



Oregon State University seeks the Oregon Higher Education Coordinating Commission's approval to offer an instructional program leading to a BS in Architectural Engineering.

1. *Describe the purpose and relationship of the proposed program to the institution's mission and strategic plan.*

Oregon State University is proposing to offer a new Bachelor of Science (BS) in Architectural Engineering degree program beginning Fall Term 2018. The program will be located in the College of Engineering, School of Civil and Construction Engineering. The proposed program will be offered at the OSU-Corvallis main campus.

The proposed BS in Architectural Engineering degree program is designed to provide students with breadth and depth in the engineering sciences of buildings and their systems: e.g., structural systems; heating, ventilation, and air-conditioning systems; electrical and lighting systems, and construction engineering and management. The program will emphasize integration across architectural engineering disciplines as well as with existing civil engineering and construction engineering programs. OSU's BS in Architectural Engineering will not only be a place to go to study Architectural Engineering, but will be *the* program for engineering of sustainable wood-frame buildings. As such, the proposed BS in Architectural Engineering is expected to enhance OSU's impact nationwide.

The Architectural Engineering degree program is intended to attract students not currently enrolling in other engineering programs at OSU. Published studies show that architectural engineering attracts female students who have a strength in math along with an interest in art and architecture. In addition, a goal of the proposed program will be to encourage the participation of underrepresented groups from Oregon, the nation, and the world.

The proposed BS in Architectural Engineering will support OSU's mission and goal for education, research, and service by providing an integrated, multidisciplinary program in the engineering sciences of buildings and their systems. The proposed program will broaden the School of Civil and Construction Engineering's impact in the signature areas of "Advancing the Science of Sustainable Earth Ecosystems" by encompassing a program that has a decidedly ecological footprint—one that is associated with energy efficiencies in buildings and sustainable design and construction practices.

2. *What evidence of need does the institution have for the program?*

There is demand for architectural engineering in Oregon. A recent survey of prospective adult learners in Portland identified architectural engineering as a course of study in "high" demand. There is currently only one accredited Architectural Engineering bachelor degree program on the West Coast, at the California Polytechnic State University in San Luis Obispo. A BS in Architectural Engineering at Oregon State University would fill a void in the western United States. There are currently only six (6) Architectural Engineering Institute (AEI) members in Oregon. The projected job growth for architectural engineers is anticipated to be as high as 20% for the period 2012 to 2022.

Mt Hood Community College has a 2-year architectural engineering technology program that offers some courses in the areas of sustainable energy modeling and structural design. The MHCC advisor recently noted that "Oregon and the building construction industry needs a program like this. The application of...emerging technologies...goes well beyond what we can cover with a two-year community college experience." The OSU proposed program may provide additional opportunities for

MHCC associate degree graduates who wish to pursue a bachelor's degree in Architectural Engineering.

3. *Are there similar programs in the state? If so, how does the proposed program supplement, complement, or collaborate with those programs?*

The proposed BS in Architectural Engineering would be the only one of its kind in the state of Oregon. The closest 4-year programs that provide a comprehensive architectural engineering education are in California, Colorado, and Wyoming.

The proposed program will build upon the strong partnership that currently exists between the School of Civil and Construction Engineering in the College of Engineering and the existing BS in Renewable Materials in the Department of Wood Science and Engineering program in the College of Forestry. Both the proposed and the existing programs will be unique to Oregon State University. In addition, the School of Civil and Construction Engineering will seek to strengthen its links with the Department of Architecture at the University of Oregon and Mount Hood Community College. Such collaborations will help to attract students from Oregon, the Pacific Northwest, as well as other regions of the United States.

While there is no immediate plan for Ecampus online instruction during the first years of the program, the hope is that courses will be developed for online delivery to specifically encourage potential students from the OSU-Cascades branch campus, University of Oregon, the community college network, the Portland metro area and throughout the rest of the state to work towards a bachelor's degree in Architectural Engineering. The proposed program will also provide access for working professionals seeking to obtain additional qualifications and training.

4. *What new resources will be needed initially and on a recurring basis to implement the program? How will the institution provide these resources? What efficiencies or revenue enhancements are achieved with this program, including consolidation or elimination of programs over time, if any?*

Consistent with other programs in the School of Civil and Construction Engineering, participating faculty will be primarily tenure-track/tenured appointments with significant assignments in research and scholarship, as well as professional faculty that can provide some practical field coursework. The proposed program will be administered using existing support staff. Recruitment, program promotion and management will require an additional \$7,500 per year. In terms of faculty, the program would be developed with the addition of two new faculty (1.0 FTE), as well as a professional faculty member with a .50 FTE appointment.

Facilities and resources, such as classroom space and computer laboratories, are already in place in the School of Civil and Construction Engineering. In addition, with a few new course offerings, a laboratory teaching space may be needed. Finally, a formal Library Evaluation was conducted with a conclusion that \$2,500 a year for the next three years will be needed to support this new degree program.

All appropriate University committees and councils, Faculty Senate, the OSU Board of Trustees, and the Statewide Provosts' Council have positively reviewed the proposed program.

Recommendation to the Commission

The Statewide Provosts' Council recommends that the Oregon Higher Education Coordinating Commission authorize Oregon State University to establish an instructional program leading to a BS in Architectural Engineering, effective Fall Term 2018.