

CATALOG INFORMATION

Dept and Nbr: MACH 80A      Title: MACHINE TOOL 80A  
Full Title: Machine Tool Technology  
Last Reviewed: 2/28/2022

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	5.00	Lecture Scheduled	4.00	17.5	Lecture Scheduled	70.00
Minimum	5.00	Lab Scheduled	4.00	17.5	Lab Scheduled	70.00
		Contact DHR	0		Contact DHR	0
		Contact Total	8.00		Contact Total	140.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 140.00

Total Student Learning Hours: 280.00

Title 5 Category: AA Degree Applicable  
Grading:                Grade Only  
Repeatability:      13 - 10 Units Within 2 Semesters  
Also Listed As:  
Formerly:

**Catalog Description:**  
Mach 80A is a course in all aspects of CNC lathe operation. Emphasis is on programming, CNC lathe operation, Computer Aided Drawing (CAD) and Computer Aided Machining (CAM) applicable to entry-level CNC lathe operators.

**Prerequisites/Corequisites:**  
MACH 51A.

**Recommended Preparation:**

**Limits on Enrollment:**

**Schedule of Classes Information:**  
Description: Machine Tool 80A is a course in all aspects of operation. Emphasis is on programming, CNC late operation, Computer Aided Drawing (CAD), Computer Aided Machining (CAM) applicable to entry-level CNC lathe operators. (Grade Only)  
Prerequisites/Corequisites: MACH 51A.  
Recommended:  
Limits on Enrollment:

Transfer Credit: CSU;  
Repeatability: 10 Units Within 2 Semesters

## **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

<b>AS Degree:</b>	<b>Area</b>			Effective:	Inactive:
<b>CSU GE:</b>	<b>Transfer Area</b>			Effective:	Inactive:
<b>IGETC:</b>	<b>Transfer Area</b>			Effective:	Inactive:
<b>CSU Transfer:</b>	Transferable	Effective:	Spring 1995	Inactive:	
<b>UC Transfer:</b>		Effective:		Inactive:	

### **CID:**

**Certificate/Major Applicable:**  
Certificate Applicable Course

## **COURSE CONTENT**

### **Outcomes and Objectives:**

Students will:

1. Practice the safe use of tools and machines.
2. Determine what manufacturing operations are done on the CNC lathe.
3. Calculate cutting speeds and feed speeds for various CNC lathe operations.
4. Be able to describe the proper procedures for selecting tool bits.
5. Diagnose basic problems faced in the operation of the CNC lathe.
6. Be able to program the CNC lathe.
7. From shop drawings produce projects on the CNC lathe.

### **Topics and Scope:**

1. Introduction
  - A. Shop Safety
  - B. Print Reading-Working Drawings
  - C. Shop Orientation-Machine Identification-Facility Layout
2. Basic CNC lathe operations
3. CNC accessories
4. Materials
5. Layout lathe applications
6. CNC lathe programming and operation
7. Other CNC programs

### **Assignment:**

Assignments consist of: Proper set-up and operating procedure for the CNC lathe. Students will be required to produce CAD drawings and produce projects on the CNC lathe.

## Methods of Evaluation/Basis of Grade:

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments and skill demonstrations are more appropriate for this course.

Writing  
0 - 0%

**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Homework problems, Quizzes

Problem solving  
20 - 30%

**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Performance exams, Lab Projects

Skill Demonstrations  
30 - 45%

**Exams:** All forms of formal testing, other than skill performance exams.

Multiple choice, True/false, Matching items, Completion

Exams  
30 - 40%

**Other:** Includes any assessment tools that do not logically fit into the above categories.

None

Other Category  
0 - 0%

## Representative Textbooks and Materials:

Machine Tool Practices, Kibbe, Prentice Hall, 6th Ed., 1999