



Undergraduate Engineering Expansion Initiative

OUR CHALLENGE

Alaska faces a shortage of qualified engineers. To respond to the state's need, the University of Alaska Board of Regents set a priority to more than double the annual number of baccalaureate graduates to 200. We are steadily making progress on this goal.

- The Alaska Department of Labor's current projections through 2018 indicate an average of 50 new engineering jobs will be available each year, plus another 70 openings from annual turnover and retirement.
- Many engineers working in Alaska are non-residents - up to 35 percent in some disciplines. These employees lack education and experience in Arctic engineering principles.
- Employers prefer to hire UA graduates, as they are more likely to remain in Alaska. Graduates from both UAA and UAF are essential, especially when addressing Arctic engineering issues and requirements thereof.

Regents' No. 1 New Construction Priority for Academic Programs

*\$60.6 million UAA
\$48.3 million UAF
Total: \$108.9 million (GF) FY14*

*** UAF intends to bond for an additional \$10 million*

PROGRAM GROWTH AND SPACE NEEDS

Degrees awarded: The number of baccalaureate engineering degrees awarded each year has grown from 72 degrees in 2007, when the UA Board of Regents adopted the Engineering Expansion Initiative, to 143 degrees awarded in spring 2012 - a 98.6 percent increase.

Enrollment: Program enrollment in undergraduate engineering, critical to increasing the number of graduates, has grown significantly, from 806 in fall 2007 to 1,137 in fall 2012 - a 41 percent increase.

Faculty: UAF has 43.5 FTE (full-time equivalent) and UAA has 38.5 FTE teaching and instruction-based research faculty.*

Programs: The engineering programs at UAA and UAF are complementary and collaborative (UAA offers 11 academic degree programs; UAF offers 21).

Current facilities: Both UAA and UAF facilities are cramped and out-of-date in ways specific to their locations and programs. Instructional and specialized lab space must be expanded and improved to meet the needs of today's engineering student. UAA's engineering building was constructed in 1983; UAF's, 1964 (though renovation occurred in 2000). Neither engineering building has the special purpose lab space nor the larger classrooms required for the modern engineering curricula.*

What the projects include: The projects include a mix of new construction and renovation of existing space. UAF



UNIVERSITY
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Many Traditions One Alaska

College of Engineering and Mines and UAA School of Engineering also provide computer science programs, and graduate education and research in engineering and engineering-related fields to meet Alaska's needs. This effort is primarily focused on the expansion of undergraduate engineering degree production.

For more information, contact Associate Vice President Chris Christensen at 907/786-1689 (ANC), 907/463-3086 (JNU) or visit www.alaska.edu/state.



Meeting the needs of Alaska's employers

Above left: Artist rendering of UAF engineering facility; above right: artist rendering of UAA engineering facility.

"As industry representatives serving on the UAA Engineering Advisory Board and UAF Advisory Council, we feel strongly that it is critical for us to continue to work together in supporting the University of Alaska Engineering programs. Growth in both the UAA and UAF programs are needed to meet the critical demands for engineers in our statewide infrastructure and resource development. These programs are complementary and collaborative and the students graduating from these institutions provide tremendous resources for our industry growth. We commend the governor and the Alaska State Legislature for including the funding for half of these facilities in the FY13 capital budget and we wholeheartedly encourage the legislature to provide the other half of the funding this year for these important projects. Let's cultivate Alaska's future engineers by investing in Alaska!"

-- Richard Reich, PE, Chair-UAA School of Engineering Advisory Board; General Manager, UMIAQ

-- Pete Stokes, PE, Chair-UAF College of Engineering & Mines Advisory and Development Council; Commercial Manager, Petrotechnical Resources of Alaska

Current project status: The Legislature provided half the funding for both facilities last legislative session. This was an extraordinary effort on the part of the legislature and advocates statewide.

Both facilities are now in the design phase and on schedule. The current request for the FY14 capital budget is \$108.9 million GF, plus \$10 million in bonding authority. With this second half of the funding in place, progress on these facilities can remain on schedule and construction can begin in late spring/early summer of 2013.

UNITED AND STRONG - SUPPORT FOR UA ENGINEERING INITIATIVE

The University of Alaska Board of Regents has called the UA Engineering Expansion Initiative the No. 1 new construction priority for academic programs.

- The Engineering Expansion Initiative is in the UA Board of Regents' capital budget request this year. The legislature funded half of each facility in 2012. This request includes the other half of the required funding for both the UAF and UAA facilities to complete the facilities.
- UAA Chancellor Tom Case, UAF Chancellor Brian Rogers and their separate engineering advisory boards and industry leaders worked to secure funding for planning and design of both facilities last session and are united in support to advance the projects together as a single request.
- The Alaska Legislature understands the need for Alaska to "grow its own" engineers, and in 2010 appropriated \$8 million for planning and design for these facilities. Last year, a \$104.9 million appropriation for both facilities was included in the capital budget, giving the campuses the necessary funds to move forward with completing design of both facilities.
- Since 2006, private gifts from nearly 900 individuals and corporations totaling more than \$29 million to UA Engineering demonstrate strong support from alumni, friends, corporations and foundations.
- UA President Pat Gamble and the UA Board of Regents support moving the initiative forward as one project, and have included it in the FY14 capital budget request to the governor and the legislature this session.

* Source: UA Engineering Plan 2010, an independent benchmark study. For more information, contact Associate Vice President Chris Christensen at 907/786-1689 (ANC), 907/463-3086 (JNU) or visit www.alaska.edu/state.