

SEEC: Student Enrollment and Engagement through Connections

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The Student Enrollment and Engagement through Connections (SEEC) project is a collaboration between Iowa State University and Des Moines Area Community College (DMACC). The project is in its fifth year. The goal has been to increase the number of engineering graduates at Iowa State by 100 per year during the project, to approximately 900 graduates annually by 2012. Included within this goal are increases in the percentages of women and minority graduates in engineering at Iowa State and the number of pre-engineering students at DMACC. The number of engineering graduates for 2010-11 was 853, and the number of new engineering majors shaping Iowa State's 2012 graduating class is about 1,450; thus we expect to achieve the target of 900 engineering graduates in the class of 2012. In addition, we expect graduation gains to be maintained due to record undergraduate enrollments in engineering: 4717 in fall 2008, 5086 in fall 2009, 5514 in fall 2010, and 6025 in fall 2011.

The number of new transfer students from Iowa community colleges has steadily risen to approximately 150, up from about 100 at the start of the project. The percentage of women among entering transfer students rose from 7.8% in fall 2007 to 14.9% in fall 2011. Engineering has also seen a significant improvement in first-year retention of DMACC and other Iowa community college students.

Project objectives are designed within the areas of learning communities, curriculum, advising, networking, and evaluation. Activities have been planned in each of these areas using a logic model approach that identifies resources, outputs, outcomes, and impact. Highlights resulting from this process include the creation of a transfer-friendly environment, a community of practice through partnerships, greater awareness about engineering and engineering careers, student-faculty interaction related to the engineer of 2020, and new datasets for research and evaluation. Transfer students are supported prior to entering Iowa State through the Engineering Admissions Partnership Program (E-APP), created in 2008 as a SEEC project initiative. A special initiative with DMACC created an engineering orientation course, EGR 100, now offered regularly at several DMACC campuses. SEEC Data Briefs, available at the project website, present findings from the development and evaluation of an engineering transfer student success model (<http://www.eng.iastate.edu/seec/resources.shtml>).

Project activities and outcomes that are expected to be sustained include: DMACC's EGR 100, DMACC pre-engineering program, E-APP, transfer learning communities at Iowa State, targeted advising messaging with community college students and other stakeholders, NAE Changing the Conversation-based resource kits, engineering career awareness through ISU Extension, Engineer of 2020 curricular innovations, and new data management and reporting. Potential longer-term outcomes include: building a culture that embraces transfer student programming through professional and program development; leveraging learning community best practices to retain students at the second- and third-year levels, ultimately contributing to higher graduation rates; and using synergistic partnerships (e.g., with ISU Extension) to develop new resources and create interest in engineering study and careers. Continuing challenges include: recruiting and retaining women to make up at least 20% of engineering graduates at Iowa State; and measuring and documenting outcomes to improve and sustain effective practices and promote a culture of evidence.

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