

Department:

Business Division; Engineering Graphics and Technologies

Course Description:

The course provides for the study of measuring tools used in manufacturing industries. The course will allow students to gain proficiency in the use of manufacturing devices.

Course Competencies:

The learning outcomes and competencies detailed in this syllabus meet or exceed the learning outcomes and competencies specified by the Kansas Core Outcomes Groups for this course as approved by the Kansas Board of Regents.

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

1. Locate points in a two-axis Cartesian coordinate system
2. Plot points in a two-axis Cartesian coordinate system
3. Sketch point locations in a three-axis Cartesian coordinate system
4. Program position from engineering drawing using point-to-point
5. Locate point in a polar coordinate system
6. Plot points in a polar coordinate systems
7. Conversion of binary numbers and decimal numbers
8. Conversion of decimals and hexadecimals
9. Conversion of Binary Coded Decimals as decimal numbers

Course Content:

- A. Computer Numerical Control (CNC)
- B. Control Systems, Absolute Positioning, Incremental Positioning
- C. Location of Points: Polar Coordinate System
- D. Binary Numeration System
- E. Hexadecimal Numeration System
- F. BCD (Binary Coded Decimal) Numeration Systems

Learning Assessments:

Competency in this course will be assessed by written and oral assignments, quizzes, exams, and demonstration of practical skills

Instructional Materials:

Textbooks: Peterson/Smith. (2015). *Mathematics for Machine Technology, (7th ed.)*. Cengage Learning. ISBN 978-1133281450

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](#).