ET 367  **Computer Numerical Controlled Machining**  Spring 2017

**Catalog Description (3)**  
Introductory and advanced applications of numerically controlled machines. Lab experiments will include both off line and advanced programming of CNC mills and lathes. 2hrs Lect; 2hrs lab

**Class/Lab Time and Place:**  
8:00 – 9:50 TTh  KH  B36 / KH B40

**Instructor:** Dr. Brent Payne  
**Office:** B38 Knoblauch Hall  
**Office Phone:** 298-2385  
**e-mail:** mfbap@wiu.edu

**Office Hours:**  
Mon 10-11 & 2-3  
Tues 2-3  
Thurs 2-3  
(or by appointment – call or email)

**Prerequisites:** ET 261 or instructor permission

**Text:** None

**Objectives (the student will be able to):**

1. Identify axis and movement of numerical control machines with respect to their Cartesian coordinates (lathe and mill)
2. Identify machine reference locations
3. Prepare manuscripts, tooling sheets, process drawings and programs
4. Program the mill and lathe using:  
   - canned cycles, subprograms, and loops  
   - manually calculated cutter paths  
   - cutter compensation
5. Program in both incremental and absolute
6. Operate numerical control milling machines
7. Operate computer numerical control lathes
8. Perform precision setup of a work piece and machines
9. Input tool length offsets
10. Calculate feeds and speeds for machining
11. Accurately measure with micrometer, vernier, dial, and digital calipers, and other precision measuring instruments
Attendance Policy:
Class and Lab attendance is required. If a student is tardy or absent for any reason, it is his/her responsibility to gain an understanding of the missed information or experience. It is the student’s responsibility to contact the instructor upon their first return to class after an absence. Scheduled lab activities CANNOT be made up at alternate times. The following attendance policy begins with the second week of classes and continues through finals week.

Students who are tardy (arriving after your name is called on the roll) will be penalized by a 2% reduction in their final grade for each occurrence.

Example: Three days unexcused tardy = 6% reduction in your final grade.

If a student is tardy, it is the student’s responsibility to see the instructor after class on the day of their tardy to have their absent mark changed to a tardy.

Students who are absent will be penalized by a 3% reduction in their final grade for each occurrence.

Example: Three days unexcused absent = 9% reduction in your final grade.

This policy applies to students who do not provide at least a 1 hour prior notification of an upcoming absence or tardy situation through the OARS System or direct email. These policies apply to both classroom and lab activities.

Exam/Quiz Policy:
Exams and Quizzes will be administered during the semester. Exam times will be announced in advance. Scheduled Quizzes and Unannounced (Pop) quizzes will also be administered as the instructor determines the need. No make-up exams or quizzes of any kind will be given unless written notification of an absence is given to the instructor prior to the exam or quiz and documentation is provided by your doctor or University Health Services upon return to class. A grade of "0" will be recorded for a missed exam or quiz.

Late Assignment Policy:
Assignments are considered late if they are not turned in when requested by the instructor. Unless a student notifies the instructor (in writing) of his/her intent to be absent prior to the due date of an assignment, the assignment will be considered late. For each school day (not class period), an assignment is turned in late it will be penalized by the loss of 20% (plus errors or mistakes). Assignments more than 3 school days late will NOT be graded.

Lab Cleanup Policy:
Each student is responsible for keeping the laboratory clean. This includes but is not limited to returning tools and machining supplies to their proper locations after use, cleaning chips from the machines, and sweeping the floor. Any student who does not assist in keeping the lab clean and organized will be penalized up to 25% on lab assignment grades.

Grading:

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Special Course Costs:
"Students of this course are required to pay a special course charge of $25 for each lab-related course in the Engineering Technology Department. This money is used to support the consumable items used during the course. Payment of the course cost is a required portion of the class and must be paid after the second week of the semester but prior to your final exam. If you fail to pay your course cost, you will receive a grade of "I" for the course until the lab fee is paid or the university automatically changes the grade from "I" to "F" according to the University Policy. If the grade is changed to an "F", the grade will remain an F on your permanent transcript, regardless of payment. Payments can be made to the Engineering Technology department office (Knoblauch Hall 135) any time after the beginning of the third week of classes. It is recommended that students pay by check made out to "WIU". Likewise, the student should expect a receipt to serve as proof of payment. If you have questions or concerns, please direct them to the staff in Knoblauch Hall 135 or call 309/298-1091."

Safety Glasses:
Each student will be required to obtain and wear approved safety glasses at all times while in the Metals/CNC lab. Students will not be permitted in the lab without approved safety glasses.
Students with disabilities:
In accordance with University values and disability law, students with disabilities may request academic accommodations where there are aspects of a course that result in barriers to inclusion or accurate assessment of achievement. To file an official request for disability-related accommodations, please contact the Disability Resource Center at 309-298-2512, disability@wiu.edu or in 143 Memorial Hall. Please notify the instructor as soon as possible to ensure that this course is accessible to you in a timely manner.

Title IX:
University values, Title IX, and other federal and state laws prohibit sex discrimination, including sexual assault/misconduct, dating/domestic violence, and stalking. If you, or someone you know, has been the victim of any of these offenses, we encourage you to report this to the Title IX Coordinator at 309-298-977 or anonymously online at: http://www.wiu.edu/equal_opportunity_and_access/request_form/index.php
If you disclose an incident to a faculty member, the faculty member must notify the Title IX Coordinator. The complete Title IX policy is available at: http://www.wiu.edu/vpas/policies/titleIX.php.

Web address for student rights and responsibilities: http://www.wiu.edu/provost/students.php

Web address for Academic Integrity Policy: http://www.wiu.edu/policies/acintegrity.php

Rules for Giving an Incomplete
WIU policy – A temporary symbol of I (Incomplete) for a course may be given only when a student, due to circumstances beyond his or her control, has been unable to complete the course requirements within the official limits of the term. The circumstances must be documented to the instructor’s satisfaction.

Resolution of Problems
Should a problem occur, students should speak to their instructor first. If the problem is not resolved, meet with the chair of the department. If the problem continues to be unresolved, go to the College of Business and Technology’s Dean.

Students should observe the following sequence for the resolution of problems:

Student --- Instructor --- Chairperson --- Dean

NOTE: This syllabus is subject to change with verbal notification.