

Machine Theory TAM 101 Course Syllabus

Textbook: PRECISION MACHINING TECHNOLOGY

Author: HOFFMAN

ISBN-10: 1-337-79530-5 3rd edition.

Other Required Materials:

Calculator: Casio fx-115ES recommended. This is the only calculator fully supported for the class and is appropriate for all TAM classes

Course Learning Outcomes:

Upon completion of this class the student will be able to:

1. Identify various machine tools and their parts.
2. Identify various hand tools and their parts.
3. Use trade specific vocabulary in verbal and written communication.
4. Calculate machine tool spindle speeds for various machine tools.
5. Calculate machine tool feed rates for various machine tools.
6. Evaluate the pitch diameter for various thread sizes.
7. Develop a basic process sheet for various machining operations consisting of cutting tools, coordinates, and feeds and speeds
8. Write and graph an introductory CNC program.

The following sections of the textbook are required reading and will be reviewed in the lectures. Homework will be assigned from the review questions at the end of the units and / or lecture discussions, either as a Blackboard assignment or quiz both of which import into the Blackboard grade center. Additional testing outside of Blackboard will take place (~3 tests) and a comprehensive final exam will be scheduled at the end of the semester.

Section	Unit	Topic
1)	Units 1, 2, 3 (up to page 34)	Intro to Machining
2)	Units 1, 2 ,3 (page 64, 65), Unit 4	Safety, Measurement
3)	Unit 2	Layout Operations

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| 5) | Units 1, 2, 3, 4, 5 | Turning Operations |
| 6) | Units 1, 2, 3 | Milling Operations |
| 7) | Units 1, 2, 3 | Grinding |
| 4) | Units 1, 2, 3 | Drilling Operations |
| 3) | Unit 4, 6 | Saws, Reaming, Threads |
| 2) | Unit 6, 7, 8 | Metallurgy, Heat Treating, Cutting Fluids |
| 8) | Unit 1, | CNC Operations (Intro) |