

Engineering Design Process

Local Course #: 82647

State Course ID: 12756001

Course Description:

Engineering Design Process is an engineering course applicable to all engineering fields. Students use an iterative engineering design process to solve problems, make decisions, and manage a project. Professional practices are addressed, including development of a problem statement, maintenance of documentation, use of an engineering notebook, research, project management, internal and external communication, and creation of technical drawings and prototypes. The student delivers a professional presentation detailing the experience of working through each step of the engineering design process.

Link to TEKS:

[https://texas-sos.appianportalsgov.com/rules-and-meetings?\\$locale=en_US&interface=VIEW_TAC_SUMMARY&queryAsDate=08%2F06%2F2025&recordId=225701](https://texas-sos.appianportalsgov.com/rules-and-meetings?$locale=en_US&interface=VIEW_TAC_SUMMARY&queryAsDate=08%2F06%2F2025&recordId=225701)

First 9 Weeks Major Topics:

Overview of Engineering Design, Procedures, Rules, Notebook Setup, Documentation, Introduction to the Design Process & Professionalism, Computer Modeling Tools Introduced.

Second 9 Weeks Major Topics:

Detailed Study of the Design Process, Identifying Problems, Brainstorming Ideas, Tools to Select Solutions, Project-Based Computer Modeling, Creating Technical Drawings.

Third 9 Weeks Major Topics:

Engineering Terminology, Concept Sketching, Documentation, Engineering Disciplines, Measurements & Statistics, Research, Presentations, Professionalism Revisited, Innovation Project, Product Improvement, Peer Reviews & Critiques.

Fourth 9 Weeks Major Topics:

Design Challenge Projects, Simulate Real World Challenge, Apply Design Process, Advanced Computer Modeling, Documentation, Technical Drawings, Portfolio Presentation.