

APPLIED ENGINEERING SCIENCES AESC

College of Engineering

110 AES as a Profession

Fall. 1(1-0) R: Open to undergraduate students in the College of Engineering.

Introduction to the profession of applied engineering sciences. Case studies of engineering and business problems with emphasis in the AESC concentrations. Exploration of career opportunities and ethical framework for the profession are explored.

210 Global Systems: Economics, Engineering, Environment

Spring. 3(3-0) P: (EGR 102 or CSE 231 or CSE 220) and (MTH 133 or LB 119 or MTH 153H) R: Not open to freshmen. SA: EGR 210

Globalization as a process driven by economics, enabled by engineering, and constrained by the environment. Development of systems analysis tools for understanding how these themes interact globally. Enhancement of communication skills through teaming, presentations, and active listening.

290 Independent Study in Applied Engineering Sciences

Fall, Spring. 1 to 3 credits. A student may earn a maximum of 3 credits in all enrollments for this course. R: Open to freshmen or sophomores in the Applied Engineering Sciences Major. Approval of department.

Supervised individual study in an area of applied engineering sciences.

291 Selected Topics in Applied Engineering Sciences

Fall, Spring. 1 to 4 credits. A student may earn a maximum of 9 credits in all enrollments for this course. R: Open to freshmen or sophomores. Approval of department.

Topics selected to supplement and enrich existing courses and lead to the development of new courses.

310 Sustainable Systems Analysis

Fall. 3(3-0) P: (AESC 210) and completion of Tier I writing requirement R: Open to juniors or seniors in the College of Engineering and open to juniors or seniors in the Department of Marketing and open to juniors or seniors in the Department of Supply Chain Management. SA: EGR 300, EGR 310

Concepts of sustainable systems applied to urban environments (smart cities). Computational analysis tools for large data sets. Case studies used to increase consensus-building skills.

410 Capstone Project in Applied Engineering Sciences

Spring. 3(1-4) P: (AESC 310) and completion of Tier I writing requirement R: Open to seniors in the Applied Engineering Sciences Major. Approval of department; application required. SA: EGR 410, MSM 400, SYS 410

Professional work group experience with other applied engineering sciences students working on sponsor defined project. Application of applied engineering sciences curricular elements, skills and competencies.

490 Independent Study in Applied Engineering Sciences

Fall, Spring. 1 to 3 credits. A student may earn a maximum of 3 credits in all enrollments for this course. R: Open to juniors or seniors. Approval of department.

Supervised individual study in an area of applied engineering sciences.

491 Selected Topics in Applied Engineering Sciences

Fall, Spring. 1 to 4 credits. A student may earn a maximum of 9 credits in all enrollments for this course. R: Open to juniors or seniors in the Applied Engineering Sciences Major.

Topics selected to supplement and enrich existing courses and lead to the development of new courses.