



BAKER COLLEGE
Student Learning Outcomes
EGR 1050 Introduction to Engineering and Design
2 Semester Hours

Student Learning Outcomes and Enabling Objectives

1. Explain professionalism and engineering as a profession.
 - a. Explore professional societies and industry publications.
 - b. Explore the history, trends, and purpose of engineering
 - c. Explain the role ethics plays in the engineering profession.
 - d. Explain the different areas of engineering as well as different engineering disciplines.
 - e. Explore engineering's interaction with other functional areas of an organization.
 2. Examine techniques, skills and modern engineering tools used in the engineering profession.
 - a. Examine the basics of engineering calculation and computation.
 - b. Present engineering information.
 - c. Apply different systems of units and dimensions.
 - d. Identify fundamental physical laws and engineering principles.
 - i. Mechanical foundation
 - ii. Electrical foundation
 - iii. Civil foundation
 - iv. Industrial and manufacturing foundation
 - e. Show problem-solving techniques.
 3. Explain the engineering design process.
 - a. Identify the steps in an engineering design process.
 - b. Explain constraints in relation to engineering and design.
 - c. Explain engineering communication such as written, oral, drawings, and others.
 - d. Assess the impact of design changes at different stages of the project life cycle.
 4. Function on multidisciplinary teams.
 - a. Explain the principle of concurrent engineering and the importance of teamwork in design and development.
 - b. Demonstrate teamwork skills while working on a group design project.
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