

ENGR AND COMPUTING (ENCP)

ENCP 540 - Environmentally Conscious Manufacturing (3 Credits)

Design for the environment; life cycle analysis; environmental economics and global competitiveness; legal and regulatory affairs; and management of technological change. Interdisciplinary collaboration of engineering, science, math, and business majors. Graduate student standing or consent of instructor.

ENCP 602 - Introduction to Engineering Design for Teachers (3 Credits)

An introduction to computer-aided design with solid modeling for pre-service and in-service teachers. Design process, professional communication and collaboration methods, design ethics, and technical documentation. Non-engineering and computing majors only.

Prerequisites: usite: college algebra with trigonometry.

ENCP 603 - Gateway to Technology for Teachers (3 Credits)

Addresses the development of knowledge, skills, and understanding of modern technology. For preservice and in-service teachers. College of Engineering and Computing majors are excluded.

Prerequisites: MATH 112 or MATH 115.

ENCP 605 - Principles of Engineering for Teachers (3 Credits)

Introduces technological processes employed in engineering and engineering technology for K-12 teachers. For pre-service and in-service teachers. College of Engineering and Computing majors are excluded.

Prerequisites: MATH 112 or MATH 115.

ENCP 701 - Introduction to Engineering for Teachers I (3 Credits)

Participants will develop skills and knowledge to teach ENCP 101. For teachers and graduate students in teacher education programs. Restricted to nonengineering majors only.

ENCP 702 - Engineering Graphics with Solid Modeling for Teachers (3 Credits)

An introduction to computer-aided design with solid modeling for K-12 teachers. For teachers and graduate students in teacher education programs.

Prerequisites: College algebra with trigonometry Note: Restricted to nonengineering majors only.

ENCP 704 - Digital Electronics for Teachers (3 Credits)

An introductory course in digital electronics for K-12 teachers. For teachers and graduate students in teacher education programs. Restricted to nonengineering majors only.

Prerequisites: College physics including electricity and magnetism.

ENCP 707 - Continuum Mechanics (3 Credits)

Development of theory of strain and of stress; constitutive equations; compatibility conditions; equations of motion. An introduction to courses in mechanics of solids and of fluids.

ENCP 710 - Dynamic Analysis (3 Credits)

Analysis of lumped and continuous multidegree of freedom mechanical systems. Transfer function analysis. Response of systems to steady-state, shock, and random excitation. Introduction to non-linear vibrations and wave propagation.

Prerequisites: ENCP 424.

ENCP 721 - Elasticity (3 Credits)

Equilibrium, strain-displacement, compatibility, and constitutive equations in terms of complex potential stress functions, applications to plane engineering boundary value problems including beams, disks, thick-walled tubes, and stress concentration problems.

Prerequisites: ENCP 707.

ENCP 730 - Cases in Technology Feasibility Analysis (3 Credits)

Technology innovation, exploitation of intellectual property, and technology feasibility analysis.

ENCP 733 - Legal Aspects of Engineering & Innovation (3 Credits)

Contracts, products liability, intellectual property including patent, trade secrets, copyrights and trademarks, and business torts relating to product design.

ENCP 734 - Prototype Design & Manufacturing (3 Credits)

Development processes and organization, product planning, manufacturing principles, and prototyping.

ENCP 735 - Developing and Launching New Ventures in Science and Technology (3 Credits)

Processes, strategies and tools to analyze and facilitate the emergence of science and technology oriented ventures.

ENCP 736 - Innovation and New Venture Analysis (3 Credits)

Entrepreneurial perspective and planning, market preparation, business model analysis, business planning and fundraising.

ENCP 737 - Entrepreneurial Laboratory (6 Credits)

Supervised experience in the field of technology innovation and engineering entrepreneurship.

ENCP 789 - Advanced Special Topics in Engineering and Computing (0-3 Credits)

Special topics of an interdisciplinary nature for graduate students of engineering and computing. Course content varies and will be announced in the schedule of classes by title.