MET 111 Manufacturing Processes 1

Course Description: An introduction to machining and fabrication. Topics include: measuring techniques, manual and computer numerical controlled metal removal processes, machine operations, and materials considerations.

Prerequisites(s): AFL 085 and MAT 120, or appropriate placement test scores

Corequisite(s): No corequisite

Lecture Hours: 2	Lab Hours: 3	Credit Hours: 3
Lab Fee: 105	Supplemental Fee: 50	Purpose:
☐ Transfer Assurance Guide Course (TAG)	☐ Transfer Module Course (TM)	
Course Format: Lec/Lab	Grading: A/B/C/F/I	
Delivery Method: □ Web	□ Hybrid	☒ Classroom
Semesters Offered: ☒ Fall	☒ Spring	☒ Summer

Course Primary Text:

Title: Precision Machining Technology	Edition: 2nd
Author(s): Hoffman; Hopewell; James; Sharp	
Publisher: Delmar, Cengage Learning	

Supplemental Materials:

Course Outcomes:

1	The student will be able to apply knowledge, techniques, skills and modern tools of the discipline to analyze and solve design problems.
2	The student will have the ability to apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems
3	The student will have an ability to function effectively as a team member of a technical team
4	The student has the ability to apply written, oral, and graphical communication in both technical and non-technical environments; an ability to identify and use appropriate technical literature

Course Topics:

Week 1	Introduction, Safety, Units, Measuring tools
Week 2	Introduction to basic shop tools and simple machine tools. Measurement Lab
Week 3	"Demo Week" Introduction to machine tools, Mill, Lathe, Safety Lab, First Open Lab
Week 4	Material Properties, Machine tools, Lab Demos, Lab Work is Assigned, Open Lab
Week 5	Types of materials and Stress, Machine tools, Lab Demos, Open Lab
Week 6	Chip Formation and Speeds/Feeds, Machine tools, Lab Demos, Open Lab
Week 7	Speeds and Feeds, Set-up of machine tools, Lab Demos, Open Lab
Week 8	Introduction to CNC machine tools, CNC lab Demos, Open Lab
Week 9	Midterm Exam, Open Lab
Week 10	Introduction to CNC programming G-code, Open Lab
Week 11	G-Code Programming, Haas CNC Setup Labs (no open lab)
Week 12	CNC machine tools and programming CNC Lab Demos, Open Lab
Week 13	CNC machine tools, Open Lab
Week 14	CNC machine tools, Open lab
Week 15	Final Exam, Open Lab

Methods of Evaluation/Assessment

□ Formative: ☒ Summative

List assessment activities (e.g. quizzes, discussions, essays, research papers, debates, oral presentations, exams):

Participation/Assignments/Quizzes/Labs
Presentation/Research Paper
Midterm Exam
Final Exam

Course Keeper: Zane Decker Date Completed: 8/11/18