Missouri University of Science and Technology
Fiscal Years 2023 – 2028 Capital Plan

Missouri University of Science and Technology
Strategic Projects Development Plan

FY 24 – Missouri University of Science and Technology: Strategic Projects Development Plan

Project						Funding Strategy				
#	Title	Type	Facility Needs	FCNI	Total Cost	Debt	Gifts	Internal	Federal	State
1	Innovation Campus Program Expansion	NC	NA	NA	$95,000,000	$0	$0	$0	$95,000,000	$0
2	Bioplex	NC	NA	NA	$90,909,091	$0	$90,909,091	$0	$0	$0
3	University Center West	NC	NA	NA	$11,191,515	$0	$0	$11,191,515	$0	$0
4	Computer Science Building Renovation	RE	$11.0M	0.52	$17,175,990	$0	$8,587,995	$0	$0	$8,587,995
5	Physics Building Renovation	RE	$13.1M	0.37	$23,307,375	$0	$13,307,375	$0	$0	$10,000,000
	Total				**$237,583,971**	**$0**	**$112,804,461**	**$11,191,515**	**$95,000,000**	**$18,587,995**

1. Innovation Campus Program Expansion, S&T

The initial concept for the Innovation Campus Expansion provides additional program space in three separate buildings adjacent to the Missouri Protoplex building. These facilities will provide research, laboratory, meeting, and classroom space.

The Innovation Campus Program Expansion is intended to follow construction of the Missouri Protoplex and accommodate additional program to support pre-production, testing and development, business incubation, cyber-security, and materials, manufacturing, and methods. Research that will occur on the Innovation Campus will focus on advanced manufacturing, additive manufacturing, and the development of tools and techniques to reduce production costs, lead time, improve product quality, and reliability and safety. The work will draw on the expertise of Missouri S&T faculty in aerospace, ceramic, electrical, manufacturing, mechanical, metallurgical, and systems engineering, as well as engineering management, materials science and engineering, economics, and business information and technology. The Innovation Campus will build on and broaden Missouri S&T's strong relationships with over 60 companies in the aerospace, electronics and computing, infrastructure, and the steel manufacturing industries through four consortia through which S&T conducts non-proprietary research for consortia members who benefit from this shared expertise.

These facilities will also accommodate meeting and classroom space for the education and training of high-skilled advanced manufacturing workers, collaboration among manufacturers and entrepreneurs with faculty from colleges and universities across our state, and education focused on innovation, entrepreneurship, and economic development.

This $95,000,000 project will be funded by a federal appropriation.

2. Bioplex, S&T

The Bioplex is a planned new construction project immediately North and West of the James E. Bertelsmeyer Hall. The project will bring faculty together from a broad range of academic programs who are currently engaged in medical or health-related research and allow for future research growth. This 105,000 gsf facility will be the final building project in S&T's new arrival district and will anchor the southern edge of the arrival court.

The facility will be located directly adjacent to Bertelsmeyer Hall and near Schrenk Hall which together house S&T's chemical and biochemical engineering, chemistry, biological sciences, and environmental science programs. This adjacency will allow better collaboration between the research faculty.

With more than 20 faculty involved in medical or health-related research, S&T is positioned to have a significant impact on the future of medical research in a wide range of areas, including nano-delivery of medicines for cancer and other diseases, systems engineering approaches to matching kidneys with transplant patients, biomaterials to speed the healing of open wounds and bones, and neuroscientific research to help diagnose Alzheimer's disease.

S&T has secured major support from the National Institutes of Health in recent years, with funding increasing from $280,000 in 2019 to over $2.5 million in 2023 and a projected growth to $15 million by 2030. All of this follows an investment of $45.8 million in capital construction and renovation of chemical and biological engineering and biological sciences facilities since 2014, and $28 million in planned renovations starting in fiscal year 2024.

This $90,909,091 project will be funded by gifts.

3. University Center West, S&T

The University Center West project will construct a 20,000 gross square feet (gsf), two story facility at the southwest corner of Bishop Avenue and University Drive. The Center will provide space for a food service venue, offices for Campus Housing and Dining Services, and a central mail facility to serve the nearby residential complex. The project will include the demolition of 720 Tim Bradley Way Building which has $1.8 million in facilities needs.

This facility will provide a dining venue to serve the Residential Commons One & Two, and the University Commons building. These facilities currently do not have a dining facility. Additionally, this facility will locate the campus housing and dining staff that serve these students to a more accessible location near these large housing complexes.

This $11,191,515 project will be funded by campus funds.

4. Computer Science Building Renovation, S&T

An extensive renovation project will transform the Computer Science Building into an appropriate learning, teaching, and research facility reflective of the successful and growing Computer Science program that is assigned the majority of space within the building. The renovation will include exterior repairs and improvements, accessibility improvements, mechanical and electrical system replacements, and site improvements.

The Computer Science Building was constructed in 1971 and has not had a major renovation since. The facility has $11 million in deferred maintenance needs and an FCNI of 0.52.

Missouri S&T's computer science program has seen unprecedented growth recently. Undergraduate enrollment reached a five-year high of 670 students in fall 2022. The program also reached an all-time high of 153 MS-degree students in fall 2022, which represents more than a 200% increase in MS students in the past five years. Excellence in computational and data science capabilities underpins the strength of S&T's engineering programs. Missouri S&T is investing heavily in faculty positions devoted to training the growing number of computer science students and expanding our research capabilities in areas such as artificial intelligence and cybersecurity. A state-of-the-art facility to support this program is vital to its success. The building also houses important infrastructure including a data center and a high-performance computing data center.

This $17,175,990 project will be funded by $8,587,995 in gifts and $8,587,995 from a state appropriation.

5. <u>Physics Building Renovation, S&T</u>

This project is a complete renovation of the Physics Building including replacement of the current building mechanical, electrical, and plumbing systems, exterior envelope repairs, renovation of all interior components, installation of a fire suppression system and associated backup generator, and accessibility improvements.

The Physics Building, constructed in 1963, is home to the Physics Department. Every year, approximately 2,000 students take classes in the Physics Building, and most S&T students take at least one class in this building during their time on campus. In addition, physics faculty perform high-profile research in astrophysics, atomic physics, and materials physics.

The Physics Building houses a number of cutting-edge laboratories including a particle accelerator, a laser laboratory, crystal growth facilities, and an ultra-low-temperature materials laboratory. The functioning of the classrooms and laboratories is severely hampered by the condition of the building, which has not seen a major renovation since its original construction.

The facility has $13.1 million in facilities needs and has an FCNI of 0.37. Replacement of the building systems is expected to reduce operating expenses.

This $23,307,375 project will be funded by $13,307,375 from gifts and $10,000,000 from a state appropriation.