

SUCCEED – School of Universal Computing, Construction, and Engineering Education

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SUCCEED was formed in 2018, through a collaboration between the College of Engineering and Computing and the STEM Transformation Institute, as the first engineering and computing education department at a minority-serving institution. The school was created in alignment with the university's vision to be a "leading urban public research university focused on student learning, innovation, and collaboration." As such, SUCCEED aims to be the premier department in the U.S. with expertise in developing engineering and computing leaders who reflect the growing diversity of the 21st century.

Faculty within the school, along with students and staff, seek to connect research and innovation with student learning through collaboration with other members of the college and FIU as a whole. In particular, SUCCEED faculty research and promote evidence-based approaches that broaden participation and improve educational outcomes. Through these efforts, the faculty impact current and future engineering and computer science students at FIU and beyond.

Course Descriptions

Definition of Prefixes

EGN - Engineering General; EGS-Engineering Support;

EGS 6008 Fundamentals of Engineering and Computing Education (3). Introductory course providing a conceptual understanding of engineering and computing education through philosophical theories for research and practice. Theory-based methods will guide students through a historical context of engineering and computing education and its impact on current and future aspects of the fields.

EGS 6055 Foundations of Engineering and Computing Teaching and Learning (3). Introduction to learning theory and inclusive, learner-centered, and evidence-based pedagogy and assessment in engineering and computing, using a human-centered design approach to educational design.

EGS 6057 Equity in STEM Education: Research, Policy, and Practice (3). An analysis of diversity and inclusion through research, policy and practice within science,

technology, engineering and mathematics (STEM) education for the private and public sectors.

EGN 6900 Methods and Practices in Engineering and Computing Education Research (3). Foundational course in research methods and practices of engineering and computing education researchers, focusing on research design decisions, research quality, ethical implications, and publishing. Prerequisite: EDF 6481 or permission of instructor.

EGN 6907 Independent Study (1-10). A variable credit independent study course for PhD students to work on topics where standard courses cannot be opened. Topics must be related to engineering or computing education. The outcomes and goals of the course for the student must be approved by department.

EGN 6920 Cooperative Education in Engineering (1-3). A variable credit cooperative education in engineering course is for current PhD students who have a position with an organization focused their area of study. Topics must be related to engineering or computing education.

EGN 6935: Seminar on STEM Education Research (0). Weekly interactive and engaging presentations featuring faculty, students and guest speakers sharing research topics in science, technology, engineering and mathematics (STEM) topics. Prerequisite: Graduate standing.

EGN 6939 Advanced Special Topics (1-3). An advanced special topics course for PhD students to pursue and study areas in engineering or computing education at an advanced level that are otherwise not offered. The list of topics will be announced in advance for prospective students.

EGN 6942 Mentored Teaching Practicum in Engineering and Computing Education (1). Structured application of educational theories and pedagogy through classroom teaching experiences and weekly learning community meetings. Requires students find a faculty teaching mentor. Prerequisite: EGS 6055.

EGN 6957 Professional Development in Engineering and Computing Education Research (2). An exploration of professional development tools and techniques within engineering and computing education research and practice.

EGN 7918 Graduate Research (1-25). Doctoral research prior to candidacy. Repeatable. Prerequisite: Permission of the department.

EGN 7980 Dissertation Research (1-12). Prerequisite: Permission of the Major Professor and Doctoral Candidacy.