Course Syllabus

MET2500: Computer Automated Manufacturing

Engineering and Industrial Technologies Division

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Class Days: **Class Time:**
Location: Classroom: Laboratory:
Credit Hours: 3 **Contact Hours:** 5 **Lab Hours:** 3 **Lecture Hours:** 2

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Instructor: **Office Location:**
Phone: **Email Address:**
Office Hours:
Mondays and Wednesdays:
Tuesdays and Thursdays:
Fridays:
Division Office/Location: E107 **Division Fax:** (419) 334-2300
Full-time Contact Person: **Phone(s):**

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Course Description:
An introduction to CAM programming. This course will begin with basic 2D profiles and 2.5 axis CNC milling and 2 axis CNC lathe programming. It will continue through importing 3D models and applying toolpaths. This course will stress the interworkings between the CAD/CAM system and CNC. Topics will include prejob planning, job set-up, machining considerations, documentation, cutter compensation and post processors.

Prerequisite(s): CAD1110-Introduction to CAD
MET1320-Introduction to CNC

Co-requisite(s): None

Entry Level Skills and Knowledge:
None other than Prerequisites listed above.

Required Texts, Supplies and Equipment:
CAM book from bookstore
Media to save work to such as floppy disks, thumb drives or CD's.
Folder for handouts
Report folder or 3-ring binder for portfolio

Grading:
Assignments and projects will be given by instructor to each class as listed by syllabus. Each student will be required to complete 9 simulated CAM projects. Of the 9 required simulations, one will be a group project, which will be cut by all group members as a team. To get full credit for this project, each member of the team must create a simulation of the project, create a shop floor CAD drawing (including titleblock, dimensions, required orthographic and isometric views), put together a data report (including stock size, sequence of operations, material, tools required and any other pertinent information) and be an active member of the group. Four of the remaining 8 projects will also need to

be cut by each individual student along with creating a CAD drawing, and a data report that will be required to be handed in with the machined part. A final portfolio of all 5 required data reports and CAD drawings will need to be handed in for full credit.

15 Simulated Projects worth 5% each	30% of total grade
1 machined Group Project with CAD drawing & report	5% of total grade
7 optional machined projects with CAD drawings & reports	25% of total grade
Portfolio of 8 machined projects	10% of total grade
Timed In-Class Midterm Exam	10% of total grade
Timed In-Class Final Exam	15% of total grade

100 to 92 - A
84 to 91 - B
77 to 83 – C
70 to 76 – D
69 or less - F

Learning Outcomes:
General Education

Technical

Assessment of Student Learning:
This course may include a project that is one of several that will be used by faculty to assess student academic performance in the program. A panel of faculty will review all (projects or whatever assessment activity you are doing), then assess and summarize the academic performance of students at this point in the program. The results of this assessment will be shared among the department faculty, used to identify needed changes or improvements, and submitted to the Student Academic Assessment Committee as part of the college's overall student academic assessment effort.

Assessment Project and Measurement in course (if any):

Plan of Work:

Session	Date	Activities
Day 1		Introductions
		Syllabus
		Chapter 1
Day 2		Chapter 2
		Group Project handed out
Day 3		Chapter 3
Day 4		Chapter 4
		Projects 1&2 handed out
Day 5		Chapter 5
		Group Project due (simulate and machine)
Day 6		Chapter 6
		Projects 3&4 handed out
Day 7		Chapter 7

	Projects 1&2 due (simulate both, machine one)
Day 8	Chapter 8
	Projects 5&6 handed out
Day 9	Chapter 9
Day 10	Chapter 10
	Project 7 handed out
Day 11	Chapter 11
	Projects 3&4 due (simulate both, machine one)
Day 12	Chapter 12
	Project 8 handed out
Day 13	Chapter 13
Day 14	Chapter 14
	Projects 5&6 due (simulate both, machine one)
Day 15	Midterm
Day 16	Chapter 15
Day 17	Chapter 16
	Project 9 handed out
	Projects 7&8 due (simulate both, machine one)
Day 18	Chapter 17
	Project 10 handed out
Day 19	Chapter 18
	Project 11 handed out
Day 20	Chapter 19
	Project 12 handed out
	Projects 9&10 due (simulate both only)
Day 21	Chapter 20
	Project 13 handed out
Day 22	Chapter 21
Day 23	Chapter 22
	Project 14 handed out
	Projects 11&12 due (simulate both, machine one)
Day 24	Chapter 23
	Project 15 handed out
Day 25	Chapter 24
Day 26	Open Lab
Day 27	Open Lab
	Projects 13&14 due (simulate both, machine one)
Day 28	Open Lab
	Project 15 due (simulate and machine)
Day 29	Open Lab
Day 30	Final Exam
	Portfolios due

Course Requirements:
The students will be required to complete all assignments on times. Drawings or projects received after the deadline date will not receive full credit.

Besides the main drawing disk, each student must keep two separate backup disks with all drawing and project assignments. To complete the course requirements, it may be necessary to turn in one of these

disks at the end of the semester.

Policies

Course Withdrawing: If for any reason you need to withdraw from this course, be certain that you do so according to College procedure. It is your responsibility to know and follow this procedure. If you simply stop coming to class, without officially withdrawing from the course, your grade is an automatic "F." Please follow official College procedure for withdrawing from this or any course.

College Academic Policies are located in the College Catalog. A copy of the current catalog may be picked up in any of the division offices or admissions. The list of college policies is also available online at https://www.terra.edu/register/Collegecat/policies.asp.

Support Services: The College offers a number of support services to assist in your success in this course and all courses. Among these services are the Writing & Math Center in B105, the Office of Learning Support Services, which coordinates the campus disability services and tutoring programs, the computer labs, and the computers in the atriums.

Any student who feels he/she may need an accommodation based on the documentation of a disability should contact the Office of Learning Support Services privately to discuss his/her specific issues. Please contact the OLSS at (419) 334-8400 X 208 or visit 100 Roy Klay Hall (Building A) to coordinate reasonable accommodations.

If you have a documented disability and are receiving academic accommodations through the Office of Learning Support Services, please schedule a meeting with your instructor in a timely manner so that we may discuss how these services will be arranged.

Tutoring services are available to students beginning the second week of every quarter. Students requesting tutoring services should obtain a tutor request form from the OLSS in 100 Roy Klay Hall (Building A) or online at the Terra website. Please note that instructor verification and acceptance of the Student Learner Agreement is necessary for all tutoring requests. All requests should be submitted to 100 Roy Klay Hall (Building A).