

IME 3570
Fabrication, Assembly and Finishing
SYLLABUS

Catalog description: Overview of assembly processes including adhesion, cohesion (welding), Mechanical fasteners, snap and press fits, forming and fabricating techniques, product finishing methods including surface preparation of various substrates, painting, plating, anodizing, printing, and vacuum metallizing. Review of the impact of the assembly and finishing procedures on product quality and reliability.

Prerequisites: IME 281

Meeting Times & Location:

Lecture: (2) RM G 113 Parkview

Laboratory: (3),G-113 Breakout room (as required)

Lecture Instructor: Professor Fred Z Sitkins: Industrial and Manufacturing Engineering Department. Office hours as posted

Office: room #F-231 or #E-111 Parkview

Phone: (269) 276-3375 or 6-3261

Fred.sitkins@wmich.edu

Laboratory Instructor: Mr. Glenn Hall, IME Department

Office: room G-111

Phone: (269) 276-3362

Office hours: As posted, others by appointment:

Textbook: There is no required textbook for this course this semester: A course pack has been developed in lieu of a formal text. There will be additional handouts as required.

Course Objectives: Students who successfully complete this course will:

- Understand the theory and application of the topics listed in the course description.
- Be able to choose the correct method/process for a given application.
- Determine appropriate expectations of product quality and reliability based on the selection of methods, processes, materials and component selection.

Evaluation:

Homework/classroom	250 points
Laboratory.....	350
Notebook/report/ project.....	2 00
Mid-term Exam	100
Final Exam	100
Total	1000 points

Grading scale:

92 - 100%	A
87 – 91	BA
82 – 86	B
77 – 81	CB
72 – 76	C
67 – 71	DC
62 – 66	D
61 – below	E

Classroom Lecture:

Classroom will consist of lectures supported by video and power point presentations. You are expected to research course topics on the internet, library, etc. You will be assigned homework activities, which will include both research and reports for the required notebook.

Laboratory:

You are expected to participate in all laboratory activities. Several hands on projects are required. Some field trips may be scheduled for this time. Wear appropriate shoes, clothing and safety eye protection

Notebook/Report/Project:

This project may be either a notebook, portfolio , written report or physical project. This must be an individual effort, no collaboration accepted. Do not copy anything from the “course pack” although you are encouraged to present some of the same material from other sources (cite them). This project must include the following in whatever style and format that you choose: Note: the physical project is in collaboration with the instructor. Requirements may vary

Examinations:

There are two exams of the essay; multiple choice and T/F format as indicated on the semester schedule. The mid-term exam will be discussed in class. Grades will not be posted for either exam. I will respond to e-mail requests for the results of the final examination. (One page of notes allowed during exams).

**Semester Schedule
IME 3570**

- 01 Sheet Metal Processes
- 02 Sheet Metal Processes & materials continued
- 03 Bench processes
- 04 Protective finishes
- 05 Pressworking (Bending , cutting & Forming)
- 06 Adhesion, (Material & process selection)
- 07 Group project activity (possible plant tour)
- 08 Cohesion, oxyacetylene
- 09 Cohesion, Electric Arc
- 11 Cohesion continued (possible plant tour)
- 12 Plasma cutting exercise
- 13 Cohesion, Resistance
- 14 Mid Term Examination
- 15 Group project activity (Mid-Term grade submission)
- 16 Fastening, Semi-Permanent

- 17 Fastening, Permanent
- 18 Finishing methods
- 19 Finishing processes
- 20 Quotation process
- 21 Career preparations
- 22 Assembly
- 23 Classroom project
- 24 Thanksgiving recess begins at noon today
- 25 Final Exam and semester review
- 26 Turn in Notebook/Report, Projects
- 27 Final Exam Review – Return projects
- 28 Final examination

NOTE: Schedule may be adjusted as necessary. Always bring your copy to class so that changes may be recorded.

