

Construction and Operations Management Department

2016 ANNUAL REPORT TO THE JEROME J. LOHR COLLEGE OF ENGINEERING ADVISORY COUNCIL

The mission of the COM department is to produce high quality program graduates through relevant and contemporary learning experiences and enhance the economic vitality of the region through applied research, technical assistance, and service for our constituents.

Faculty and Staff: **Teresa Hall**, Professor and Head, **Huitian Lu**, Professor and Graduate Coordinator; **Byron Garry**, Associate Professor and Academic Program Coordinator; **Yilei Huang**, **Ekaterina Koromyslova**, Assistant Professors; **Carrie Steinlicht**, Senior Lecturer; **Norma Nusz-Chandler**, **Albena Yordanova**, Lecturers; **Ken Bertolini**, **Janet Merriman**, **Robert Miller**, **Jason Prout**, **Paul Weist**, Instructors; **Pam Rice**, Program Assistant I; **Al Mousel**, Fabrication Technician.

5-YEAR ENROLLMENT TRENDS						UNDERGRADUATE PLACEMENT			
Undergraduate Programs	2015-2016	2014-2015	2013-2014	2012-2013	2011-2012	2015 Placement	Construction Management	Electronics Engineering Technology	Operations Management
Construction Management	179	166	169	152	171	South Dakota	42% (n=20)	60% (n=3)	40% (n=8)
						Midwest Region	38% (n=18)	20% (n=1)	15% (n=3)
Electronics Engineering Technology	27	23	25	38	77	United States	9% (n=4)	20% (n=1)	0%
Operations Management-Manufacturing	57	73	56	72	43	Graduate School	0%	-	0%
Construction Minor	10	8				Military	0%	-	5% (n=1)
TOTAL	273	270	250	311	422	Returned Overseas	0%	-	10% (n=2)
Graduate Program						Other/Unknown	13% (n=6)	-	5% (n=1)
						Avg reported Starting Salary	\$52800	\$54000	\$45100
Operations Management	16	23	23	20	22				

ACADEMIC PROGRAM UPDATES

Construction Management: Industry support for the CM program has been excellent this past year: The Beaver's Foundation provided \$50K in funding for scholarships for students entering the heavy-highway sector; regional homebuilder organizations sponsored SDSUs team at the NAHB Estimating Competition; and, recruitment of graduates and interns has been very strong by the commercial sector. Our positive impact on the regional residential sector via the HELP grant from the National Housing Endowment. The new Construction Minor has been popular with Architecture majors and we are now launching a Heavy Highway Construction Minor for Civil Engineering and our own Construction majors. The CM program is preparing for an ABET - ASAC accreditation site visit in fall 2016.

Electronics Engineering Technology: We are in the fourth academic year following the restart of the program will be graduating another 5 students this spring, with as many graduating this past year. The faculty are actively engaged with the SEET Club: their most recent service effort was building project kits for Brookings High School. Student recruitment has been strong this year and we are optimistic the EET program will continue to grow. We are preparing for a fall 2016 ABET- ETAC site visit.

Operations Management: Dr. Koromyslova received two research initiation grants in support of her work in predicting supplier behavior when quality requirements change. Supply chain management issues affect every sector of the economy: agriculture, health care, manufacturing, construction, and services and her predictive modeling research is ground breaking. Dr. Lu continues his work in reliability management, specifically with the Department of the Navy. Dr. Steinlicht has been actively engaged in Division of Management and Economics (DME) faculty governance and we have enjoyed support from the DME this past year. The OM program continues to track toward ABET – ASAC with a fall 2016 site visit planned.

Operations Management Master's Program: Following recommendations in the Institutional Program Review in spring 2015, the MSOM has refocused the core curriculum and its two 12-credit certificates. A new course "Management & Leadership in Technical Organizations" will now serve as the entre to the program. The new Masters of Engineering (M.Eng) program will use this course and others in the MSOM program as the management component of this new degree.

RESEARCH AND SCHOLARSHIP

The following publications and presentations are a representative compilation of research and scholarship by COM department faculty in 2015:

- Garry, B. (2015). Developing a Sustainable ABET Continuous Improvement Plan. Proceedings of the 2015 ASEE Zone III Conference, Springfield, MO
- Garry, B. & Burckhard, S. (2015). Discussions of Engineering Education Learning Advances among Working Engineering Faculty. Proceedings of the 2015 ASEE Annual Conference & Exposition. AC 2015-1113. Seattle, WA
- Garry, B. & Kampmann, J. (2015). Closing the Loop: Practical Experiences in Program Assessment. DEM Faculty Discussions. Brookings, SD
- Koromyslova, E., Steinlicht, C. (2014). Development of an Integrated Cost Management System for Small Businesses. The Journal of Management and Engineering Integration, 7(1), 31-39.
- Koromyslova, E., Visser, J. (2015) A statistical-based framework for predicting supplier's behavior to quality requirement changes in supply chain. iBusiness, 7, 137-142. doi: 10.4236/ib.2015.74016.
- Koromyslova, E., & Hatfield, G. (2015) Implementing a decentralized budget model in a university department: an applied activity-based approach using R. Co-Presenter at 2015 IEMS Conference, Cocoa Beach, FL, March 2015.
- Koromyslova, E., & Visser, J. (2015). Predicting supplier's behavior to quality requirements change in a supply chain. Presentation at 2015 ATMAE Annual Conference, Pittsburg, PA, November 2015.
- Lu, H. & others. (2015). Machinery condition prediction based on wavelet and support vector machine", Journal of Intelligent Manufacturing.
- Lu, H. & others. (2015). Giga-fatigue life prediction of FV520B-I with surface roughness", Journal of Materials and Design
- Lu, H. & others. (2015). Intelligent integration of SPC/EPC for quality control and fault diagnosis", Journal of Industrial and Intelligent Information.

SERVICE & OUTREACH

- Mr. Byron Garry, serving in his capacity as the ASEE campus representative for the College of Engineering, continued to lead the very successful *Best Practices* workshops for COE faculty this year and in recognition for this effort received the ASEE Region III Campus Representative Award.
- Dr. Ekaterina Koromyslova participated in the ASEE National Effective Teaching Institute (NETI): a very limited number of STEM faculty across the nation are able to attend this prestigious event.
- Dr. Carrie Steinlicht served as Vice-Chair for the Division of Management and Economics Faculty Committee and on the DME Operations Committee. The DME dedication to become the NESS Division of Management and Economics was formalized in fall and will be celebrated on the SDSU campus in late-April 2016.
- Mr. Ken Bertolini and Ms. Janet Merriman partnered with SDSMT to deliver project scheduling workshops to state heavy construction contractors. The workshops were sponsored by the SD-Department of Transportation and the Associated General Contractors of SD.
- Dr. Norma Nusz Chandler, serving on the Brookings Sustainability Council, presented on results of the Brookings Benchmarks in Sustainability study in January. The study was the foundation for her research in sustainable small communities.
- The 2015 I-29 Manufacturers Conference was held in Brookings on October 1. The AM keynote speaker was Scott Carbonara, nationally recognized leadership coach, lunch keynote was Heather Crawford from ASQ, and Management, HR, & Engineering tracks for attendees. This is the sixth year for the I-29 Conference and was part of the statewide celebration of national Manufacturing Day that highlights the importance, impact and relevance manufacturing has to our economy.

ADVISORY COUNCIL

The COM Department Advisory Council holds its annual meeting in May each year.

Our Advisory Council Members are: Neil Andal, Daktronics, Brookings SD; Justin Bunde, Raven Industries, Sioux Falls SD; Toby Crow, SD Associated General Contractors – Heavy-Highway-Utilities, Pierre SD; Jody Femrite, Sparton Industries, Watertown SD; Randy Hanson, Mills Construction, Brookings, SD; Darin Hage, Journey Construction, Sioux Falls, SD; Dale Godbout, Hormel, Inc., Austin MN; Gary Johnson, A-G-E Corp, Fort Pierre SD; Dan Kippley, SD MTS, Sioux Falls SD; Doug McCune, Puetz Construction, Mitchell, SD; Joe Palmiotto, Gehl-Manitou Group, Madison, SD; Andrew Roelfs, Interstates, Inc., Sioux Center IA; Chris Wilde, Graco Inc., Sioux Falls SD.