



THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Spatial Visualization Practice and Development

ENGR 1180

Credit Hours:

1.00 - 1.00

Course Levels:

Undergraduate (1000-5000 level)

Course Components:

Lecture

Course Description:

Provide instruction and exercises to develop spatial visualization skills in preparation for Fundamentals of Engineering and advanced coursework.

Course Goals / Objectives:

- Provide students with instruction and exercises to develop their spatial visualization skills in preparation for Fundamentals of Engineering coursework and advanced coursework.
 - Students will demonstrate ability to:
 - - Interpret two-dimensional and three-dimensional representations of objects on a two-dimensional medium (such as paper, computer screens, etc.), and three-dimensional tactile representations of objects
 - - Transform interpretations of given tactile, two-, and three-dimensional representations by recreating and/or converting given representations into new two- and three-dimensional forms of representations
 - - Accurately recreate and/or convert given 2 and 3-dimensional representations of objects into new representations that reflect a specified change in perspective or orientation
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Course Topics:

- Spatial Visualization Overview; Isometric Sketches and Coded Plans
 - Orthographics Drawings
 - Flat Patterns
 - Rotation of Objects About a Single Axis
 - Rotation of Objects About Two or More Axes
 - Object Reflections and Symmetry
 - Cutting Planes and Cross Sections
 - Surfaces and Solids of Revolution
 - Combining Solids
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Designation:

Elective