UCI Samueli School of Engineering | Department of Mechanical and Aerospace Engineering

Seminar Series

The who, what, and how of equitable and inclusive engineering classrooms

Natascha Buswell
Associate Professor of Mechanical and Aerospace Engineering
University of California, Irvine

Friday, January 12th, 2024 – 10:30 am
McDonnell Douglas Engineering Auditorium (MDEA)

Abstract: In this talk, Dr. Natascha Trellinger Buswell draws upon the breadth of her research to examine the questions of who, what, and how of equitable and inclusive engineering classrooms. First, Dr. Buswell will address the following question: *Who* belongs in engineering? Drawing upon focus group interview data with engineering students, we learn about how students experience feelings of belonging in engineering, including feelings of isolation, worries about competence, and fit in the field of engineering.

Next, Dr. Buswell discusses the idea of *what* belongs in engineering classrooms, describing the content she recommends for inclusion, content that is often not considered engineering. For example, Dr. Buswell describes the topic of professional skills, such as writing, teaming, communication, and ethics. While these topics are often relegated to specialty courses, Dr. Buswell argues for inclusion of these topics in all engineering courses.

Finally, Dr. Buswell shares her approaches to teaching in engineering classrooms, answering the *how* question. She explores research-based approaches and interventions that can support feelings of belonging in engineering classrooms, gives examples of assignments and discussion topics, and shares her beliefs for how to make engineering an equitable and inclusive field to all in the future.

Bio: Natascha Trellinger Buswell is an Associate Professor of Teaching in the Department of Mechanical and Aerospace Engineering at UC Irvine. She earned her Ph.D. in engineering education at Purdue University and her BS in aerospace engineering at Syracuse University. Her dissertation examined the pathways and experiences of early-career faculty at non-R1 institutions, and she is focused on understanding and supporting all students through her teaching and research. Her research explores faculty and graduate student teaching development, graduate student writing processes, the identity formation of undergraduates, and the workplace experiences of early-career engineers. She is particularly interested in researching the stories of female and non-binary engineers and engineers of color.