

CAMPUS NAME: Ankeny

COURSE TITLE: Heat Treatment of Materials

COURSE NUMBER: MFG 290

SECTION NUMBER & CRN: Section 1 CRN 20234

INSTRUCTOR INFORMATION

NAME: Mark Rosenberry

EMAIL ADDRESS: merosenberry@dmacc.edu

PHONE NUMBER: 515-964-6452

FAX NUMBER: 515-964-6815

OFFICE LOCATION: Building 3E Room 103A

OFFICE HOURS/APPOINTMENTS: Posted outside my office

COURSE INFORMATION

SEMESTER/YEAR: Spring 2017

DATE SYLLABUS CREATED AND/OR REVISED: 2017

DAYS & TIME & LOCATION: BLDG 3E Room 121
Section 1 Jan. 9 – May 3 Mon. Wed. 12:30pm – 1:00pm
Midterm date: 3/6/17

COURSE DESCRIPTION & CREDITS: <http://www.dmacc.edu/courses/crsrod.asp>

PREREQUISITES: None

COURSE COMPETENCIES: <https://go.dmacc.edu/competencies>

During this course, the student will be expected to:

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- 1.0 Define related terms.
- 2.0 Identify materials that can be hazardous when machined.
- 3.0 Recognize common types of steels.
 - 3.1 Identify ferrous and nonferrous steels.
 - 3.2 Describe the ANSI numbering system.
 - 3.3 State the procedure for spark testing.
 - 3.4 List other ways identifying steels.
- 4.0 Select appropriate steel for a specific application.
 - 4.1 Calculate weight.
 - 4.2 Calculate price.
 - 4.3 Summarize the characteristics of a given type of steel.
- 5.0 Describe the hardening process for nonferrous steels.

6.0 Describe the hardening process for ferrous steels.

7.0 List the procedures for annealing ferrous steels.

TEXTBOOKS & MATERIALS

REQUIRED TEXTBOOKS & ISBN: Machine Tool Practices 10th edition ISBN 978-0-13-291265-5 Students may use an earlier addition if they wish. Page numbers and Figure references will be different requiring extra effort to follow class discussions.

REQUIRED MATERIALS: Three ring binder and safety glasses

COURSE POLICIES

ATTENDANCE/PARTICIPATION:

- A) Attendance will be taken at the start of each class and optionally during the class to determine one of two conditions.
- 1) Present for class
 - 2) Absent for class the student must attend all scheduled hours of a class session to avoid an absence.
- B) Break times are scheduled and everyone must abide by the listed times. If someone must leave an area they must inform their instructor. Failure to do so may result in an absence being recorded.
- C) Attendance records will be maintained by the instructor and will be made available to authorized individuals who request this information. Penalties for absenteeism will occur as follows: Five percent of the final grade for any Tool & Die class will be determined by attendance. The calculation will involve determining the number of clock hours of missed class and converting that into a percentage of the total hours of that semesters class. Credit for the five percent will be issued by the following:

4% of missed class time or less = 100% of the available attendance points (5% of final grade)

5% of missed class time or less = 90% of the available attendance points (5% of final grade)

6% of missed class time or less = 75% of the available attendance points (5% of final grade)

7% of missed class time or less = 55% of the available attendance points (5% of final grade)

8% of missed class time or less = 30% of the available attendance points (5% of final grade)

9% of missed class time or less = 10% of the available attendance points (5% of final grade)

over 9% of missed class time = 0% of the available attendance points (5% of final grade)

Exceptions: When all projects and objectives for a class are met the student, with the instructor's approval may be excused from remaining class sessions.

- D) Students are provided with a maximum of two occasions to make-up test(s). On either occasion there will be a reduction of the make-up test grade by 10 percent. Any make-up test will be scheduled at the convenience of the instructor. If an unavoidable absents is known in advance, the student may take the scheduled exam prior to its regularly scheduled time, without incurring a grade penalty.
Unannounced quizzes issued during class cannot be made-up.

GRADING CRITERIA:

See Tool and Die policy handout: Safety and Organizational Rules

Class

- test 1 100 pts unit 1
- test 2 100 pts unit 2
- test 3 200 pts unit 3
- test 4 100 pts unit 4
- test 5 100 pts unit 5
- quiz 1 20 pts acetylene torch video
- quiz 2 20 pts critical temperatures
- quiz 3 20 pts critical temperatures
- quiz 4 20 pts critical temperatures

Additional or fewer quizzes than what is listed here may be given, or the topics may be changed as the instructor feels is necessary.

Lab

Harden and temper as directed on print.

The item hardened will be assigned or approved by instructor.

- harden A-2 20 pts wrapped
- harden d-2 20 pts wrapped
- harden 0-1 20 pts oven
- harden 0-1 20 pts torch
- anneal A-2 20 pts electric
- anneal d-2 20 pts electric
- anneal 0-1 20 pts torch
- reharden A-2 20 pts wrapped
- reharden d-2 20 pts no wrap
- spark test 20 pts

The following grading scale will be used for all MFG courses:

- A = 96.00% - 100%
- A- = 94.00% - 95.99%
- B+ = 91.90% - 93.99%
- B = 89.80% - 91.89%
- B- = 87.80% - 89.79%
- C+ = 85.70% - 87.79%
- C = 81.80% - 85.69%
- C- = 79.80% - 81.79%
- D+ = 77.70% - 79.79%
- D = 74.81% - 77.69%
- D- = 72.80% - 74.80%

CLASSROOM CONDUCT: <https://go.dmacc.edu/handbook>

MISSED EXAMS: See item "D" in the attendance section

LATE ASSIGNMENTS: Late assignments must be turned in within 5 class days of the due date, or of a student's return to class.

EXTRA CREDIT: Determined by instructor

STUDY EXPECTATIONS: Some study time will be provided during class. Students are expected to spend additional study time as required to maintain the goals he or she has set.

WEATHER POLICY: Individual circumstances such as health, childcare, rural roads, distance from the College, etc. can vary greatly among students and staff. It is always DMACC's goal to provide safe learning conditions, as well as provide the opportunity for students to attend classes when the vast majority is able to safely attend. The final decision to come to College can only be made by the individual student based on their specific extenuating circumstances that may make it unsafe for them to travel. During adverse weather, DMACC faculty is considerate of students who are unable to attend classes due to unique extenuating circumstances. Notification of Campus/College closures will be sent out through the DMACC RAVE Alert System, posted to the DMACC webpage at www.dmacc.edu, and where possible sent to local media.

Click & delete row if addendum being used with weather information.

CLASS CANCELLATION PROCEDURE: Tool and Die classes are seldom cancelled unless the college is closed. If it becomes necessary to cancel a class students will be notified via their DMACC e-mail.

ACADEMIC DISHONESTY/PLAGIARISM: Cheating by copying or any electronic device will not be tolerated. See Tool & Die Syllabus Addendum and Program Policies

It is important for you to be familiar with and follow DMACC's Academic Misconduct policy. Students are encouraged to review DMACC's Academic Misconduct Policy on-line at <https://go.dmacc.edu/handbook/polprocedures/pages/academicmisconduct.aspx> or in the DMACC Student Handbook.

COURSE SPECIFIC (LAB) SAFETY PROCEDURES: See Tool & Die Syllabus Addendum and Program Policies

DMACC INFORMATION

INSTRUCTOR HOME PAGES: <http://www.dmacc.edu/instructors>

ADD/DROP DATES: https://go.dmacc.edu/registration/pages/add_drop.aspx

REFUND POLICY: <https://go.dmacc.edu/registration/Pages/refund.aspx>

SUPPORT SERVICES

SERVICES FOR STUDENTS WITH DISABILITIES:

https://go.dmacc.edu/student_services/disabilities

Any student with a documented disability who requires reasonable accommodation should contact the Disability Services Coordinator at **515-964-6850** or the counseling & advising office on any campus to apply for services.

EARLY ALERT REFERRALS

<https://www.dmacc.edu/counseling/Pages/facultyreferrals.aspx>

DMACC faculty are encouraged to help connect students to available resources at the college, including academic advising, counseling, tutoring, and more. Early Alert Referrals result in direct outreach by phone and email to students who have been referred. Students are encouraged to respond to outreach efforts and take full advantage of available resources in support of their success. Questions about this process should be directed to Bobby Nalean at 515-964-6474 or earlyalert@dmacc.edu.

COURSE SYLLABUS

DISCLAIMER: “This syllabus is representative of materials that will be covered in this class; it is not a contract between the student and the institution. It is subject to change without notice. Any potential exceptions to stated policies and requirements will be addressed on an individual basis, and only for reasons that meet specific requirements. If you have any problems related to this class, please feel free to discuss them with me.”

NONDISCRIMINATION POLICY: Des Moines Area Community College shall not engage in or allow discrimination covered by law. This includes harassment based on race, color, national origin, creed, religion, sex (including pregnancy and marital status), sexual orientation, gender identity, age, disability and genetic information. Veteran status in educational programs, activities, employment practices, or admission procedures is also included to the extent covered by law. Individuals who believe they have been discriminated against may file a complaint through the College Discrimination Complaint Procedure (ES4645). Complaint forms may be obtained from the Campus Provost's office, the Academic Dean's office, the Judicial Officer, or the EEO/AA Officer, Human Resources. For Title IX questions and concerns contact 515-964-6850.

Students who wish additional information or assistance may refer to Student Services procedure ES 4645 located at https://go.dmacc.edu/student_services/int. Click Policies & Procedures.

Employees and applicants who wish additional information or assistance may contact the **EEO/AA Officer**, Human Resources, Bldg. 1 on the Ankeny Campus, or refer to HR Procedures 3000, 3005, 3010, 3015, and 3020 at <http://www.dmacc.edu/hr/hrpp.asp>

Accommodations: The Program Development/Academic Support Services Director is the official Student Accommodation Officer/Section 504/ADA Coordinator for DMACC. The ADA Coordinator's office is located in Bldg. 6-10E on the Ankeny Campus and may be contacted by voice (515-964-6857). The ADA Coordinator is responsible for ensuring that the college complies with federal regulations that guarantee qualified students with disabilities equal access to all programs and services. Any student, faculty, or staff member may contact the ADA Coordinator's office for clarification of federal regulations, appeal of a grievance, or resolution of a disability-related problem.

SYLLABUS ADDENDUM

To access additional information related to DMACC policies and procedures that impact the classroom (i.e. use of technology, weather-related cancellations, classroom conduct, etc.), the DMACC student handbook, registration information (including add/drop dates and refund dates), student service information (including counseling and advising), the DMACC academic calendar, and campus-specific resources (i.e. Academic Achievement Center, library, computer, labs, etc.), go to <https://go.dmacc.edu/handbook> and click “Syllabus Addendum” in the left navigation.

If you do not have access to a computer and need a printed version of any of the information described above, contact your instructor.

COURSE SCHEDULE		
Week or Date	Assignment	Due Date
Week 1	Section D unit 1	End of course
Week 2		
Week 3		
Week 4	Section D unit 2	End of course
Week 5		
Week 6	Section D unit 3	End of course
Week 7		
Week 8	Section D unit 4	End of course
Week 9		
Week 10	Section D unit 5	End of course
Week 11		
Week 12	Hardening	End of course
Week 13	annealing	End of course
Week 14	Re-hardening	End of course
Week 15	Spark test	End of course

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