Odessa College
Machine Technology Department

Course Syllabus

Course Number: INMT 2334
Course Title: NC/CNC Programming
Credit Hours: 3
Prerequisites: INMT 1411 or consent of department chair
Corequisites: None

Instructor Information
Scott Bridges
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Catalog Description: INMT 2334 NC/CNC Programming (CIP 15.0613) (2-3) 3 hours
A study of the principles and concepts of numerical control through computer applications, specifically in the area of programming for the control of machine tools in computer integrated manufacturing (CIM). The student will develop an increased understanding of CNC machine set-up, machine operation, tooling, and programming principles. G & M code programming language will be utilized to write part programs. Lab fee required. (SCANS 1, 3, 5, 6, 8, 9) Prerequisite: INMT 1411 or consent of department chair.

Textbook

  CNC Machining: Fundamentals and Applications by Richard A. Gizelbach
           Copyright 2009 Goodheart-Wilcox Company, Inc.

Supplies

  Safety Glasses, textbook, calculator, pencil and notebook

Special Needs

Odessa College complies with Section 504 of the Vocational Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. If you have any special needs or issues pertaining to your access to and participation in this or any other class at Odessa College, please feel free to contact me to discuss your concerns. You may also call the Office of Disability services at 432-335-6861 to request assistance and accommodations.

Learning Resource Center (Library)

The Library, known as the Learning Resources Center, provides research assistance via the LRC's catalog (print books, videos, e-books) and databases (journal and magazine articles). Research guides covering specific subject areas, tutorials, and the "Ask a Librarian " service provide additional help.

Student E-mail

Please access your Odessa College Student E-mail, by following the link to either set up or update your account: http://www.odessa.edu/gmail/. **All assignments or correspondence will be submitted using your Odessa College email.**

Student Portal

Please access your Odessa College Student E-mail, by following the link to either set up or update your account: http://www.odessa.edu/gmail/. **All assignments or correspondence will be submitted using your Odessa College email.**

Technical Support

For Blackboard username and password help and for help accessing your online course availability and student email account contact the Student Success Center at 432-335-6878 or online at https://www.odessa.edu/dept/ssc/helpdesk_form.htm.

Important School Policies

For information regarding student support services, academic dishonesty, disciplinary actions, special accommodations, or student's and instructors' right to academic freedom can be found in the Odessa College Student Handbook.

Learning Outcomes

  Develop a better understanding of CNC machine tools and their operation and use. G & M code language. Set-up procedures, work processes, and tool selection. Write programs for CNC machine tools.

Course Requirements

  Students will be expected to be on time with the supplies listed above for every class. Time management is important. Lab exercises and projects are to be completed in class. Tests and final exam are to be completed.

Method of Evaluation

The evaluation will be determined by lab projects, homework, tests, and a final exam.

Grade Scale		Weight	
Points	Grade	Lab	25%
90-100	A	Homework	25%
80-89	B	Tests	25%
70-79	C	Final	25%
65-69	D		
0-64	F		

Attendance Policy
Attendance is expected and necessary. Lectures and demonstrations as well as lab availability is important to your success in this class.

Academic Ethics
All lab work and testing is to be your own efforts. Any unethical behavior will result in action taken in accordance with Odessa College policies.

Course Competencies:
1. To demonstrate competency in machine shop safety; the student should be able to:
    A. Identify and properly use personal protection equipment.
    B. Recognize and report machine shop hazards.
    C. Know and apply machine tool safety rules.
    D. Know and apply hand tool safety rules.
2. To demonstrate competency in print reading, the use of precision measuring tools, and basic shop math; the student should be able to:
    A. Interpret and understand blueprints and their symbols.
    B. Properly use precision measuring tools.
    C. Perform calculations for shop problems, speeds and feeds, and threading.
3. To demonstrate competency in CNC lathe operation; the student should be able to:
    A. Operate a CNC lathe safely.
    B. Understand basic CNC lathe machining operations.
    C. Identify basic "G" and "M" code methods of machine control.
    D. Write a program for a part.
    E. Set up tooling and machine a sample part.
4. To demonstrate competency in CNC milling machine operation; the student
   should be able to:
    A. Operate a CNC milling machine safely.
    B. Understand basic CNC milling machine operations.
    C. Identify basic "G" and "M" code methods of machine control.
    D. Write a program for a part.
    E. Set up tooling and machine a sample part.