Piedmont Technical College Course Syllabus

COURSE INFORMATION

Course Prefix/Number: MTT 141
Title: Metals and Heat Treatment
Responsible Division: Engineering and Industrial Technologies
Last Day to Withdraw from this Course: For the last date to withdraw from this course, consult the current Student Calendar.

Course Description:

For course, credit hour, pre-requisite(s) and co-requisite(s) information, visit the Detailed Course Information page: www.ptc.edu/courses/mtt141.

Textbook and Other Materials:

For textbook information and additional required and/or supplemental materials, visit the college bookstore (www.ptc.edu/bookstore).

Proctored Examinations:

Proctored examinations for distance learning courses taken at non-PTC campuses may require a proctoring fee for each exam taken.

COURSE POLICIES

Course policies are available online through the Academic Catalog and Student Handbook. Visit the Course Policies page (www.ptc.edu/syllabus/policies) for a detailed list of important policies and more information.

GRADE POLICY

Detailed grading policy information can be found on the Grading Policy webpage (http://www.ptc.edu/grading-policy). Final grade appeal information is available in the Academic Catalog (http://www.ptc.edu/catalog/).
ACCOMMODATIONS

Accommodations for ADA:

Information is available on the Student Disability Services webpage (http://www.ptc.edu/ada).

RATIONALE

Why do I need this course?

Understanding the properties and heat treatment of metals has become increasingly important to machinists during the past few years. Putting this knowledge to use has led to reduced weight and increased strength of machines. Of particular importance to the machinist is the understanding of the most commonly used ferrous metals and the changes made in this metal by the addition of various alloying elements during manufacture, to impart the desired qualities to the material. Of equal importance is the utilization of the best possible heat treatment methods to impart the hardness desired for a specific application.

PROGRAM INFORMATION

For program information including required courses, program learning outcomes, gainful employment information and advisement information, refer to the Academic Program webpage. Go to Academics (http://www.ptc.edu/academics), select your program, and then select Credentials Offered.

COURSE STUDENT LEARNING OUTCOMES

Upon successful completion of this course and/or clinical, each student will be able to:

- Demonstrate a working knowledge of the physical properties of metals together with the methods of manufacture of ferrous metals.
- Analyze and identify steel by classification.
- Demonstrate a working knowledge of various heat treatment processes.
- Perform destructive and non-destructive testing.
- Interpret and identify non-ferrous metals and their present applications.
GENERAL EDUCATION COMPETENCIES

Piedmont Technical College General Education Competencies for All Graduates:

This course may address one or more of the following General Education Competencies (assessment will be stated when applicable):

Communicate effectively.
Assessment:
 Explain the properties of various metallic materials and the categories these materials are assigned.

Apply mathematical skills appropriate to an occupation.
Assessment:
N/A

Employ effective processes for resolving problems and making decisions.
Assessment:
N/A

Demonstrate the basic computer skills necessary to function in a technological world.
Assessment:
N/A

To validate proficiency in the general education competencies, students in some programs will be tested using Work Keys.