

EGN 1002 Fundamentals of Engineering

Credits: 3

Text book, title, author, and year: *“Exploring Engineering, An Introduction To Engineering And Design”* by Philip Kosky, George Wise, Robert Balmer, and William Keat, 2nd Edition, Elsevier Academic Press, ISBN: 978-0-12-374723-5

Supplemental materials: none.

Specific course information

- **Catalog description:** Engineering survival skills: orientation, professionalism, planning, problem solving, creative thinking, software and calculator techniques, time and project management, teaming skills, engineering disciplines.
- **Prerequisites:** *none*
- **Required, elective, or selected elective:** required

Specific goals for the course

Specific outcomes of instruction:

By the end of the course the student will be able to: (i) use a variety of software at an introductory skill level, including word processing, Excel, Power Point, MATLAB, PSPICE and Electronic Blackboard; (ii) perform internet searches for information needed for projects; (iii) work effectively as a team member on a project team; (iv) demonstrate knowledge of proper study skills and time management habits; (v) demonstrate the ability to communicate effectively orally and in writing a report; (vi) demonstrate understanding of the problem solving process; (vii) demonstrate knowledge of the engineering curriculum and the engineering profession; (viii) demonstrate understanding of ethical implications of engineering decisions.

Brief list of topics to be covered:

- Microsoft Office WORD, PowerPoint, EXCEL; MATLAB
- Candy tower construction
- Error Estimates Lab
- Engineering ethics
- Technical Report preparation
- Hybrid Mousetrap Car design and competition
- Paper Bridge design and construction
- Solar Water Distiller design and construction