

**Odessa College
Machine Technology Department**

Course Syllabus

Course Number: WLDG 1437
Course Title: Introduction to Metallurgy
Credit Hours: 4
Prerequisites: None
Corequisites: None

Instructor Information

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Catalog Description: WLDG 1437 Introduction to Metallurgy (CIP 48.0508) (2-6) 4 hours
A study of ferrous and nonferrous metals from the ore to the finished product. Emphasis on metal alloys, heat treating, hard surfacing, welding techniques, forging, foundry processes, and mechanical properties of metal including hardness, machinability, and ductility. Lab fee required. (SCANS 1, 2, 6, 8) Prerequisite: None

Textbook

Metallurgy Fundamentals by Daniel A. Brandt and J.C. Warner. 5th Edition Copyright 2009 by The Goodheart-Willcox Company, Inc.

Supplies

Safety Glasses, textbook, calculator, pencil and notebook

Special Needs

Odessa College complies with Section 504 of the Vocational Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. If you have any special needs or issues pertaining to your access to and participation in this or any other class at Odessa College, please feel free to contact me to discuss your concerns. You may also call the Office of Disability services at 432-335-6861 to request assistance and accommodations.

Learning Resource Center (Library)

The Library, known as the [Learning Resources Center](#), provides research assistance via the [LRC's catalog](#) (print books, videos, e-books) and [databases](#) (journal and magazine articles). [Research guides](#) covering specific subject areas, [tutorials](#), and the "Ask a Librarian " service provide additional help.

Student E-mail

Please access your [Odessa College Student E-mail](#), by following the link to either set up or update your account: <http://www.odessa.edu/gmail/>. **All assignments or correspondence will be submitted using your Odessa College email.**

Student Portal

Please access your [Odessa College Student E-mail](#), by following the link to either set up or update your account: <http://www.odessa.edu/gmail/>. **All assignments or correspondence will be submitted using your Odessa College email.**

Technical Support

For Blackboard username and password help and for help accessing your online course availability and student email account contact the Student Success Center at 432-335-6878 or online at https://www.odessa.edu/dept/ssc/helpdesk_form.htm.

Important School Policies

For information regarding student support services, academic dishonesty, disciplinary actions, special accommodations, or student's and instructors' right to academic freedom can be found in the [Odessa College Student Handbook](#).

Learning Outcomes

Identify the chemical and physical properties of metals, determine the hardness of metals, and have a basic knowledge of heat treat procedures on metals, understand the need for metals to have certain properties for engineering purposes.

Course Requirements

Students will be expected to be on time with the supplies listed above for every class. Time management is important. Lab exercises and projects are to be completed in class. Tests and final exam are to be completed.

Method of Evaluation

The evaluation will be determined by lab projects, homework, tests, and a final exam.

Grade Scale		Weight	
Points	Grade	Lab Projects	25%
90-100	A	Homework	25%
80-89	B	Tests	25%
70-79	C	Final	25%
65-69	D		
0-64	F		

Attendance Policy

Attendance is expected and necessary. Lectures and demonstrations as well as lab availability is important to your success in this class.

Academic Ethics

All lab work and testing is to be your own efforts. Any unethical behavior will result in action taken in accordance with Odessa College policies.

Course Competencies

1. To demonstrate competency in machine shop safety; the student should be able to:
 - A. Identify and properly use personal protection equipment.
 - B. Recognize and report machine shop hazards.
 - C. Know and apply machine tool safety rules.
 - D. Know and apply hand tool safety rules.
2. To demonstrate competency in the understanding of the properties of metals, the student should be able to:
 - A. Identify the elements that comprise various metals.
 - B. Identify alloying elements and their purpose.
 - C. Identify ferrous and non-ferrous metals.
3. To demonstrate competency in the heat treatment of metals, the student should be able to:
 - A. Perform hardness testing before and after heat treating.
 - B. Prepare metal for heat treating.
 - C. Operate heat treat furnace and perform heat treatment.
 - D. Quench and temper metal.