

MACH 61B Course Outline as of Fall 2005**CATALOG INFORMATION**

Dept and Nbr: MACH 61B Title: NON-FERROUS METALLURGY

Full Title: Non-Ferrous Metallurgy

Last Reviewed: 9/27/2010

| Units | | Course Hours per Week | | Nbr of Weeks | Course Hours Total | |
|---------|------|-----------------------|------|--------------|--------------------|-------|
| Maximum | 3.00 | Lecture Scheduled | 2.00 | 17.5 | Lecture Scheduled | 35.00 |
| Minimum | 3.00 | Lab Scheduled | 2.00 | 17.5 | Lab Scheduled | 35.00 |
| | | Contact DHR | 1.00 | | Contact DHR | 17.50 |
| | | Contact Total | 5.00 | | Contact Total | 87.50 |
| | | Non-contact DHR | 0 | | Non-contact DHR | 0 |

Total Out of Class Hours: 70.00

Total Student Learning Hours: 157.50

Title 5 Category: AA Degree Applicable

Grading: Grade Only

Repeatability: 39 - Total 2 Times

Also Listed As:

Formerly:

Catalog Description:

Study of non-ferrous metals including alloying, heat treating, testing and applications in industry.

Prerequisites/Corequisites:**Recommended Preparation:****Limits on Enrollment:****Schedule of Classes Information:**

Description: Study of non-ferrous metals including alloying heat treating, testing and applications in industry. (Grade Only)

Prerequisites/Corequisites:

Recommended:

Limits on Enrollment:

Transfer Credit: CSU;

Repeatability: Total 2 Times

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

| | | | | | |
|----------------------|----------------------|-------------------|-----------|-------------------|------------------|
| AS Degree: | Area | | | Effective: | Inactive: |
| CSU GE: | Transfer Area | | | Effective: | Inactive: |
| IGETC: | Transfer Area | | | Effective: | Inactive: |
| CSU Transfer: | Transferable | Effective: | Fall 1981 | Inactive: | Spring 2019 |
| UC Transfer: | | Effective: | | Inactive: | |

CID:

Certificate/Major Applicable:

Certificate Applicable Course

COURSE CONTENT

Outcomes and Objectives:

Students will:

- A. Study non-ferrous metals from periodic table.
- B. Identify non-ferrous metals by experimentation.
- C. Learn to heat treat non-ferrous alloys.
- D. Describe applications of design, manufacturing, and fabrication applicable to non-ferrous metals.

Topics and Scope:

1. Introduction and review of ferrous metals.
2. History and developments of non-ferrous metal materials.
3. Non-ferrous metals - use and applications.
4. Testing equipment procedures.
5. Research and design methods.
6. Library use and research of data base for non-ferrous alloys.
Numbering system.
7. Heat treating mediums and solutions.
8. Review and final.

Assignment:

The following assignments will determine student's final grade.

- A. Reading assignments - weekly.
- B. Lab reports - on lab experiments.
- C. Mid-term paper on a specific non-ferrous material.
- D. Individual projects assigned by instructor on metallurgical process.

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.

Written homework, Lab reports

Writing
20 - 25%

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

Homework problems, Field work, Lab reports

Problem solving
15 - 25%

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

None

Skill Demonstrations
0 - 0%

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

Multiple choice, True/false, Matching items, Completion

Exams
55 - 60%

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

None

Other Category
0 - 0%

Representative Textbooks and Materials:

METALLURGY, by B.J. Moniz, American Technical Publishers, 2nd. Ed., 1994