

SEEC Data Brief

ISSN 2153-3970 (print)

ISSN 2153-3989 (online)

Student Enrollment and Engagement through Connections

IOWA STATE
UNIVERSITY

DMACC
DES MOINES AREA
COMMUNITY COLLEGE



NATIONAL SCIENCE FOUNDATION
STEM Talent Expansion Program (STEP)

Issue 3, November 2010

Engineering Orientation (EGR 100)

“Without the SEEC project, we would not have developed the course,” said Harry McMaken, math and engineering instructor at Des Moines Area Community College (DMACC) in reference to Engineering Orientation (EGR 100).

EGR 100 provides pre-engineering students with a broad overview of the engineering disciplines and general information about the transfer process to a four-year institution. The course brings in guest speakers from Iowa State’s College of Engineering as well as professionals in the industry. Scheduled plant tours give students the opportunity to see engineering in action. “We try to get them acquainted with all the options—there are so many areas of engineering they could become interested in,” stated McMaken. Rachel Garrison, an EGR 100 student noted, “I like the interaction with Iowa State and the guest speakers from there. Learning about the 2050 Challenge was a great way to learn about national and international things engineering is working on.”

Students not only learn about engineering career opportunities, but are given information about internships and co-ops they could participate in as students. A guest speaker explains behavioral based interviewing to help prepare students for their interviews. The class also makes a trip to the Iowa State Engineering Career Fair each semester.

The course was originally developed with an emphasis on providing DMACC pre-engineering students who would be transferring to Iowa State’s College of Engineering with information about the transfer process. It now includes

more general information about the transfer process to meet the needs of those who will go into engineering at any four-year institution. However, the ties to Iowa State remain strong as currently over 95% of the EGR 100 students transfer to Iowa State.

To that end, students are introduced to Iowa State’s Admissions Partnership Program (APP), which connects them with an Iowa State engineering advisor and the specific Engineering Admissions Partnership Program (E-APP) Learning Community. Most EGR 100 students who will transfer to Iowa State take advantage of this program. “The type of advising they can get through the program is invaluable in terms of helping them stay on track to graduation and earning an engineering degree,” explained McMaken. Andrew Smith, a DMACC transfer student stated, “E-APP was a really good experience. I was especially pleased that the program guided me to take only classes that would transfer to Iowa State.”

Broader transfer information includes information about financial aid and ways to finance an engineering education. A course audit is done and graduation plan created that encompasses both the student’s graduation from DMACC and their plan for graduation from a four-year institution. Additionally, information about the differences in culture between DMACC and a four-year institution are discussed to help students make a smoother transition to a larger institution.

EGR 100 is growing. Enrollment numbers from its inception in Spring 2008 through Fall 2010 are as follows.

Academic Year	Fall Enrollment	Spring Enrollment	Total Enrollment	Women Enrolled
2007-2008	N/A	13	13	1
2008 - 2009	16	18	34	1
2009-2010	23	16	39	6
2010-2011	32	TBD	35	3

Now that the class is established, DMACC advisers are working to guide pre-engineering students into EGR 100 their first or second semester. This will help continue to increase enrollment. Positive word-of-mouth among DMACC students is also helping with enrollment. As Garrison explained, "I think it's a great class for people who are thinking about engineering."

The course is also having a positive impact on the pre-engineering program at DMACC. The course makes students more aware of pre-engineering courses at DMACC and enrollment in these classes has steadily increased since the advent of EGR 100.

Now that the program is established at DMACC's Ankeny campus (one of six in Central Iowa), it has been implemented at the Boone campus as well. It is scheduled to be offered at the Urban campus in Des Moines in the spring of 2011. The SEEC project will help with these propagations. **"It's been a very, very positive class to add. We're confident it can run on other campuses and increase enrollment in pre-engineering courses there. It's here to stay,"** concludes McMaken.

About the SEEC project

The Student Enrollment and Engagement through Connections (SEEC) project is a collaboration between Iowa State University and DMACC funded by the National Science Foundation's STEM Talent Expansion Program. The goal of the project is to increase the number of engineering graduates at Iowa State University by approximately 100 per year. The percentage of women and minority graduates will approach 20% and 10%, respectively.

To that end, EGR 100 was created in pursuit of the project's Learning Village Team's primary objective: building a learning village that enhances student connections and creates Iowa State connections for community college pre-engineering transfer students. It also contributes to the Advising Team's goal: to develop and enhance academic advising and mentoring programs for precollege, community college, and university students.

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The work reported herein is supported by the National Science Foundation, Science, Technology, Engineering and Mathematics Talent Expansion Program (STEP), Directorate for Education and Human Resources, Division of Undergraduate Education, Grant No. 0653236.

The SEEC Data Brief is published by the College of Engineering in collaboration with the Office of Community College Research & Policy (OCCRP) at Iowa State University. Established in 2004, the mission of OCCRP is to articulate and analyze the issues affecting policy and practice by conducting rigorous research which impacts students, faculty, administrators, and policymakers.

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