Abstract

From: <https://engineering.purdue.edu/ENE/Research/Seminars/SoYouWantToBeAnEngineeringProfessional>

What does it mean to be an engineering education professional? One answer is to consider the kinds of professional careers that exist, or could be developed, in the future. Almost all of our ENE graduates to date have found positions in academic institutions. As an emerging discipline, we are likely an anomaly – in established engineering disciplines approximately 3% of graduates enter academic roles. Although the nature of engineering education research may open up alternative academic career paths (e.g., center and program directors for teaching and learning, faculty development, diversity, and student services), it is likely that the success of our graduates in finding academic careers will decrease considerably and perhaps stabilize, particularly as new engineering education programs emerge nationally and internationally.

One critical career pathway is to establish a program’s industrial relevance. Virtually every other school of engineering can be linked to certain equipment, processes, services or software that industry values and depends upon. As a relatively new school, ENE is still working to establish its industrial relevance. Given the mega issues which industry is facing – the retiring baby boomer brain drain, the accelerating pace of new knowledge creation and obsolescence of the value of prior knowledge, the increased segmentation of careers into shorter and more diverse fragments, and the increasing complexity of social and global problems – there are many opportunities to imagine how engineering education as a discipline can add value to industrial companies. However, we will need to put deliberate effort into growing the demand for the skills, knowledge, and values of our profession – e.g., the development of human capital to address global engineering challenges of the present and future.

Another career pathway is to establish a program’s societal relevance. A common indicator of the role of professional engineers in society is through the creation and application of technological knowledge in the development of social and consumer goods (e.g., GNP, and quality of life indicators). While aspects of this relevance may be linked to establishing industrial relevance, more broadly this speaks to the ability of engineering education graduates to be leaders, making and shaping decisions of broad impact along social, global, political, economic, and cultural dimensions.

</p><p>This seminar will be an interactive session working in small groups to (1) identify industry experiences we need to find or create to prepare our graduates for non-academic careers and establish the industrial relevance of engineering education, and (2) take a first step towards developing an engineering education professional identity (e.g., how to update your resume, translate your work into an industrial context, and make the most of the upcoming Industry Advisory Board graduate session to meet professional needs or interests

Bio

From: <https://engineering.purdue.edu/ENE/Research/Seminars/SoYouWantToBeAnEngineeringProfessional>

Robert Davis is the General Manager of Purdue Engineering Consulting LLC, a startup company in the Purdue Research Park he has formed for the College of Engineering to facilitate faculty consulting and increase engagement between faculty and industry. He is also the Interim Director of Engineering Entrepreneurship, a pilot program in the College of Engineering which is housed currently in the School of Industrial Engineering. These two activities are closely intertwined as both involve the infusion of entrepreneurship into the College

Robert has served as the Assistant Head of Purdue’s School of Engineering Education since 2007. Prior to that he worked in industry for 39 years, primarily leading and creating technical businesses for Air Products and Chemical, Inc. He maintained his links to Purdue during this time as an advisor to two of the schools of engineering as well as recruiting Purdue graduates and students to his company. He holds a B.S. in Chemical Engineering, with Highest Distinction, from Purdue and a MBA, with Honors, from the University of Chicago. Robert also maintains a consulting practice in the field of liquefied natural gas.

Robin S. Adams is an Assistant Professor in the Department of Engineering Education at Purdue University. She is also led the Institute for Scholarship on Engineering Education (ISEE) as part of the Center for the Advancement of Engineering Education (CAEE). Prior to joining the faculty at Purdue, Dr. Adams was the Assistant Director for Research at the Center for Engineering Learning and Teaching (CELT) and worked with the Engineering Coalition of Schools for Excellence in Engineering Education (ECSEL) in a variety of roles (curriculum design, interdisciplinary program development (engineering and education), program evaluation, and assessment of student learning). She was also a Sr. Design Engineer in the semiconductor packaging industry and helped develop new uses of thin film technology. Dr. Adams received her PhD in Education, Leadership and Policy Studies from the University of Washington, an MS in Materials Science and Engineering from the University of Washington, and a BS in Mechanical Engineering from California Polytechnic State University, San Luis Obispo. Dr. Adams’ research is concentrated in four interconnecting areas: cross-disciplinary thinking, acting, and being; design cognition and learning; views on the nature of engineering knowledge; and theories of change in linking engineering education research and practice. Dr. Adams participates in many professional organizations including the American Society of Engineering Education (ASEE), the American Educational Research Association (AERA), the International Society of the Learning Sciences (ISLS), the Design Research Society (DRS), and the Association for the Study of Higher Education

Cite this work

So You Want to Be an Engineering Education Professional: Exploring and Creating Opportunities

<http://cleerhub.org/resources/386>