COURSE DESCRIPTION
Introduction to metal manufacturing processes; casting, forging, rolling, extrusion, drawing, sheet metal forming, cutting tools turning and milling operations, abrasive machining, welding and joining.

Learning Objectives
1. To learn about the structure of metals
2. To understand mechanical behavior, testing, and manufacturing properties of Materials
3. To learn about physical properties of materials
4. To learn about fundamentals of metal casting
5. To learn about rolling of metals
6. To learn about forging of metals
7. To learn about extrusion and drawing of metals
8. To learn about fundamentals of machining
9. To learn about cutting-tools materials and cutting fluids
10. To learn about abrasive machining and finishing operation
11. To learn about fusion-welding processes

Major Course Requirements

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>20%</td>
</tr>
<tr>
<td>Test 1</td>
<td>15%</td>
</tr>
<tr>
<td>Test 2</td>
<td>15%</td>
</tr>
<tr>
<td>Project</td>
<td>20%</td>
</tr>
<tr>
<td>Final</td>
<td>30%</td>
</tr>
<tr>
<td>Total (100%)</td>
<td></td>
</tr>
</tbody>
</table>

Required or Recommended Readings

Textbook: Manufacturing Engineering and Technology, Seventh Ed. By Serope Kalpakjian, Steven R. Schmid

Academic Integrity/Plagiarism

University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, falsification, forgery, complicity or plagiarism. (Plagiarism is the presentation of the work of another
as one’s own work.) In this class, academic misconduct or complicity in an act of academic misconduct on an assignment or test will result in academic penalty, up to and including expulsion.

**Dropping a Class**

I hope that you never find it necessary to drop this or any other class. However, events can sometimes occur that make dropping a course necessary or wise. Please consult with me before you decide to drop to be sure it is the best thing to do. Should dropping the course be the best course of action, you must initiate the process to drop the course by going to the Student Services Center and filling out a course drop form. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. November 7 is the last day to drop a class with an automatic grade of “W” this term.

**Classroom/professional behavior**

Texas A&M University-Corpus Christi, as an academic community, requires that each individual respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor’s ability to conduct the class or (b) the ability of other students to profit from the instructional program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom. This prohibition applies to all instructional forums, including classrooms, electronic classrooms, labs, discussion groups, field trips, etc.

**Statement of Civility (can be in place of classroom/professional behavior)**

Texas A&M University-Corpus Christi has a diverse student population that represents the population of the state. Our goal is to provide you with a high quality educational experience that is free from repression. You are responsible for following the rules of the University, city, state and federal government. We expect that you will behave in a manner that is dignified, respectful and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation or disability. Behaviors that infringe on the rights of another individual will not be tolerated.

**Grade Appeals (College of Science and Engineering Version)**

As stated in University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at
http://www.tamucc.edu/provost/university_rules/index.html, and the College of Science and Engineering Grade Appeals webpage (http://sci.tamucc.edu/students/GradeAppeal.html). For assistance and/or guidance in the grade appeal process, students may contact the chair or director of the appropriate department or school, the Office of the College of Science and Engineering Dean, or the Office of the Provost.

Disabilities Accommodations

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please call or visit Disability Services at (361) 825-5816 in Corpus Christi Hall 116.

If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.

Statement of Academic Continuity

In the event of an unforeseen adverse event, such as a major hurricane and classes could not be held on the campus of Texas A&M University–Corpus Christi; this course would continue through the use of Blackboard and/or email. In addition, the syllabus and class activities may be modified to allow continuation of the course. Ideally, University facilities (i.e., emails, web sites, and Blackboard) will be operational within two days of the closing of the physical campus. However, students need to make certain that the course instructor has a primary and a secondary means of contacting each student.
# Syllabus

1. Manufacturing Engineering (8/28)
2. The Structure of Metals (9/2)
3. Mechanical Behavior, Testing, and Manufacturing properties of Materials (9/9)
4. Physical Properties of Materials (9/16)
5. Metal Alloys (9/23 no class, 9/25)
6. Fundamentals of Metal Casting (10/2)
7. Midterm Exam #1 (10/7)
8. Rolling of Metals (10/9)
9. Forging of Metals (10/16)
10. Fundamentals of Machining (10/23, No class 10/29)
11. Midterm Exam #2 (11/4)
12. Group technology and Cellular manufacturing (11/6)
13. Production planning and control (11/13)
14. Lab Work (11/20, as available)
15. Final Exam (12/4 1:45 to 4:15)