74,927
	• Total payroll for Level 1 members	\$604,806,300	\$641,902,410
	• Average salary for Level 2 members	\$62,668	\$59,830
	• Total payroll for Level 2 members	\$511,316,498	\$585,439,955

<sup>1</sup> Includes participants on long term disability who are continuing to accrue service

## Section 1: Actuarial Valuation Summary

### Important information about actuarial valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast — the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare a valuation, Segal relies on a number of input items. These include:

<b>Plan of benefits</b>	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
<b>Participant data</b>	An actuarial valuation for a plan is based on data provided to the actuary by the University. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
<b>Assets</b>	The valuation is based on the market value of assets as of the valuation date, as provided by the University. The University uses an “actuarial value of assets” that differs from market value to gradually reflect year-to-year changes in the market value of assets in determining the contribution requirements.
<b>Actuarial assumptions</b>	In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to salary increases. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan’s assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results that does not mean that the previous assumptions were unreasonable.

## Section 1: Actuarial Valuation Summary

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

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The actuarial valuation is prepared at the request of the University. Segal is not responsible for the use or misuse of its report, particularly by any other party.

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An actuarial valuation is a measurement of the plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

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Actuarial results in this report are not rounded, but that does not imply precision.

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If the University is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.

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Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The University should look to their other advisors for expertise in these areas.

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As Segal has no discretionary authority with respect to the management or assets of the Plan, it is not a fiduciary in its capacity as actuaries and consultants with respect to the Plan.

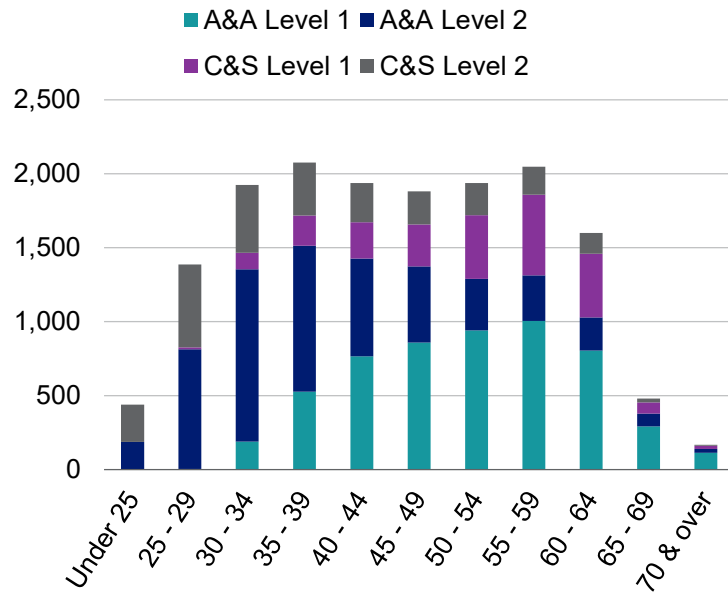
# Actuarial Valuation Results

## Active members

Plan costs are affected by the age, years of service and payroll of active members. In this year's valuation, there were 15,883 active members with an average age of 45.6, average years of service of 10.6, and average salary of \$70,272. The 18,352 active members in the prior valuation had an average age of 44.2, average years of service of 9.2, and average salary of \$66,878. As of September 30, 2020, 68.1% of the active population is Academic and Administrative (A&A) and 31.9% is Clerical and Service (C&S). This compares to 65.9% and 34.1%, respectively in the prior valuation. Additional detail is provided in section 3 of this report.

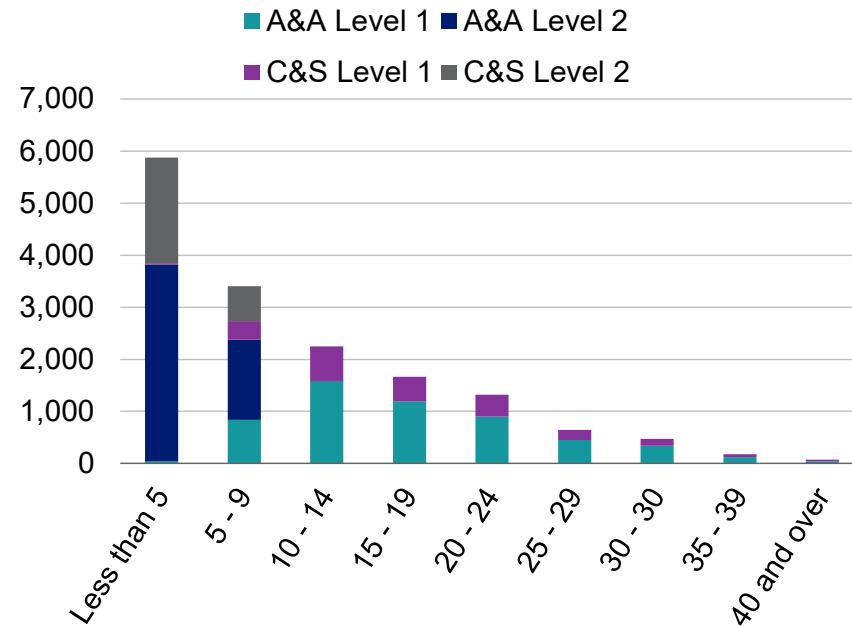
### Distribution of Active Members as of September 30, 2020

Actives by Age



Average age	45.6
Prior year average age	44.2
Difference	1.4

Actives by Years of Service



Average years of service	10.6
Prior year average years of service	9.2
Difference	1.4

## Section 2: Actuarial Valuation Results

### Inactive members

In this year's valuation, there were 5,337 members with a vested right to a deferred or immediate vested benefit. This includes members who are inactive due to long-term disability but who continue to accrue service. Of the 5,337 inactive vested members, 3,809 are Academic and Administrative, and 1,528 are Clerical and Service.

In addition, there were 10,689 terminated members entitled to a return of their employee contributions.

## Section 2: Actuarial Valuation Results

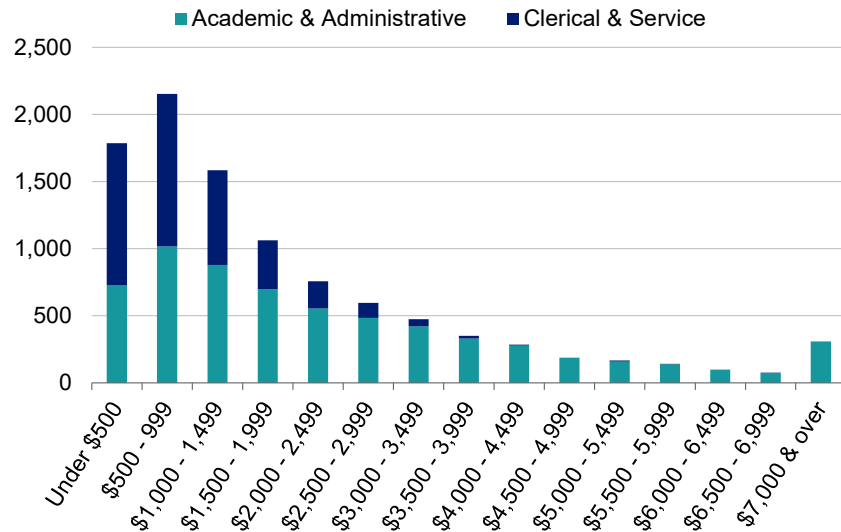
### Retired members and beneficiaries

As of September 30, 2020, 10,034 retired members and 1,000 beneficiaries were receiving total monthly benefits of \$21,175,811. For comparison, in the previous valuation, there were 9,739 retired members and 1,097 beneficiaries receiving monthly benefits of \$20,234,633.

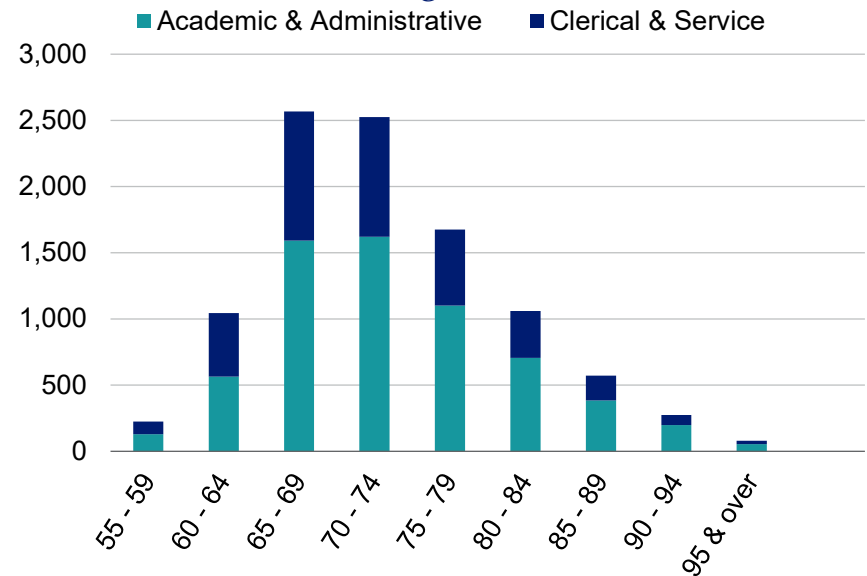
As of September 30, 2020, the average monthly benefit for retired Academic & Administrative members is \$2,537 and the average monthly benefit for Clerical & Service members is \$1,025, compared to \$2,482 and \$995, respectively, in the previous valuation. The average age for retired members is 73.0 in the current valuation, compared with 72.7 in the prior valuation.

#### Distribution of Pensioners as of September 30, 2020

Pensioners by  
Monthly Amount



Pensioners by  
Age



## Section 2: Actuarial Valuation Results

### Financial information

It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board of Curators has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable. The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

#### Determination of Actuarial Value of Assets for Year Ended September 30, 2020

<b>1</b>	Market value of assets, September 30, 2020			\$3,792,152,115
<b>2</b>	Calculation of unrecognized return	<b>Original Amount<sup>1</sup></b>	<b>Percent Deferred<sup>2</sup></b>	<b>Unrecognized Amount<sup>3</sup></b>
	(a) Year ended September 30, 2020	-\$71,077,937	80%	-\$56,862,350
	(b) Year ended September 30, 2019	-94,989,646	60%	-56,993,787
	(c) Year ended September 30, 2018	-15,015,791	40%	-6,006,316
	(d) Year ended September 30, 2017	119,947,402	20%	23,989,480
	(e) Year ended September 30, 2016	43,926,675	0%	<u>0</u>
	(f) Total unrecognized return			-\$95,872,973
<b>3</b>	Preliminary actuarial value: <b>(1) - (2f)</b>			3,888,025,088
<b>4</b>	Adjustment to be within 20% corridor			0
<b>5</b>	Final actuarial value of assets as of September 30, 2020: <b>(3) + (4)</b>			<u>3,888,025,088</u>
<b>6</b>	Actuarial value as a percentage of market value: <b>(5) ÷ (1)</b>			102.5%
<b>7</b>	Amount deferred for future recognition: <b>(1) - (5)</b>			-\$95,872,973

<sup>1</sup> Total return minus expected return on a market value basis

<sup>2</sup> Percent deferred applies to the current valuation year

<sup>3</sup> Recognition at 20% per year over five years



## Section 2: Actuarial Valuation Results

### Actuarial experience

To calculate any actuarially determined contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), any contribution requirement will decrease from the previous year. On the other hand, any contribution requirement will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

The total loss is \$2,107,104, which includes \$5,474,917 from investment losses and \$3,367,813 in gains from all other sources. The net experience variation from individual sources other than investments was less than 0.1% of the actuarial accrued liability. A discussion of the major components of the actuarial experience is on the following pages.

#### Actuarial Experience for Year Ended September 30, 2020

<b>1</b>	Net gain/(loss) from investments <sup>1</sup>	-\$5,474,917
<b>2</b>	Net gain/(loss) from salary	21,560,832
<b>3</b>	Net gain/(loss) from other experience	-18,193,019
<b>4</b>	Net experience gain/(loss): <b>1 + 2 + 3</b>	-\$2,107,104

<sup>1</sup> Details on next page

## Section 2: Actuarial Valuation Results

### Investment experience

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on the Plan's investment policy. The rate of return on the market value of assets was 5.26% for the year ended September 30, 2020.

For valuation purposes, the assumed rate of return on the actuarial value of assets is 7.20%. The actual rate of return on an actuarial basis for the 2020 plan year was 7.05%. Since the actual return for the year was less than the assumed return, the Plan experienced an actuarial loss during the year ended September 30, 2020 with regard to its investments.

#### Investment Experience

		Year Ended September 30, 2020	
		Market Value	Actuarial Value
1	Net investment income	\$192,967,295	\$260,603,372
2	Average value of assets	3,667,294,893	3,695,531,789
3	Rate of return: 1 + 2	5.26%	7.05%
4	Assumed rate of return	7.20%	7.20%
5	Expected investment income: 2 x 4	264,045,232	266,078,289
6	Investment gain/(loss): 1 - 5	<u>-\$71,077,937</u>	<u>-\$5,474,917</u>

## Section 2: Actuarial Valuation Results

### Non-investment experience

#### Retirement experience

During the year ended September 30, 2020, the number of retirements for both academic and administrative employees and clerical and service employees was greater than projected.

#### Salary experience

Between the 2019 and 2020 actuarial valuations, the average salary increased by 3.6% for academic and administrative employees and increased by 3.2% for clerical and service employees. These actual salary increase patterns were less than the assumed increases producing an actuarial gain of \$21.6 million.

#### Other experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- the extent of turnover among members,
- mortality experience (more or fewer deaths than expected). and
- the number of newly disabled members (more or fewer than projected).

## Section 2: Actuarial Valuation Results

### **Actuarial assumptions**

There are no assumption changes reflected in this report

Details on actuarial assumptions and methods are in Section 4, Exhibit I.

### **Plan provisions**

There were no changes in plan provisions since the prior valuation.

A summary of plan provisions is in Section 4, Exhibit II.

## Section 2: Actuarial Valuation Results

### Development of Unfunded Actuarial Accrued Liability for Year Ended September 30, 2020

1	Unfunded actuarial accrued liability at beginning of year	\$904,627,694
2	Normal cost at beginning of year	62,415,399
3	Total contributions for year	-134,878,602
4	Interest	65,231,979
5	Expected unfunded actuarial accrued liability	\$897,396,470
6	Changes due to:	
	• Actuarial Investment loss	\$5,474,917
	• Salary increases less than expected	-21,560,832
	• Other gain/loss	18,193,019
	Total changes	<u>2,107,104</u>
7	Unfunded actuarial accrued liability at end of year	<u>\$899,503,574</u>

## Section 2: Actuarial Valuation Results

### Actuarially determined contribution

The actuarially determined contribution is equal to the employer normal cost payment and a payment on the unfunded actuarial accrued liability. As of October 1, 2020, the actuarially determined contribution is 11.03% of payroll in aggregate, or 12.66% for Level One members and 9.11% for Level Two members.

The methodology used to calculate the actuarially determined contribution based on a closed amortization period of 30 years, established as of October 1, 2013. As of October 1, 2020, there are 23 years remaining on this schedule.

Note that the Plan uses a level dollar amortization schedule. Since the Plan is closed to new entrants and the active population and payroll are declining, the percent of payroll contribution rates reported herein as of October 1, 2020 may produce an amortization payment less than the scheduled amount when applied to the reduced payroll in the period July 1, 2021 – June 30, 2022. Note that payroll only applies to those actives who are members in this Plan.

The contribution requirement as of October 1, 2020 to be paid during the year ending June 30, 2022 is based on the data previously described, the actuarial assumptions and Plan provisions described in *Section 4*, including all changes affecting future costs adopted at the time of the actuarial valuation, actuarial gains and losses, and changes in the actuarial assumptions.

#### Actuarially Determined Contribution for Year Beginning October 1

Contribution Requirements	2020			2019		
	Total Plan	Level One % of Projected Payroll	Level Two % of Projected Payroll	Total Plan	Level One % of Projected Payroll	Level Two % of Projected Payroll
1. Normal cost	\$59,384,616	6.99%	3.35%	\$64,797,794	7.04%	3.34%
2. 23/24-year amortization of unfunded liability	78,604,764	7.04%	7.04%	77,730,372	6.33%	6.33%
3. Expected employee contribution	<u>-14,834,581</u>	<u>-1.37%</u>	<u>-1.28%</u>	<u>-16,187,262</u>	<u>-1.37%</u>	<u>-1.27%</u>
4. Net employer contribution	\$123,154,799	12.66%	9.11%	\$126,340,904	12.01%	8.41%

## Section 2: Actuarial Valuation Results

### Reconciliation of actuarially determined contribution

The chart below details the changes in the actuarially determined contribution from the prior valuation to the current year's valuation.

#### Reconciliation of Actuarially Determined Contribution <sup>1</sup> from October 1, 2019 to October 1, 2020

	Amount	% of Payroll
Actuarially Determined Contribution as of October 1, 2019	\$142,528,166	11.61%
• Effect of salary gain	-2,809,710	-0.23%
• Effect of investment (gain)/loss	478,436	0.04%
• Effect of other gains and losses on accrued liability	1,589,831	0.13%
• Net effect of other changes, including composition and number of members	-3,797,289	-0.31%
Change in percentage due to compensation change	N/A	1.12%
Total change	-\$4,538,732	0.75%
Actuarially Determined Contribution as of October 1, 2020	\$137,989,434	12.36%

<sup>1</sup> Gross of employee contributions

## Section 2: Actuarial Valuation Results

### Schedule of funding progress through October 1, 2020

<b>Actuarial Valuation Date</b>	<b>Unfunded AAL (UAAL)</b>	<b>Funded Ratio MVA</b>	<b>Funded Ratio AVA</b>	<b>UAAL as a Percentage of Covered Payroll</b>
10/01/2011	\$309,493,199	79.8%	90.1%	30.0%
10/01/2012	518,344,622	84.3%	84.3%	49.6%
10/01/2013	512,470,418	88.1%	85.2%	47.5%
10/01/2014	476,427,007	89.2%	86.9%	42.9%
10/01/2015	474,031,119	82.6%	87.4%	42.0%
10/01/2016	459,286,212	84.9%	88.2%	40.1%
10/01/2017	738,711,563	82.9%	82.9%	64.4%
10/01/2018	798,247,042	82.5%	82.1%	67.2%
10/01/2019	904,627,693	80.0%	80.6%	73.7%
10/01/2020	899,503,574	79.2%	81.2%	80.6%



## Section 2: Actuarial Valuation Results

### History of ADC rates

A history of the most recent years of contributions is shown below.

#### History of Actuarially Determined Contributions: 2016 – 2020 Level One

Plan Year Beginning October 1	Normal Cost Percentage	Amortization Percentage	Total Contribution Rate	Employee Contribution Rate	Net Contribution Rate
2016	7.26%	3.47%	10.72%	1.33%	9.39%
2017	7.12%	5.37%	12.50%	1.34%	11.16%
2018	7.07%	5.69%	12.76%	1.36%	11.40%
2019	7.04%	6.33%	13.38%	1.37%	12.01%
2020	6.99%	7.04%	14.03%	1.37%	12.66%

#### History of Actuarially Determined Contributions: 2016 – 2020 Level Two

Plan Year Beginning October 1	Normal Cost Percentage	Amortization Percentage	Total Contribution Rate	Employee Contribution Rate	Net Contribution Rate
2016	3.24%	3.47%	6.71%	1.23%	5.61%
2017	3.32%	5.37%	8.69%	1.23%	7.46%
2018	3.32%	5.69%	9.01%	1.25%	7.76%
2019	3.34%	6.33%	9.68%	1.27%	8.41%
2020	3.35%	7.04%	10.39%	1.28%	9.11%

## Section 2: Actuarial Valuation Results

### History of Actuarially Determined Contributions: 2016 – 2020 Blended Level One and Level Two<sup>1</sup>

<b>Plan Year Beginning October 1</b>	<b>Net Contribution Rate<sup>1</sup></b>
2016	8.20%
2017	9.83%
2018	9.87%
2019	10.29%
2020	11.03%

<sup>1</sup> Does not include contributions to the defined contribution plan for Level Two employees. The blended contribution rates shown are based on the total employee population and salaries as of the valuation date.

## Section 2: Actuarial Valuation Results

### Risk

Since the actuarial valuation results are dependent on a given set of assumptions and data as of a specific date, there is a risk that emerging results may differ significantly as actual experience differs from the assumptions.

This report does not contain a detailed analysis of the potential range of future measurements, but does include a brief discussion of some risks that may affect the Plan. We recommend a more detailed assessment to provide the University with a better understanding of the risks inherent in the Plan. This assessment may include scenario testing, sensitivity testing, stress testing, and stochastic modeling.

- Investment Risk (the risk that returns will be different than expected)

Since the Plan's assets are much larger than contributions, investment performance may create volatility in contribution requirements. For example, for each 1% difference in return from the assumed return, the actuarially determined contribution would increase or decrease by \$3.3 million, or 0.3% of total payroll. The market value rate of return over the last ten years has ranged from a low of -1.86% to a high of 13.70%.

- Longevity Risk (the risk that mortality experience will be different than expected)

The actuarial valuation includes an expectation of future improvement in life expectancy. Emerging plan experience that does not match these expectations will result in either an increase or decrease in the actuarially determined contribution.

- Contribution Risk (the risk that actual contributions will be different from actuarially determined contribution)

The Plan's funding policy requires payment of the actuarially determined contribution. As long as this policy is adhered to, contribution risk is negligible.

- Demographic Risk (the risk that participant experience will be different than assumed)

Examples of this risk include:

- Actual retirements occurring earlier or later than assumed. The value of retirement plan benefits is sensitive to the rate of benefit accruals and any early retirement subsidies that apply.
- More or less active participant turnover than assumed.
- Salary increases more or less than expected.

- Actual Experience Over the Last 10 years and Implications for the Future

Past experience can help demonstrate the sensitivity of key results to the Plan's actual experience. Over the past ten years:

The investment gain(loss) for a year has ranged from a loss of \$308.3 million to a gain of \$141.2 million.

## Section 2: Actuarial Valuation Results

The funded percentage on the actuarial value of assets has ranged from a high of 90.1% to a low of 80.6%.

- Maturity Measures

As pension plans mature, the cash need to fulfill benefit obligations will increase over time. Therefore, cash flow projections and analysis should be performed to assure that the Plan's asset allocation is aligned to meet emerging pension liabilities.

For the prior year, benefits paid were \$136.2 million more than contributions received. As the Plan matures, more cash will be needed from the investment portfolio to meet benefit payments.

# Supplemental Information

## Exhibit A: Table of Plan Coverage

### Active Members

Category	Year Ended September 30		Change From Prior Year
	2020	2019	
<b>Level One Academic &amp; Administrative Members:</b>			
• Number	5,493	5,887	-6.7%
• Average age	51.8	51.3	0.5
• Average years of service	17.6	16.8	0.8
• Average salary	\$92,040	\$90,078	2.1%
• Total payroll	\$505,573,964	\$530,286,531	-4.7%
<b>Level One Clerical &amp; Service Members:</b>			
• Number	2,359	2,680	-12.0%
• Average age	52.2	51.6	0.6
• Average years of service	17.8	17.0	0.8
• Average salary	\$42,065	\$41,648	1.0%
• Total payroll	\$99,232,336	\$111,615,879	-11.1%
<b>Level Two Academic &amp; Administrative Members:</b>			
• Number	5,323	6,205	-14.2%
• Average age	39.8	38.5	1.3
• Average years of service	3.7	2.7	1.0
• Average salary	\$77,905	\$74,563	4.5%
• Total payroll	\$414,685,878	\$462,660,517	-10.4%
<b>Level Two Clerical &amp; Service Members:</b>			
• Number	2,708	3,580	-24.4%
• Average age	38.8	36.7	2.1
• Average years of service	3.5	2.4	1.1
• Average salary	\$35,683	\$34,296	4.0%
• Total payroll	\$96,630,620	\$122,779,438	-21.3%

## Section 3: Supplemental Information

### Non-Active Members

Category	Year Ended September 30		Change From Prior Year
	2020	2019	
<b>Inactive vested members<sup>1</sup></b>	5,417	5,046	0.2%
<b>Inactive members due a refund of employee contributions</b>	10,689	9,765	9.5%
<b>Retired members:</b>			
• Number in pay status	10,034	9,739	3.0%
• Average age	73.0	72.7	0.3
• Average monthly benefit	\$1,973	\$1,926	2.4%
<b>Beneficiaries:</b>			
• Number in pay status	1,000	1,097	-8.8%
• Average age	76.3	75.8	0.5
• Average monthly benefit	\$1,378	\$1,338	3.0%

<sup>1</sup> Includes participants on long term disability who are continuing to accrue service

## Section 3: Supplemental Information

### Exhibit B: Members in Active Service as of September 30, 2020 by Age and Years of Service

#### Academic & Administrative, Level One

Age	Years of Service									
	Total	0-4	5-9	10-14	15 - 19	20 - 24	25 - 29	30 - 30	35 - 39	40 and over
Under 25	--	--	--	--	--	--	--	--	--	--
25 - 29	3	--	3	--	--	--	--	--	--	--
30 - 34	188	2	106	79	1	--	--	--	--	--
35 - 39	525	9	194	265	57	--	--	--	--	--
40 - 44	765	7	187	322	207	42	--	--	--	--
45 - 49	859	9	120	281	239	169	40	1	--	--
50 - 54	942	11	74	264	227	215	104	43	4	--
55 - 59	1,004	4	60	163	235	233	152	126	31	--
60 - 64	805	4	62	125	152	170	120	119	44	9
65 - 69	290	1	20	56	58	55	28	37	24	11
70 & over	96	--	8	21	12	14	6	17	14	20
<b>Total</b>	<b>5,493</b>	<b>47</b>	<b>874</b>	<b>1,576</b>	<b>1,188</b>	<b>898</b>	<b>450</b>	<b>343</b>	<b>117</b>	<b>40</b>

## Section 3: Supplemental Information

### Academic & Administrative, Level Two

Age	Years of Service									
	Total	0-4	5-9	10-14	15 - 19	20 - 24	25 - 29	30 - 30	35 - 39	40 and over
Under 25	187	187	--	--	--	--	--	--	--	--
25 - 29	811	723	88	--	--	--	--	--	--	--
30 - 34	1,167	841	326	--	--	--	--	--	--	--
35 - 39	988	667	321	--	--	--	--	--	--	--
40 - 44	661	429	232	--	--	--	--	--	--	--
45 - 49	515	316	199	--	--	--	--	--	--	--
50 - 54	348	212	136	--	--	--	--	--	--	--
55 - 59	308	195	113	--	--	--	--	--	--	--
60 - 64	223	138	85	--	--	--	--	--	--	--
65 - 69	89	51	38	--	--	--	--	--	--	--
70 & over	26	13	13	--	--	--	--	--	--	--
Total	5,323	3,772	1,551	--	--	--	--	--	--	--



## Section 3: Supplemental Information

### Clerical & Service, Level One

Age	Years of Service									
	Total	0-4	5-9	10-14	15 - 19	20 - 24	25 - 29	30 - 30	35 - 39	40 and over
Under 25	--	--	--	--	--	--	--	--	--	--
25 - 29	13	--	10	3	--	--	--	--	--	--
30 - 34	112	1	60	50	1	--	--	--	--	--
35 - 39	204	6	59	101	37	1	--	--	--	--
40 - 44	245	3	52	101	64	24	1	--	--	--
45 - 49	282	4	34	67	78	71	25	3	--	--
50 - 54	429	7	40	105	92	98	49	35	3	--
55 - 59	547	2	51	114	100	112	71	57	34	6
60 - 64	430	6	40	95	92	92	39	28	20	18
65 - 69	74	--	9	22	10	16	6	5	2	4
70 & over	23	--	2	3	6	5	3	3	--	1
Total	2,359	29	357	661	480	419	194	131	59	29

## Section 3: Supplemental Information

### Clerical & Service, Level Two

Age	Years of Service									
	Total	0-4	5-9	10-14	15 - 19	20 - 24	25 - 29	30 - 30	35 - 39	40 and over
Under 25	254	250	4	--	--	--	--	--	--	--
25 - 29	563	466	97	--	--	--	--	--	--	--
30 - 34	457	336	121	--	--	--	--	--	--	--
35 - 39	359	260	99	--	--	--	--	--	--	--
40 - 44	267	194	73	--	--	--	--	--	--	--
45 - 49	225	153	72	--	--	--	--	--	--	--
50 - 54	218	150	68	--	--	--	--	--	--	--
55 - 59	188	124	64	--	--	--	--	--	--	--
60 - 64	143	80	63	--	--	--	--	--	--	--
65 - 69	28	17	11	--	--	--	--	--	--	--
70 & over	6	4	2	--	--	--	--	--	--	--
Total	2,708	2034	674	--	--	--	--	--	--	--

## Section 3: Supplemental Information

### Exhibit C: Summary Statement of Income and Expenses on a Market Value Basis

	Year Ended September 30, 2020	Year Ended September 30, 2019
<b>Net assets at market value at the beginning of the year</b>	\$3,735,404,996	\$3,685,544,817
<b>Contribution income:</b>		
• Employer contributions	\$118,574,158	\$117,423,003
• Employee contributions	16,304,444	16,206,779
<i>Total contribution income</i>	<i>\$134,878,602</i>	<i>\$133,629,782</i>
<b>Investment income:</b>		
• Interest, dividends and other income	\$40,905,523	\$81,338,498
• Net gain/(loss) from sales of investments	88,406,352	67,746,037
• Unrealized appreciation/(depreciation)	63,850,961	71,600,694
• Expenses	<u>-195,541</u>	<u>-54,537,894</u>
<i>Net investment income</i>	<i>\$192,967,295</i>	<i>\$220,685,229</i>
<b>Total income available for benefits</b>	<b>\$327,540,996</b>	<b>\$354,315,011</b>
<b>Less disbursements:</b>		
• Benefit payments	-\$271,098,748	-\$248,916,878
<b>Change in reserve for future benefits</b>	<b>\$56,747,149</b>	<b>\$50,860,149</b>
<b>Net assets at market value at the end of the year</b>	<b>\$3,792,152,115</b>	<b>\$3,735,404,996</b>

## Section 3: Supplemental Information

### Exhibit D: Definition of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

<b>Actuarial Accrued Liability for Actives:</b>	The equivalent of the accumulated normal costs allocated to the years before the valuation date.
<b>Actuarial Accrued Liability for Pensioners and Beneficiaries:</b>	Actuarial Present Value of lifetime benefits to existing pensioners and beneficiaries. This sum takes account of life expectancies appropriate to the ages of the annuitants and the interest that the sum is expected to earn before it is entirely paid out in benefits.
<b>Actuarial Cost Method:</b>	A procedure allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability that are used to determine the actuarially determined contribution.
<b>Actuarial Gain or Loss:</b>	A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge which may be the same as forecasted, or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., assets earn more than projected, salary increases are less than assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results yield actuarial liabilities that are larger than projected.
<b>Actuarially Equivalent:</b>	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
<b>Actuarial Present Value (APV):</b>	The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. Each such amount or series of amounts is: Adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.) Multiplied by the probability of the occurrence of an event (such as survival, death, disability, withdrawal, etc.) on which the payment is conditioned, and Discounted according to an assumed rate (or rates) of return to reflect the time value of money.
<b>Actuarial Present Value of Future Benefits:</b>	The Actuarial Present Value of benefit amounts expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age, anticipated future compensation, and future service credits. The

## Section 3: Supplemental Information

	Actuarial Present Value of Future Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive members entitled to either a refund of member contributions or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
<b>Actuarial Valuation:</b>	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan, as well as Actuarially Determined Contributions.
<b>Actuarial Value of Assets (AVA):</b>	The value of the Plan's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly plans use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the Actuarially Determined Contribution.
<b>Actuarially Determined:</b>	Values that have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the Plan.
<b>Actuarially Determined Contribution (ADC):</b>	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under the Plan's funding policy. The ADC consists of the Employer Normal Cost and the Amortization Payment.
<b>Amortization Method:</b>	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the Unfunded Actuarial Accrued Liability. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the Unfunded Actuarial Accrued Liability. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.
<b>Amortization Payment:</b>	The portion of the pension plan contribution, or ADC, that is intended to pay off the Unfunded Actuarial Accrued Liability.
<b>Assumptions or Actuarial Assumptions:</b>	The estimates upon which the cost of the Plan is calculated, including: <u>Investment return</u> - the rate of investment yield that the Plan will earn over the long-term future; <u>Mortality rates</u> - the rate or probability of death at a given age for employees and pensioners; <u>Retirement rates</u> - the rate or probability of retirement at a given age or service; <u>Disability rates</u> - the rate or probability of disability retirement at a given age;

## Section 3: Supplemental Information

	<p><u>Withdrawal rates</u> - the rate or probability at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement;</p> <p><u>Salary increase rates</u> - the rates of salary increase due to inflation, real wage growth and merit and promotion increases.</p>
<b>Closed Amortization Period:</b>	A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example, if the amortization period is initially set at 20 years, it is 19 years at the end of one year, 18 years at the end of two years, etc. See Open Amortization Period.
<b>Decrements:</b>	Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or withdrawal.
<b>Defined Benefit Plan:</b>	A retirement plan in which benefits are defined by a formula based on the member's compensation, age and/or years of service.
<b>Defined Contribution Plan:</b>	A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.
<b>Employer Normal Cost:</b>	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
<b>Experience Study:</b>	A periodic review and analysis of the actual experience of the Plan that may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified based on recommendations from the Actuary.
<b>Funded Ratio:</b>	The ratio of the Actuarial Value of Assets (AVA) to the Actuarial Accrued Liability (AAL). Plans sometimes also calculate a market funded ratio, using the Market Value of Assets (MVA), rather than the AVA.
<b>Investment Return:</b>	The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.
<b>Normal Cost:</b>	The portion of the Actuarial Present Value of Future Benefits allocated to a valuation year by the Actuarial Cost Method. Any payment with respect to an Unfunded Actuarial Accrued Liability is not part of the Normal Cost (see Amortization Payment). For pension plan benefits that are provided in part by employee contributions, Normal Cost refers to the total of member contributions and employer Normal Cost unless otherwise specifically stated.

## Section 3: Supplemental Information

<b>Open Amortization Period:</b>	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. If the initial period is set as 30 years, the same 30-year period is used in each future year in determining the Amortization Period.
<b>Unfunded Actuarial Accrued Liability:</b>	The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. This value may be negative, in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus or an Overfunded Actuarial Accrued Liability.
<b>Valuation Date or Actuarial Valuation Date:</b>	The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Benefits is determined. The expected benefits to be paid in the future are discounted to this date.

# Actuarial Valuation Basis

## Exhibit I: Actuarial Assumptions, Actuarial Cost Method, and Models

<b>Rationale for Assumptions</b>	The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation is shown in the Actuarial Experience Study for 2012–2016. Current data is reviewed in conjunction with each annual valuation. Based on professional judgment, no assumption changes are warranted at this time.		
<b>Net Investment Return:</b>	7.20%		
<b>Annual Salary Increases at Selected Ages :</b>	<b>Age</b>	<b>Academic &amp; Administrative Rate (%)</b>	<b>Clerical &amp; Service Rate (%)</b>
	25	6.0	3.0
	30	3.5	2.4
	35	2.5	1.9
	40	2.1	1.4
	45	1.7	0.9
	50	1.3	0.6
	55	0.6	0.5
	60	0.1	0.1
	The salary increases shown above exclude assumed inflation of 2.20%.		
<b>Mortality Rates:</b>	<p><i>Healthy:</i> RP-2014 Healthy Annuitant Mortality Table with generational projection using Scale MP-2017</p> <p><i>Disabled:</i> RP-2014 Disabled Annuitant Mortality Table with generational projection using Scale MP-2017</p> <p><i>Non-Annuitant:</i> RP-2014 Employee Mortality Table with generation projection using Scale MP-2017</p>		



## Section 4: Actuarial Valuation Basis

### Annuitant Mortality Rates Based on Age at Valuation Date:

Age	Mortality Rates		Expected Years of Life Remaining	
	Male	Female	Male	Female
60	0.78%	0.53%	25.9	28.2
70	1.62%	1.22%	17.4	19.3
80	4.23%	3.33%	10.2	11.6
90	13.01%	10.39%	5.0	5.9

### Termination Rates Before Retirement:

Years of Service	Withdrawal Rate <sup>1</sup> (%)	
	Academic & Administrative	Clerical & Service
0	21.5%	31.0%
1	21.0	23.0
2	18.5	19.5
4	13.0	13.5
6	12.0	11.5
8	9.0	10.0
10	7.5	8.5
12	6.0	7.0
14	5.0	6.0
16	4.5	4.5
18	4.0	4.0

<sup>1</sup> Withdrawal rates do not apply at or beyond early retirement or 20 years of service

## Section 4: Actuarial Valuation Basis

Age	Disability Rates (%)
40	0.05
45	0.13
50	0.24
55	0.46
60	0.76

### Retirement Rates:

Age	Academic & Administrative		Clerical & Service	
	Under 25 Years of Service	Over 25 Years of Service	Under 25 Years of Service	Over 25 Years of Service
55	4%	6%	7%	9%
56-59	3	4	5	6
60-61	5	7	10	12
62	10	20	20	35
63-64	10	12	14	19
65	20	20	35	35
66	20	20	35	35
67 – 69	15	15	25	25
70 – 71	20	20	25	25
72 – 79	20	20	25	25
80	100	100	100	100

### Weighted Average Retirement Age

Age 65 for academic & administrative members and age 63 for clerical & service members, determined as follows: The weighted average retirement age for each participant is calculated as the sum of the product of each potential current or future retirement age times the probability of surviving from current age to that age and then retiring at that age, assuming no other decrements. The overall weighted retirement age is the average of the individual retirement ages based on all the active members included in the October 1, 2020 actuarial valuation.

### Retirement Age for Inactive Vested Participants:

65

## Section 4: Actuarial Valuation Basis

<b>Unknown Data for Members:</b>	Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.
<b>Percent Married:</b>	80%
<b>Age of Spouse:</b>	Females spouses are on average three years younger than male spouses
<b>Benefit Election:</b>	All members are assumed to elect the single life form of payment.
<b>Load for Summer Appointments:</b>	3.33% of Academic & Administrative active member liability
<b>Actuarial Value of Assets:</b>	Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized over a five-year period, further adjusted, if necessary, to be within 20% of the market value.
<b>Actuarial Cost Method:</b>	Entry Age Actuarial Cost Method. Entry Age is the age at date of employment or, if date is unknown, current age minus years of service. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are allocated by salary, with Normal Cost determined using the plan of benefits applicable to each participant.
<b>Models:</b>	Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.
<b>Changes in Actuarial Assumptions:</b>	There have been no changes in actuarial assumptions since the last valuation.

## Section 4: Actuarial Valuation Basis

### Exhibit II: Summary of Plan Provisions

This exhibit summarizes the major provisions of the Plan included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

<b>Plan Year:</b>	October 1 through September 30
<b>Plan Status:</b>	Closed effective October 1, 2019
<b>Membership:</b>	Level One Member is one who was initially hired prior to October 1, 2012. Level Two Member is one who is hired or rehired on or after October 1, 2012 (except that a Qualified Member who was initially hired prior to October 1, 2012, earned a vested benefit, terminated service after earning such vested benefit, did not receive a lump sum payment, and is rehired by the University on or after October 1, 2012 shall be a Level One Member).
<b>Normal Retirement:</b>	<ul style="list-style-type: none"><li>• Age Requirement: 65</li><li>• Amount:<ul style="list-style-type: none"><li>– Level One Members: Total years of service multiplied by 2.2% of compensation base</li><li>– Level Two Members: Total years of service multiplied by 1.0% of compensation base</li></ul></li><li>• Compensation base: Average regular annual salary, excluding any incentive compensation and including any shift differential pay, of the member for the five consecutive highest salary years of employment. Salary year is September 1 through August 31.</li><li>• Minimum Value Accumulation for Level One Members Only: Members shall receive an annual minimum benefit of the actuarial equivalent annuity of an account crediting 5% of each year's pay accumulated at 7.5% interest annually.</li></ul>
<b>Benefit for Summer Employment:</b>	Academic Members who receive 9-month appointment designated as summer service earn separate benefit added to normal pension. <ul style="list-style-type: none"><li>• Amount:<ul style="list-style-type: none"><li>– Level One Members: Total number of summer appointments multiplied by 2.2% of compensation base</li><li>– Level Two Members: Total number of summer appointments multiplied by 1.0% of compensation base</li></ul></li><li>• Compensation base: Average of the 5 consecutive highest summer salaries earned during the summers worked. Summer salary may not exceed 3/9 of regular compensation (2/9 of regular compensation prior to May 1, 2011).</li></ul>
<b>Early Retirement:</b>	<ul style="list-style-type: none"><li>• Age and Service Requirement: 60 with 5 years of credited service, or 55 with 10 years of credited service, with one year of credit earned after age 54</li><li>• Amount: Normal pension reduced 3-1/3% for each year younger than age 65, or younger than age 62 with 25 years of credited service</li></ul>

## Section 4: Actuarial Valuation Basis

<b>Disability:</b>	<ul style="list-style-type: none"><li>Benefit is deferred to Normal or Early retirement age and is equal to normal pension reflecting compensation base at time of disability and years of service that member would have had if they remained in employment until actual retirement</li></ul>
<b>Vesting:</b>	<ul style="list-style-type: none"><li>Age Requirement: 55</li><li>Service Requirement: 5 years of credited service</li><li>Amount: Normal retirement pension reduced 6 2/3% for each of the first 5 years younger than age 65 and 3-1/3% for each of the next 5 years</li><li>Normal Retirement Age: 65</li></ul>
<b>Pre-Retirement Death Benefit:</b>	<p>Beneficiaries of members who die in active employment will receive the greater of the following:</p> <ul style="list-style-type: none"><li>One times (Two times for Level One Member) base salary at time of death limited to 100 times the monthly normal retirement benefit accrued at time of death</li><li>Actuarial present value of benefit accrued as of date of death (reflecting minimum value accumulation for Level One members)</li></ul> <p>Beneficiaries of terminated vested participants will receive the lump sum member was eligible to receive at date of death with interest from date of termination to date of death.</p>
<b>Post-Retirement Death Benefit:</b>	<p>If married, pension benefits are paid in the form of a joint and survivor annuity unless this form is rejected by the participant and spouse. If not rejected, the benefit amount otherwise payable is reduced to reflect the joint and survivor coverage. If not rejected, and the spouse predeceases the employee, a pop-up annuity has been elected, the employee's benefit amount will subsequently be increased to the unreduced amount payable had the joint and survivor coverage been rejected. If rejected, or if not married, benefits are payable for the life of the employee or in any other available optional form elected by the employee in an actuarially equivalent amount.</p>
<b>Optional Forms of Benefits:</b>	<p>Employee may elect any combination of 120-month certain and life annuity, 2 or 4% annual cost-of-living increases, or 50%, 75%, or 100% joint-and-survivor annuity with pop-up. Pension will be reduced accordingly for optional benefits added to form.</p> <p>Employees who terminate employment prior to eligibility for normal or early pension may elect to receive actuarial equivalent value of benefit as a lump sum payment</p> <p>Employees who terminate employment after eligibility for normal or early pension may elect to receive 10%, 20%, or 30% of actuarial equivalent value of benefit as a lump sum payment.</p>
<b>Credited Service:</b>	<p>Credited service is the number of continuous years and fractional parts thereof between date of employment and termination. A full year's credit shall be granted for twelve months of service with proportional credit for shorter periods of service. Special provisions are made for members on nine-month appointments.</p>
<b>Changes in Plan Provisions:</b>	<p>There were no changes in plan provisions with this valuation.</p>

## Section 4: Actuarial Valuation Basis

### Exhibit III: Contribution Rates

<b>Member Contribution Rates</b>	Effective July 1, 2009, members are required to contribute 1% of their salary up to \$50,000 plus 2% of their salary in excess of \$50,000. Contribution account balances are refunded with interest at 4% per year if the member terminates prior to becoming a Qualified Member. If the member terminates due to death prior to becoming a Qualified Member, the refund of the account balance is paid to the member's beneficiary.
<b>Employer Contribution Rates</b>	Equal to actuarially determined contribution



# Office of Human Resources

Update  
June 2021

# Agenda

- 2020 Annual Benefit Report
- Strategic Roadmap
- Leave Overview





# Benefits and Retirement Roadmap

	2021	2022	2023
Benefits	<p>Implement MUHC risk sharing agreement</p> <p>Health plan market check/benchmarking</p> <p>Medicare Advantage/Part D RFP</p> <p>Pre-65 health coverage analysis/recommendations</p>	<p>Phase I of CNP-like plans for other campuses</p> <p>Health plan &amp; pharmacy market check/benchmarking</p> <p>Vision and Dental RFP</p> <p>Explore tools for Health Plan transparency for Provider cost and quality</p> <p>Pre-65 health coverage implementation (Phase II)</p>	<p>Health plan &amp; pharmacy market check/benchmarking</p> <p>Life/LTD/AD&amp;D/FMLA RFP</p> <p>Introduce enhanced network solutions to improve participant health and manage costs</p> <p>Pre-65 health coverage changes effective</p> <p>Implement tools for Health Plan transparency cost and quality tools</p>



# Benefits and Retirement Roadmap

	2021	2022	2023
<b>Retirement</b>	Evaluate and recommend action to address cost, contribution, and benefit value across plans  DB Discount rate analysis and recommendation	Implement actions to align retirement plan cost, contribution, and benefit value  Implement DB discount rate actions	Continue to implement identified actions to align retirement plan cost, contribution, and benefit value  Continue DB discount rate actions
<b>Other Programs</b>	Continue leave plan evaluation	Continued leave work and evaluation	Introduce and implement leave design changes (contingent on project work in 2022)



# Impact Summary

Initiative	Cost Avoidance	Liability Reduction	Compliance Required	Recruitment & Retention
Risk Sharing & Narrow Networks	★			★
Health Plan Cost Levers	★			
Benefit Plans & Pharmacy RFPs and/or market checks	★		★	
Med Adv/Part D RFP	★	★	★	
Pre-65 Health coverage		★		★
DB Plan Levers		★		★
Leave Evaluation				



University of Missouri System

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# Current Time-off Programs (in days)

Plan	Years of Service	Exempt	Non-Exempt
VACATION	< 5 yrs	17	12
	5-15 yrs	22	17
	>15 yrs	22	22
	Max Accrual	2x annual rate	
SICK	All Employees	12	
	Max Accrual	No Maximum	
PERSONAL		4	
WINTER BREAK		4	
HOLIDAYS		8	

} Use or lose



# Annual Leave

Leave Type	Exempt	Non-Exempt
Vacation	\$25.6M	\$21.4M
Sick	\$8.3M	\$11.9M
Personal Days	\$5.0M	\$5.4M
Holidays	\$11.9M	\$10.6M
Winter Break	\$5.0M	\$2.2M
Admin	\$1.9M	\$1.9M
Other	\$1.0M	\$2.3M

- Hours actually taken times rate of pay
- Overall leave value is approx. 14% of eligible salaries & wages



# Principles of Leave Evaluation

1. Modernize leave programs to make them more market competitive
2. Improve cost effectiveness of leave program
3. Design leave programs that promote work-life balance
4. Explore differentiating leave by staff type and industry





**University of Missouri System**  
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No. 1

Recommended Action - Resolution for Executive Session of the Governance,  
Compensation and Human Resources Committee

It was moved by Curator \_\_\_\_\_ and seconded by Curator \_\_\_\_\_, that there shall be an executive session with a closed record and closed vote of the Governance, Compensation and Human Resources Committee meeting June 24, 2021, for consideration of:

- **Section 610.021(1), RSMo**, relating to matters identified in that provision, which include legal actions, causes of action or litigation, and confidential or privileged communications with counsel; and
- **Section 610.021(3), RSMo**, relating to matters identified in that provision, which include hiring, firing, disciplining, or promoting of particular employees; and
- **Section 610.021(12), RSMo**, relating to matters identified in that provision, which include sealed bids and related documents and sealed proposals and related documents or documents related to a negotiated contract; and
- **Section 610.021 (13), RSMo**, relating to matters identified in that provision, which include individually identifiable personnel records, performance ratings, or records pertaining to employees or applicants for employment.

Roll call vote of the Committee:                      YES                      NO

Curator Brncic

Curator Holloway

Curator Wenneker

Curator Williams

The motion \_\_\_\_\_.

June 24, 2021



STRATEGIC THEME DISCUSSION:  
DELEGATION OF AUTHORITY AND  
EFFECTIVE DECISION MAKING

There are no materials for this information item.

To: Dr. Mun Choi, President, University of Missouri System, and Chancellor, University of Missouri

From: Taskforce for Contextualization of the Thomas Jefferson Statue, Gary R. Kremer, Chair

Date: January 15, 2021

Re: Taskforce Recommendations

The Taskforce for Contextualization of the Thomas Jefferson Statue is pleased to present a report of its activities and recommendations. The process included extensive meetings, research, discussion, and reflection in order to better understand the issues at hand and gain knowledge of efforts around the country to contextualize history. This report is a compilation of the committee's activities and research and its recommendations based upon the charge provided by the president.

The Taskforce for Contextualization of the Thomas Jefferson Statue was created by executive order of the president of the university in July 2020. On July 20, 2020, the president issued an invitation to a number of individuals to serve on this university taskforce. Those individuals included the following: Liz Beal, Darryl Chatman, Terrell Christian, Carli Conklin, Cindy Hall, Erin Holmes, Gary Kremer, Tracey Mershon, Jeff Pasley, Bill Roundtree, Kristin Schwain, Anthony Tretter, Robin Weneker, Michael Williams, G. Preston Wilson, and Phillip Wood. Terrell Christian resigned from the taskforce prior to its first meeting. GPC President Tori Schafer was invited to join the taskforce prior to the October 14<sup>th</sup> meeting, and resigned from the taskforce on November 13<sup>th</sup>. The president asked State Historical Society of Missouri Executive Director Gary Kremer to chair the taskforce.

The taskforce met for the first time on Tuesday, August 18, 2020. Among the topics discussed at the first meeting was the president's charge to the taskforce, namely, the contextualization of George Lundeen's sculpture of Thomas Jefferson, located on Francis Quadrangle, for the University of Missouri's diverse constituencies. In addition, at that first meeting, taskforce members shared various sources of information, including online sources, that members thought would be helpful to the taskforce's deliberations.

Over the course of the next four months, the taskforce met an additional five times (once in September, twice in October, and twice in December). The one meeting scheduled for November was cancelled to allow taskforce members to participate in the inaugural lecture hosted by the Middleton Center for Race, Citizenship, and Justice.

From the first meeting, it became apparent that the charge to the taskforce was formidable, given the diversity of opinions held by taskforce members and the number of histories that members thought needed to be acknowledged to fulfill the taskforce's charge. While not every committee member agreed with the entire proposal, a significant majority of members approved this recommendation, which addresses the following aspects of Jefferson's legacy:

- treatment of Thomas Jefferson as a complex historical figure;
- addressing the relationship between Jefferson's legacy as a statesman and educator and the University's founding ideals, encapsulated by the donation of the third president's original gravestone to the University of Missouri by Jefferson's descendants in 1883;
- acknowledgment of the Jefferson Club's gift of Lundeen's sculpture to the University in 2001;
- recognition of the location of Lundeen's sculpture on the Quadrangle and its relationship to the campus commemorative landscape, which encompasses the names of buildings, memorials and monuments, and public art on campus, both permanent and temporary.

Given these complicated and interwoven histories, it became clear that a single commemorative sign was only the beginning of a much larger process that exceeds the taskforce's original charge. It should be clear that the University of Missouri is not alone in this effort; universities across the country are developing inventories of their monuments and commemorative public works to ensure their cultural landscapes present – in material form – the institutions' histories, their increasingly diverse campus communities, and their visions for the future. Indeed, during the course of its deliberations, and at the suggestion of a taskforce member, Chair Kremer and several members of the taskforce reached out to Mr. Kevin McDonald, University of Virginia Vice President for Diversity, Equity, Inclusion, and Community Partnership, for his perspective. Vice President McDonald was familiar to many taskforce members because of his previous role at the University of Missouri. Taskforce members sought insight from Dr. McDonald, in the hope that the University of Virginia had already addressed the issue of contextualizing the statue of Thomas Jefferson on the UVA campus. Mr. McDonald indicated that the University of Virginia was struggling with that same issue and informed taskforce members that the UVA president had not yet appointed a taskforce to address the issue.

In addition, Jefferson Club Chair, Tracey Mershon, contacted sculptor George Lundeen. The purpose was to make him aware of the task force's efforts and ask for his feedback. Mr. Lundeen responded with acknowledgment of the difficulty of the charge and expressed appreciation for being considered in the process.

After months of discussion, subcommittee efforts, and much work on the part of individual taskforce members, the taskforce makes the following recommendation:

Establish a commemorative wayside sign (see attachment identified as "Version 7") with language explaining why the Jefferson statue is present on the MU campus, as well as summarizing Jefferson's accomplishments, and also his shortcomings, including his role as a slaveowner and the father of children by an enslaved person he owned. This sign should include a QR code that will allow further exploration of the details of all facets of Thomas Jefferson's life by those who wish to pursue further information. One possible QR link could be to the Ellis Library Guide, "Thomas Jefferson Statue at the University of Missouri" (<https://libraryguides.missouri.edu/jeffersonstatue>). Proposed text for the suggested wayside sign, approved by a majority of taskforce members, is also attached to this memorandum.

## Contextualization of Thomas Jefferson Statue

The Trustees of the University of Missouri's Jefferson Club presented the campus with George Lundeen's sculpture of Thomas Jefferson and the garden surrounding it to commemorate Jefferson's belief in the importance of public education, political democracy, and intellectual discovery, which led to the creation of the first public university in the Louisiana Purchase territory--the University of Missouri--on land ceded by the Indigenous inhabitants in the Treaty of Fort Clark of 1808, the Osage Treaty of 1825, and the Treaty of August 4, 1824 (Cession 69).

Lundeen depicts Jefferson drafting the Declaration of Independence, stressing his authorship of the radical notion that "all men are created equal." Jefferson recognized that the United States failed to live up to this principle, asking a decade later:

Can the liberties of a nation be thought secure when we have removed their only firm basis, a conviction in the minds of the people that these liberties are of the gift of God? . . . Indeed I tremble for my country when I reflect that God is just: that his justice cannot sleep forever.

Jefferson later fathered six children with Sally Hemings, one of more than 600 people he enslaved throughout his life, and instigated policies that led to the forcible removal of Indigenous peoples from their ancestral lands.

Other American leaders and visionaries, including Frederick Douglass, Elizabeth Cady Stanton, Rev. Martin Luther King, Jr., Dr. Vine Deloria Jr., Harvey Milk, and others, have used Jefferson's words to assert the rights and freedoms of *all* people. Today, Jefferson's words and his dedication to the pursuit of knowledge encourage students of the University of Missouri to surpass those who came before them as they embrace Mizzou's values of Respect, Responsibility, Discovery, and Excellence.

Version 7



# Proposal for the MU History Legacy Walk

## MU Legacy Walk Purpose Statement

The purpose of this Legacy Walk is to acknowledge the role enslaved people had in the founding and building of the University of Missouri-Columbia. The University not only benefited from the wealth of slave-owning families. The University also gained much from the labor and artisanship of the enslaved. As holders of the educational legacy of the state of Missouri, it is therefore our responsibility to record and share this history. It is also our responsibility to honor those who have led and continue to lead our institution to greater accountability and higher moral obligation of accepting all people, regardless of color or race, as students, faculty and staff.

In walking this path, we hope that you will discover the humanity of, and a connection to the people who helped build Mizzou as well as their descendants who continue to contribute to sustaining it.

## Audience

Students, Faculty, Staff, and guests of Mizzou Campus

## Overview

The MU Legacy Walk will be both a physical walk on the University of Missouri campus and a corresponding online walk, or digital app. The stops will be laid out in an intentional order to support the theme(s) of the walk. Visitor experiences and outcomes should be ones of curiosity and reflection, as well as a realization that our history is multilayered and complex.

The creation and maintenance of the Walk will include the following:

The stories shared in the walk will be based upon research and historical documentation.

Artwork will be used thematically in the design of the markers and the digital app, as well as one or more pieces being commissioned to be part of the walk. The artwork is to be created by Black artists, with preference to University of Missouri students.

The fountain located between the Student Center and Strickland Hall is included on the tour as either a midway or ending point to encourage and allow reflection upon the information gleaned on the tour. This fountain is not named. Seating and signage will be set up for this.

On the markers, supply the title (header) and at the bottom, "For more information go to [url.missouri.edu](http://url.missouri.edu)" in Braille. Also provide a Spanish version on the digital app.

June 24, 2021

## Recommendations

- That there be a connection between the campus Legacy Walk and the City of Columbia, Missouri [African-American Heritage Trail - Columbia Parks and Recreation](#)
- That the research and depth of this project is such that the Legacy Walk could be used as a learning tool.
- That there will be links to additional materials & readings which are openly assessable and available.
- That this walk is used throughout the year in courses and beyond for teaching and awareness.
- That this walk is included on campus tours

## Digital app

A digital application is suggested. We will get estimates from vendors about what that would cost. We have verified that an app would be better than a responsive website.

## Pathway to artistic talent

We suggest reaching out to Etti Naveh-Benjamin ([navehbenjamine@missouri.edu](mailto:navehbenjamine@missouri.edu)), who is the Director of the Multicultural Certificate Program and coordinates the Rewriting Realities competition every year. This competition is a visual and creative arts competition that asks students to express their lived and diverse realities in a number of mediums (digital storytelling, visual art, creative writing, multimedia, etc.). Naveh-Benjamin and the Multicultural Certificate Program would both be a great resource for thinking about how to reach our student population of artists for a variety of mediums. The student-peer advisor for the Multicultural Certificate Program that you could also copy/correspond with is Traci Baron ([tdbq3d@mail.missouri.edu](mailto:tdbq3d@mail.missouri.edu)).

## Resources Required and TimeLine

- **6x6 inch stained cedar posts:** These can be purchased at Lowes or any lumber yard in Columbia. Cedar is a strong natural wood color. It also naturally repels insects and other pests as well. The post will stick out 5 feet and be cemented into the ground roughly 30-36 inches to the clay layer underground for a good and sturdy foundation.
- **0.080 gauge aluminum full color aluminum sign markers:** Final print size would be 15" x 12" and will be bent at 90 degrees 5 inches in from the left edge. These will be mounted 5 inches from the top of the cedar post. They will feature artwork submitted by students depicting the historical significance of that location. Columbia Printing and Sign can print full color on aluminum (5 for \$150, 10 for \$250 and 20 for \$460). Ahren's Steel and Welding Supplies can bend the finished printed aluminum at \$6 per piece. That would bring each finished sign between \$29 - \$36 depending on quantity order.
- **Timeline:** Turnaround on fabrication would be roughly 4-6 weeks. Our vendors have told us they are willing to do just one marker to see if we would like to proceed in doing more. We can determine then if we are happy with the production and look of the markers.

June 24, 2021

**Things needed in order to complete designs:**

- High-res images of the student submitted artwork. 10"x10", CMYK at 300 dpi. This will ensure a high-quality print and look professional and clean.
- Copy for each marker: Title (header), body, URL and accompanying logos and marks.
- The theme will be simple and serene so artwork submitted should be something similar to an ink and pen drawing. Ideally, art will be submitted with black, white and gold colors. This would be preferable for consistency and similar look.

**Cost Estimate (for one marker)**

- One marker would cost \$675 for production, fabrication, materials and install (start to finish). Pat Burks (burksp@missouri.edu) from MU Facilities price out the install at \$350 per marker which includes the cement and labor time.

- Cost Breakdown:

\$639.50 for install and stain from MU Facilities

\$30 for printed aluminum plate

\$6 to put 90-degree bend in aluminum plate

**\$675 total for one marker**

**Cost Estimate for digital app**

Development and first year contract: \$7000.00

Annual renewal (content updates and yearly contract): \$4500.00\*

\*Subject to vendor rate adjustments per master agreement

**Additional Costs**

- Improvements to fountain
- Maintenance of markers & physical walk
- Payment of contractors (if any)
- Payment to artist(s), funds for awards

Respectfully submitted, by the MU History Working Group Legacy Walk Subgroup:  
Holly Graham, Caleb Sewell, Keona Ervin, Velma Buckner, Kamrhan Farwell, Gary Ward,  
Rebecca Graves (Chair)  
September 21, 2020



## Appendix

List of names, groups and events to be considered for inclusion in the walk. Additional names may be found.

Site/Person/Event	Story/Description	Date(s)
Moses and Toney	Both worked as janitors for the university. Moses's labor earned his owners, the Lenoir family, \$125 per annum. His labor was sold to the university until his death in 1853. University president James Shannon offered his own enslaved man, Toney, but argued for \$200 per year. For documentation of these labor arrangements in MU's University Archives	1800s
Henry Kirklin	Henry Kirklin, gardener and farmer; former slave that was the 1st African American to teach at MU. <a href="https://historicmissourians.shsmo.org/historicmissourians/name/k/kirklin/?fbclid=IwAR1I073bp9CX-ze5FBpc2x1gN-dARfm084BUGaidCM0RhG4puc9CO0w-6Ec">https://historicmissourians.shsmo.org/historicmissourians/name/k/kirklin/?fbclid=IwAR1I073bp9CX-ze5FBpc2x1gN-dARfm084BUGaidCM0RhG4puc9CO0w-6Ec</a> (A group is working to get him a grave marker <a href="https://www.gofundme.com/f/kirklin">https://www.gofundme.com/f/kirklin</a> )	1858-1938
Lloyd Gaines	Include history of Dred Scot, the cases that this was built on	1930s
Lucille Blufford	Sued to attend the J School	1942
Hazel McDaniel Teabeau	First Black woman to enroll at MU; received PhD	1949-1959
Gus Ridgel	First African American student	1950-1951

Al Abram Jr.	First Black athlete to receive scholarship - Basketball	1958-1960
Mike Middleton	creation of the Legion of Black Collegians	1960s - present
Protests of 1968	reasons for protest; founding of LBC; people involved	1968
Arvarh Strickland	First Black faculty member	1969-1996
Walter C Daniel	Came to MU in 1973 as the university's first vice chancellor.	1973-
T. Charles McKinney	First Adjunct professor - economics	?
Marian O'Fallon Oldham	First Black woman on Board of Curators	1977-1979?
Elson S. Floyd	First Black President of UM System	2003-2007
1st Black staff member	<i>Looking for names</i>	
<b><i>Places of significance</i></b>		
Legacy Courtyard, Gaines Oldham Black Culture Center	Gaines Oldham Black Culture Center founded 1972	
Carnahan Quad	Concerned Student 1950 tent encampment 2015	

Speakers Circle	Notable site of protests - what has been protested here	
The bronze of Thomas Jefferson on Francis Quadrangle	A 360 contextual look at Thomas Jefferson	
<b>Going Forward</b>		
The broader reach	Events off campus; events in STL, KC, etc.	
The story continues	On the ap or walk, have a statement that "This is just a beginning...Contribute your story"	

## GOOD AND WELFARE OF THE BOARD

There are no materials for this information item.

UNIVERSITY OF MISSOURI



**BOARD OF CURATORS  
OPEN MEETING AGENDA DRAFT**

September 2, 2021

University of Missouri – Kansas City

***General Business***

*Information*

*Board Chair's Report*

*President's Report*

*Student Representative to the Board of Curators Report*

*Strategic Theme Discussion*

*UMKC Highlights – Chancellor Agrawal*

***Consent Agenda***

*Action*

*Minutes, June 24, 2021 Board of Curators meeting*

*Minutes June 24, 2021 Board of Curators Committee meeting minutes*

*Minutes, July 8-9, 2021 Board Retreat*

*Fall Semester Degrees*

***Audit Committee***

*Information*

*Review Quarterly Internal Audit and Consulting Reports*

***Finance Committee***

*Information*

*Review Financial Status Report*

*Review Endowment and Retirement Fund Performance*

***Health Affairs Committee***

*Information*

*Executive Vice Chancellor Report*

*Quarterly Compliance Report*

*Quarterly Financial Report*

***BOARD OF CURATORS MEETING-Executive Session***

June 24, 2021

OPEN – GB IX C – INFO 1-1