

## Department:

Engineering Graphics and Technologies

## Course Description:

This course teaches the basic concepts of drafting communication. Subjects include line types, orthographic projections, sectioning, language, auxiliary views, pictorial drawings, and scale.

## Course Competencies:

Upon completion of the course, the student should be able to:

1. Identify and demonstrate the ability to utilize fundamental drafting skills.
2. Identify and demonstrate the ability to comprehend, draft and design Orthographic Projections.
3. Identify and demonstrate the ability to comprehend, draft and design the appropriate use of dimensioning.
4. Identify and demonstrate the ability to utilize the fundamental math skills associated with technical drawing.
5. Apply drawing standards (e.g. ANSI, CAD).
6. Create freehand technical sketches.

## Course Content:

- A. Fundamental Drafting Skills
  1. Use drawing media and related drafting materials
  2. Use basic measurement systems (e.g., Fractions, decimals, and metric measurements)
  3. Add correct annotation to drawing
  4. Identify & use line styles and weights
  5. Prepare title blocks and other drafting formats
  6. Apply drawing standards.(e.g. ANSI, CAD)
  7. Identify and use appropriate standard symbols
  8. Create freehand technical sketches
- B. Orthographic Projection
  1. Identify, create and place appropriate orthographic views
  2. Identify, create, and place appropriate auxiliary views Identify, create, and place appropriate section views
- C. Dimensioning
  1. Plot drawings on media using correct layout and scale
  2. Use proper line techniques and color.
  3. Configure plotters
- D. Dimensioning
  1. Apply dimensioning rules correctly (e.g., Avoid redundant dimensioning, avoid dimensioning to hidden lines)
  2. Use correct dimension line terminators (e.g., Arrowheads, ticks, slashes)
  3. Dimension objects (e.g., Spheres, cylinders, tapers, pyramids)

## Learning Assessments:

Competencies may be evaluated by multiple measures, including exams, papers, article reviews, research, experiments, and projects.

## Instructional Materials:

Textbook: Jensen, C., Helsel, J. D., & Short, D. R. (2007). *Engineering Drawing and Design* (7<sup>th</sup> ed.). McGraw-Hill. ISBN-13: 978-0-07-352151-0

### **Guidelines for Requesting Accommodations Based on Documented Disability or Medical Condition**

It is the intention of Highland Community College to work toward full compliance with the Americans with Disabilities Act, to make instructional programs accessible to all people, and to provide reasonable accommodations according to the law.

Students should understand that it is their responsibility to self-identify their need(s) for accommodation and that they must provide current, comprehensive diagnosis of a specific disability or medical condition from a qualified professional in order to receive services. Documentation must include specific recommendations for accommodation(s). Documentation should be provided in a timely manner prior to or early in the semester so that the requested accommodation can be considered and, if warranted, arranged.

In order to begin the process all students **must** complete the “Disabilities Self-Identification Form” on our [Disability Services website](#).

This form can also be accessed at the Highland Community College homepage under Students Services/Student Resources/Disability Service or by contacting the Disabilities Coordinator.

### **A Note on Harassment, Discrimination and Sexual Misconduct**

Highland Community College seeks to assure all community members learn and work in a welcoming and inclusive environment. Title VII, Title IX, and College policy prohibit harassment, discrimination and sexual misconduct. Highland Community College encourages anyone experiencing harassment, discrimination or sexual misconduct to talk to report to the Vice President for Student Services, the Human Resources Director or complete an [online report](#) about what happened so that they can get the support they need and Highland Community College can respond appropriately.

There are both confidential and non-confidential resources and reporting options available to you. Highland Community College is legally obligated to respond to reports of sexual misconduct, and therefore we cannot guarantee the confidentiality of a report, unless made to a confidential resource. Responses may vary from support services to formal investigations. As a faculty member, I am required to report incidents of sexual misconduct and thus cannot guarantee confidentiality. I must provide our Title IX coordinator with relevant details such as the names of those involved in the incident. For more information about policies and resources or reporting options, please review our [Equity Grievance Policy](#).