



Wayne County Community College District

COURSE SYLLABUS

MAN 120 Survey of Material Science

CREDIT HOURS: 3.00

CONTACT HOURS: 45.00

COURSE DESCRIPTION:

This is a study of the atomic structure, bonding, crystallization, and physical and mechanical properties of metals. The classification and selection of materials as well as heat-treating and hardness testing will be examined.

PREREQUISITES: MAN 100, Lab Fee

EXPECTED COMPETENCIES:

Upon completion of this course, the student will be familiar with:

- Identify materials and use through the Periodic Chart
- Describe the structure of metals, ceramics, and plastics
- Become aware of the many types and uses of metals and other materials
- Know how the properties of materials are changed using various related charts
- Understand the physical and mechanical behavior of metals
- Obtain a knowledge of hot and cold working processes
- Recognize terms and processes in powder metallurgy
- Acquire the basic concepts of destructive testing
- Become aware of metal casting processes
- Understand material selection and applications

ASSESSMENT METHODS:

Student performance may be assessed by examination, quizzes, case studies, oral conversation, group discussion, oral presentations. The instructor reserves the option to employ one or more of these assessment methods during the course.

GRADING SCALE:

90%-100% = A
80%-89.9% = B
70%-79.9% = C
60%-69.9% = D
<60% = E