The **Samuelson STEM** project returns to service an existing building in the heart of campus that has been vacant for eight years.

CWU is seeking $64.5 million to **restore and modernize** the pre-Depression era Samuelson Union Building into an integrated computer science technology center. The revamped and expanded facility will house in-demand STEM programs offered by the departments of Computer Science, Mathematics, and Information Technology and Administrative Management (ITAM). It also will contain the office of Multimodal Learning, which is integral to CWU’s digital class offerings and other distance education options; and the campus data center, which serves as the main digital and telecommunications hub and protects sensitive student and university information.

The Samuelson Union Building, or SUB, was **built in 1926** as the College Union Building. It has been remodeled five times since 1936; the most recent addition was in 1967. It served as the student union building until 2006, housing student government offices, Campus Life departments, Student Union and Recreation departments and sport clubs. In 2006 the SUB was vacated and has since been used for storage.

Samuelson’s **central location** makes it an ideal place for information technology support, storage, and instruction, which serve every instructional and administrative function on campus. Samuelson’s flat roof, poor ventilation and inefficient lighting, crumbling infrastructure and inflexible space call for a major renovation in order to meet **modern building standards**. Life safety issues range from asbestos and mold hazards to earthquake vulnerability. The unreinforced, load-bearing masonry structure throughout the original, southern half of the building will be demolished and replaced. The northern half of the building can be renovated.

The Samuelson project supports CWU’s master plan and several goals in the state’s master plan for higher education:

- **The project opens access to high-demand STEM programs** in a way that is affordable both for the state and students—many of whom might not otherwise enter STEM careers. Instead of intimidating, 800-student sections, at CWU students will find small, challenging classes led by some of the nation’s top educators.

- **It promotes access for students in underserved regions** by enhancing the capacity for distance learning. CWU is the primary higher education provider in Kittitas, Yakima, and Klickitat counties where participation in higher education occurs at a much lower rate than the state average. Distance learning gives place-bound, working students the opportunity to earn a degree at home, on their schedule. Moving CWU’s distance learning infrastructure into a renovated Samuelson STEM
Building will help CWU maintain its commitment to making education accessible.

- **Samuelson creates innovative facilities** that meet the needs of students throughout the state in a timely and cost-effective fashion. It provides a secure environment for the technology required to support faculty, staff and 10,000 students while giving them an outstanding place to learn. A modern facility with current technology and flexibility to adapt to future technology will enhance existing programs and allow for growth.

- **Reusing this prominent building** in the historic core of campus is a critical step in the development of CWU. It creates a one-stop service center for students and enhances the efficiency of space utilization by freeing places elsewhere on campus for student services.

- **A renovated Samuelson will meet state and university goals for energy efficiency.** The target for Samuelson is LEED silver or better, which maintains CWU’s outstanding program of energy conservation. Over the past 16 years, the university’s natural gas consumption has dropped 5 percent and electricity consumption is down 9 percent, despite the campus gaining a net 500,000 square feet of new buildings during that time. A new Samuelson would keep overall university consumption of natural gas unchanged, as it will be the next building to connect to CWU’s new heat recovery system that recycles waste heat from its boiler plant.

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**Where Computer Science and Math Collide**

Pairing the departments of Computer Science and Mathematics together in a renovated state-of-the-art facility will enhance learning and research at CWU for students like Spencer Graffe.

During his senior year as a Computer Science major, Graffe helped create a text-to-speech program called Central Access Reader. The free software helps people with print-related disabilities such as visual impairment, dyslexia, and attention-deficit disorder.

What sets the software program apart from other text-to-speech tools is its ability to read math and logic equations accurately. Since its release, several institutions throughout the country, including MIT and Rutgers University, offer the tool to their communities.

Graffe is now a software developer for a major health IT company whose systems hold the medical records of millions of patients in the United States.
CWU Math Professor
Nationally Recognized

A modernized Samuelson will house the work of Dominic Klyve, a CWU mathematics professor and the state’s only winner of the national Henry L. Alder Award for Distinguished Teaching. The Mathematics Association of America gives the Alder Award to extraordinary teachers who have influence beyond their classrooms.

“This wouldn’t have been possible if I had been at an institution other than Central—because our math department is so good, and is so deeply engaged in teaching,” Klyve said.

In his first four years at CWU Klyve has taught a variety of classes, developed new ones, and founded a Mathematics Honors Program. He engaged first-year statistics students in analyzing a countywide nutrition survey, where they discovered a statistically significant link between freezers and hunger. His undergraduates discovered the largest weird number* in the world. And he developed a math class for music majors that explores regression and correlation in Mozart’s sonatas.

Klyve is a regular speaker on mathematics (and a teacher of juggling!) at Wisconsin’s Suzuki music festival. In fact, he is so intrigued with juggling that he formulated an equation that mathematically determines how juggling balls fall.

Klyve has already built a reputation as a popular lecturer. He has been invited to schools throughout the United States to speak about his work. In 2013, the University of Canterbury brought him to New Zealand to teach a five-week course in the history of mathematics. He has several published papers; he was elected to the national Council on Undergraduate Research; and serves on the Math Association of America’s Special Interest Group on Undergraduate Research. Klyve also teaches for the William O. Douglas Honors College at CWU and tutors high school students in the summer.

*Weird number: No combination of its divisors adds up to the original number. For example, the smallest weird number is 70; its divisors are 1, 2, 5, 7, 10, 14, and 35. No combination of any or all of its factors equal 70.

BY THE NUMBERS

1,050
Number of ITAM majors and minors at CWU.

455
Digits in the world’s largest weird number, discovered by CWU professor Dominic Klyve and students.

174
Percent increase in online enrollments at CWU over the past six years.

120
Cybersecurity majors and minors enrolled in the first year of the program.

88
Years since Samuelson was constructed.

58
Percent increase in computer science degrees awarded over the past six years.

1
CWU’s rank among state universities for career success after graduation.

0
State public institutions offering more online classes and degree programs than CWU.
CWU Sees a Growing Demand for ITAM

Enrollment in CWU’s Information Technology and Administrative Management Department has exploded in the last several years. At the start of this academic year, ITAM had 1,050 majors and minors enrolled—that’s about 10 percent of CWU’s student body.

ITAM curriculum blends technical skills with invaluable soft skills such as leadership and supervision. Students with ITAM degrees enter or re-enter the workforce ready to lead and supervise teams, build web pages and mobile apps, manage retail organizations, secure digital information, manage large projects, and more. And CWU’s knowledgeable faculty are continuously developing the curriculum to meet industry needs.

The department is bursting at the seams and in need of a bigger, modern space for classrooms, computer labs and faculty offices in order to keep up with its progressive discipline and meet student and employer demand. The Samuelson project will allow ITAM to continue to serve state residents and expand as demand grows.

Today’s Students Need Today’s Technology

The Samuelson project also addresses technology constraints faced by CWU. A new data center will enable the university to better protect sensitive information and maintain modern telecommunications campus wide. A new, contemporary space for Multimodal Learning—equipped with 21st-century technology—will allow CWU to continue to serve place-bound state residents through online courses and other distance education options.

CWU embraced the digital classroom years ago and today is a leader in the state for offering fully online classes and degree completion programs. Online learning fits the university’s mission to serve the region and make education accessible. It brings a CWU education to folks who hold a nine-to-five and students who cannot uproot themselves to pursue a degree.

And demand is growing: CWU’s online enrollments have increased by 174 percent over the past six years. ITAM is CWU’s leading department with online programs and classes.

“Our team recognized early on that flexible education would be a huge market, meeting the needs of people whose commitments to family or work made it impossible to enroll in a traditional program,” said ITAM Chair Robert Lupton.

Libby Gibson is one such student who values that flexibility. The mother of three has a full-time job and barrel races horses on the side. Until now Gibson didn’t think returning to school to advance her career was an option. “Before I heard about this (ITAM) program, starting from scratch did not appeal to me,” Gibson said.

Through CWU’s online options, Gibson is turning her applied degree she earned at community college more than 15 years ago into a bachelor of applied science.

CWU’s built-in online learning support system ensures faculty and students like Gibson are successful. The university offers training workshops, faculty learning communities, online advisors, online tutors, and 24-hour technical help and support staff that provide human contact and keep students connected. The Samuelson project is a necessary step in maintaining this support system.