SCHOOL OF STEM SYLLABUS

TERM:

INSTRUCTOR:

COURSE CODE: EGS 101

OFFICE HOURS:

COURSE TITLE: Engineering Graphics

OFFICE LOCATION:

DAY(S) AND TIME(S):

EMAIL:

LOCATION:

PHONE:

COURSE PREREQUISITE: Complete 1 Course from MAT-100, 110, MAT-111, 112 or MAT-211

CREDITS: 2

COURSE DESCRIPTION:

The course is designed to familiarize students with technical drawing and design, orthographic projections, perspective, freehand sketching, instrumental drawing, tolerance, sectional views, descriptive geometry. Students are introduced to computerized drawing Pro-Engineer software and perform some projects using this software. Students are required to work on an open ended engineering project using engineering graphics principles and techniques.

STUDENT LEARNING OUTCOMES:

Upon completion of this course you should be able to:

- Construct various geometric shapes and divide angles and circles.
- Sketch top, side, and perspective of objects.
- Construct the third view given two views.
- Show dimensions on linear and angular views and sketches.
- Apply tolerance where required.
- Sketch lines, curves, angles, views using the commercial software Pro-Engineer or AutoCAD.
- Design text and dimensions using software.
- Describe digital sketching.
- Apply drawing techniques to an engineering project.

TEXTBOOK AND SUPPLEMENTAL MATERIALS:

"*Engineering Design Graphics Sketching, Modeling, and Visualization"* 2nd Publisher: Edition, John Wiley Publishing

Author(s): James M. Leake & Jacob L. Borgerson

ISBN-13: 978-1-118-07888-4

Audiovisual Materials and Computer Software

ProEngineer / Auto CAD drawing software available on all computers in the designated software.

GRADING POLICY:

Two exams	80 points
Class Work	5 points
Home Work	5 points
Class Participation	10 points

SAMPLE COURSE SCHEDULE:

1. Introduction to the course, grading policy, course Requirements.
Video "Engineering Structures."
Lettering: Guidelines for Lettering
Practices work sheets (LTR-1,2,3,4)

2. Sketching: Lines, Circles, Arcs,
Isomeric Sketching
Practices work sheets (SKT-1,2,3,4)
Practices work sheets (SKT-6,7,8)

3. Orthographic Projection 1: Planes and Surfaces,
Curves Surfaces
Orthographic Projections of Civil Structures

4. Orthographic Projection 2: (Continued)

5. Isometric Drawings: Inclined Surfaces, Oblique Surfaces,
Curved Surfaces

6. Oblique Drawings: Cavalier Oblique, Cabinet Oblique,
Curved Surfaces

Sections: Full Sections, Half Sections, Offset Sections, Revolved/Removed Sections, Broken-Out Sections, Aligned Sections

7. Dimensioning: Basic Rules

8. Exam 1 (Midterm)

9. Perspective Drawing - 1 Point Perspective

10. Perspective Drawing - 2 Point Perspective

11. Introduction to 3D Printers
Introduction to Drawing Software / Auto CAD

12. Modelling 1 (Auto CAD)

13. Modelling 2 (Auto CAD)

14. Modelling 3 (Auto CAD)

15. FINAL

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https://www.hccc.edu/administration/academic-affairs/syllabus-addendum.html