Course Description
A survey of the latest manufacturing processes that are used in order to produce products that cannot be produced with conventional manufacturing processes. Processes covered will include, non-traditional machining methods, abrasive machining, advanced casting methods, specialized welding methods, and other high-end processes used in manufacturing industries.

Lecture Notes
A copy of the lecture notes is required and can be downloaded off of Blackboard from the course’s site.

Textbook (Required)

Student Learner Outcomes:
At the end of this course, participants will be able to:
1. Identify appropriate welding processes for a variety of materials and uses by successfully passing quizzes and exams with a 70% or better.
2. Calculate material removal rates for milling machines, lathes and drills.
3. Identify appropriate casting processes for manufacturing various items by successfully passing quizzes and exams with a 70% or better.
4. Identify nontraditional and traditional machining processes by successfully passing quizzes and exams with a 70% or better.

Course Competencies
1. Computer-Based Skills – the student will complete written assignments using the word processor.
2. Communication Skills – the student will exhibit a mastery of both written and oral skills in completion and presentation of the assigned projects.
3. Interpersonal Skills – the student will interact in class discussion to clarify thinking regarding technological progress.
4. Problem Solving (Critical Thinking) – the student will use conceptual thinking to analyze and make determinations regarding the use of industrial processing equipment.
5. Ethical Issues in Decision Making and Behavior- the student will gain an appreciation of the ethics of technology through examination of various processing.

6. Personal Accountability for Achievement – the student will complete the projects at the time designated by the instructor and will enter into class discussion.

7. Competence in Technology Principles
   a. Competence in major field and grounding in other major technology major core areas – the student will gain an appreciation of the benefits and problems of technological growth.
   b. Exposure to and appreciation for industrial experiences such as industrial tours, work-study options and cooperative education, senior seminars – Optional plant tours will be offered.

**Course Requirements**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Points</th>
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<tbody>
<tr>
<td>Daily Quizzes</td>
<td>200</td>
</tr>
<tr>
<td>Presentation/Paper</td>
<td>100</td>
</tr>
<tr>
<td>Midterm exam</td>
<td>200</td>
</tr>
<tr>
<td>Class Participation/Assignments</td>
<td>200</td>
</tr>
<tr>
<td>Final Exam</td>
<td>300</td>
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</tbody>
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**TOTAL POINTS = 1000**

*NOTE: This is NOT set in stone, pending the number of quizzes given, etc.*

**Grade Scale Breakdown:**

- A=90 - 100%
- B=80 - 89%
- C=70 - 79%
- D=60 - 69%
- F=BELOW 60%    Note: 89.9999999999999999 is still a B.

**Course Policies:**

Content for examinations will be taken from lectures, demonstrations, reading assignments, laboratory exercises and any audio-visual materials used, i.e. films, tapes, slides, etc.

Make up examinations are the student's responsibility. **No excuses will be accepted after the exam is given.** The instructor must be notified prior to the scheduled exam. If not, the student forfeits his/her right to take the exam. **Quizzes will not be made up unless a prior acceptable excuse for an absence has been received by the instructor.**

**Late Work:**

All work not turned in on time will have an automatic reduction in value to 50% of its full value. **Work that is not turned in by the next class will NOT be accepted.** Exceptions to this will be as per University Policy concerning absences from class. If you know an assignment will be late for a valid reason, inform your instructor in advance to avoid unnecessary penalty.

**Format for Reports:**

Each assignment will be arranged such that the reader can easily examine the contents. Any materials that are hard to read or require special handling to get at will not be graded. The cover page must contain the following:
 Discrimination:  
The policy of this department is to make your college experience as pleasant as possible. However, if at any time you feel that you are being discriminated against, belittled, or not treated appropriately, please notify the instructor either anonymously or in-person immediately after class. It is not the intention of any of the faculty in this department to make your college experience an unpleasant one. Remember, the first step in the process is to inform the instructor so s/he can be made aware of the problem and take corrective action. If the problem continues to persist, please inform the chair of the department. The dean can then be notified if the problem continues to exist after a few days. A grievance can then be filed in the Office of Student Services if there has still been no change in the instructor’s behavior. It should be noted that filing a grievance is a serious act and should NOT be done so just because you received a bad grade on an exam or in the course. Communication is an effective tool to solve problems and is rarely used enough. Most people are not deliberately trying to upset you, they are just not aware of your vantage point.

Offensive Language:  
Any type of offensive language will not be tolerated in the classroom or laboratory or online. How you speak to your friends outside the classroom is your business, however, when you are in the classroom you must follow the University of Texas rules of conduct. You will be asked to leave if your language or conduct is offensive.

A copy of the textbook is required and can be purchased at the university book store or online. (903) 566-7070. Open 8am-5 pm.

Required Activities Scheduled Outside of Regularly-Scheduled Class time (fees, tickets, procedures and/or forms required):  
Read textbook, review notes, and complete assignments.

Department Website:  http://www.utttyler.edu/cbt/hrd/tech/

Commencement:  Saturday, December 14, 2013 at 10:00 am

Holidays:  None
Students Rights and Responsibilities
To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please follow this link:
http://www.uttyler.edu/wellness/StudentRightsandResponsibilities.html

Grade Replacement/Forgiveness
If you are repeating this course for a grade replacement, you must file an intent to receive grade forgiveness with the registrar by the 12th day of class. Failure to do so will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates will receive grade forgiveness (grade replacement) for only three course repeats; graduates, for two course repeats during his/her career at UT Tyler.

State-Mandated Course Drop Policy
Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the 12th day of class (See Schedule of Classes for the specific date).
Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Registrar's Office and must be accompanied by documentation of the extenuating circumstance. Please contact the Registrar's Office if you have any questions.

DISABILITY STATEMENT
"If you have a disability, including a learning disability, for which you request disability support services/accommodation(s), please contact Ida MacDonald in the Disability Services office so that the appropriate arrangements may be made. In accordance with federal law, a student requesting disability services/accommodation(s) must provide appropriate documentation of his/her disability to the Disability Services counselor. In order to assure approved services the first week of class, diagnostic, prognostic, and prescriptive information should be received 30 days prior to the beginning of the semester services are requested. For more information, call or visit Disability Services located in the University Center, Room 3150. The telephone number is (903) 566-7079. Additional information may also be obtained at the following UT Tyler Web address: http://www.uttyler.edu/disabilityservices

Student Absence due to Religious Observance
Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second class meeting of the semester.

Student Absence for University-Sponsored Events and Activities
If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor) must notify the instructor at least two weeks prior to the date of the planned absence. At that time the instructor will set a date and time when make-up assignments will be completed.

Social Security and FERPA Statement:
It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.
**Emergency Exits and Evacuation:**
Everyone is required to exit the building when a fire alarm goes off. Follow your instructor’s directions regarding the appropriate exit. If you require assistance during an evacuation, inform your instructor in the first week of class. Do NOT re-enter the building unless given permission by University Police, Fire department, or Fire Prevention Services.

**Academic Dishonesty Statement**
"Academic dishonesty, such as unauthorized collusion, plagiarism and cheating, as outlined in the Handbook of Operating Procedures, University of Texas at Tyler, will not be tolerated. University regulations require the instructor to report all suspected cases of academic dishonesty to the Dean of Students for disciplinary action. In the event disciplinary measures are imposed on the student, it becomes part of the students’ official school records. Also, please note that the handbook obligates you to report all observed cases of academic dishonesty to the instructor.

**Tentative Schedule**

**WEEK 1**
- COURSE DESCRIPTION AND POLICIES
- WELDING OVERVIEW AND SMAW, GMAW, FCAW, AND GTAW

**WEEK 2**
- SAW, PAW, RW, AND ESW, SW, OAW, AND CUTTING
- METAL FORMING, METAL FORMING, COLD WORKING
- CASTING

**WEEK 3**
- MIDTERM/EXAM 1
- METAL FORMING, METAL FORMING, COLD WORKING

**WEEK 4**
- ABRASIVE MACHINING
- NTM

**WEEK 5**
- SURFACE FINISHES & CATCH UP FOR FINAL EXAM
- REVIEW FOR FINAL EXAM
- FINAL EXAM: August 9, 2013 – Online exam opens at 8 am and closes at midnight

**NOTE:** Assignments will be sent via university email so please check your Patriots email throughout the semester.

**Date of Final Exam:** Friday, August 9, 2013 – online exam open from 8 am until midnight

**Date to Withdraw without Penalty:** Thursday, July 25, 2013.