



Undergraduate Engineering Expansion Initiative

Meeting the needs of Alaska's employers

"The University of Alaska has an excellent track record for supplying high quality engineering graduates to Alaska oil and gas, mining and other industries. The challenge is to sustain and expand this capability for local education and local hire."

*~Richard Reich, PE,
Chair-UAA School of Engineering
Advisory Board*

*~ Gordon Pospisil, PE,
Chair-UAF College of
Engineering & Mines Advisory
and Development Council*

Regents' No. 1 New Construction Priority for Academic Programs

\$119.2 million UAA (GF)
\$ 94.6 million UAF (GF) **

Anticipated funding FY14 or FY15

** UAF intends to bond for additional \$9.9 million in facilities

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 by FY14.

- 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.

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 Board of Regents adopted the Engineering Expansion Initiative, to 148 awarded in Spring 2010 - a 106 percent increase.*
- **Enrollment:** Student enrollment in UA undergraduate engineering has grown significantly, from 806 in fall 2007 to 1,233 in fall 2010 -- a 53 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- **Current facilities:** Both UAA and UAF facilities are cramped and out-of-date in ways specific to their locations and programs.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. UAA includes a code-required parking garage while UAF intends to bond for additional space using revenue from research grants.
- UAF and UAA also provide 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 degree production.

* Source: UA Engineering Plan 2010, an independent benchmark study



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

Support for UA Engineering Initiative - United and Strong

- 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 Board's 10-year Capital Improvement Plan for funding in either FY14 or FY15.
- UAA Chancellor Tom Case, UAF Chancellor Brian Rogers and their separate engineering advisory boards support advancing the projects together as a single request.
- The Alaska Legislature understands the need for Alaska to "grow its own" engineers, and in FY11 appropriated \$8 million for planning and design (\$4 million for each campus).
- Since FY07, private gifts from nearly 770 individuals and corporations totaling over \$26 million to UA Engineering demonstrate strong support from alumni, friends, corporations and foundations.
- UA President Pat Gamble supports moving the initiative forward as one project.

Engineering: the application of science and math to provide economical solutions to technical problems.



Above: Current UAA Engineering building. *Photo by Monique Musick.*

Below: UAA site layout of proposed new engineering facility, *courtesy of UAA Facilities Planning & Construction.*



Above: Current UAF College of Engineering and Mines and Institute of Northern Engineering. *Photo courtesy of UAF Marketing & Communications.*

Below: UAF concept drawing of proposed new engineering facility, *courtesy of UAF Division of Design and Construction.*

