



The University of Texas at Tyler

Soules College of Business
Department of Technology

Manufacturing Processes Course Syllabus

Course: TECH 3311
Title: Manufacturing Processes
Section: .001
Semester: **Fall 2019**
Class Time: TH 6-8:45pm
Classroom: COB 162

Instructor: Mrs. RaeJean Griffin, MS
Office: COB 350.36
Office Hours: Tu/Th – 2:00pm-3:30pm
Other Availability: By appointment
Phone Number: 903-565-5585
Email: rgriffin@uttyler.edu

Course Description

Study of manufacturing related to materials processing. Students will be required to use various manufacturing processes in laboratory assignments.

Student Learning Outcomes

1. Students will demonstrate a thorough understanding of the manufacturing field by successfully passing parts of quizzes and exams related to that topic.
2. Students will demonstrate safe working habits by passing a safety quiz with a grade of 80% or higher and by working in the laboratory without incident.
3. Students will demonstrate familiarity with processing equipment by manufacturing a project according to the required specifications.
4. Students will become familiar with industrial materials used for manufacturing products by successfully completing a project to the required specifications.

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 manufacturing processes.
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 technology behind how things are manufactured by studying the manufacturing processes and by using industrial manufacturing equipment.

- b. Exposure to and appreciation for industrial experiences such as industrial tours, work-study options and cooperative education, senior seminars – Students use processing equipment found in industry.

Lecture Notes:

A copy of the supplementary lecture notes is required and can be downloaded off of Canvas from the course's site.

Textbook (Required):

J. Barry Duvall and David R. Hillis (2012). Manufacturing Processes: Materials, Productivity, and Lean Strategies (3rd ed.). Tinley Park, IL: Goodheart-Willcox. ISBN: 978-1-60525-569-9

Course Requirements:

| | |
|--------------------------------|------------|
| Daily Quizzes | 200 |
| Assignments | 200 |
| Projects | 200 |
| Midterm exam | 100 |
| Class participation/Attendance | 100 |
| <u>Final Exam</u> | <u>200</u> |

TOTAL POINTS = 1000

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

Grade Scale Breakdown:

- A=90 - 100%
- B=80 - 89%
- C=70 - 79%
- D=60 - 69%
- F=BELOW 60%

Course Policies:

Attendance:

Attendance is mandatory and will be taken at every scheduled class and laboratory period. No make-ups unless:

1. Organized university trip.
2. Illness or death in **immediate** family (mother, father, brother and/or sister).
3. Illness of student.

Each one of these will require either a **doctor's statement** or a **signed** statement from the individual in charge of the trip.

A student will lose a letter grade in the course each time s/he is absent or late 3 times. Any student entering the classroom 1 second after the scheduled starting time will be considered late.

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.

Exams:

Content for examinations will be taken from lectures, demonstrations, quizzes, reading and writing assignments, laboratory exercises and any audio-visual materials used, i.e. films, tapes, slides, etc. **Cell phones, laptop, iPad or other electronic communication equipment besides a calculator are not allowed to use during the exam.** First violation will receive warning, and the second violation will result forfeits his/her right to take the exam.

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. However, make-up exams will be on a different set of questions. Quizzes and assignments will not be made up unless a **prior acceptable excuse for an absence has been received by the instructor.**

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:

1. **Assignment Title and Chapter Number** bolded
2. Your Name: Prepared by Joe Student
3. Your University I.D Number
4. Course Name and Number
5. The Date
6. Submitted to Mrs. RaeJean Griffin

Your grade will reflect the quality of the presentation/paper.

Lecture/Laboratory Materials:

Students will be required to provide the following:

1. ASTM or OSHA approved safety glasses
2. Notebook and paper to take notes
3. Lecture notes packet is available at the course site on Canvas
4. Pen and pencil
5. Hearing protection
6. 3 - Scranton's (Exam type) #882-ES
7. Textbook

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 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. 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.**

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.uttyler.edu/cbt/hrd/tech/>

Commencement: Saturday, December 14th @ 1:00 pm, be there by 12:00 at the latest

Holidays: Thanksgiving, Nov 25th-29th

UT Tyler Honor Code

Every member of the UT Tyler community joins together to embrace: Honor and integrity that will not allow me to lie, cheat, or steal, nor to accept the actions of those who do.

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/rightsresponsibilities.php>

Campus Carry

We respect the right and privacy of students 21 and over who are duly licensed to carry concealed weapons in this class. License holders are expected to behave responsibly and keep a handgun secure and concealed. More information is available at

<http://www.uttyler.edu/about/campus-carry/index.php>

UT Tyler a Tobacco-Free University

All forms of tobacco will not be permitted on the UT Tyler main campus, branch campuses, and any property owned by UT Tyler. This applies to all members of the

University community, including students, faculty, staff, University affiliates, contractors, and visitors.

Forms of tobacco not permitted include cigarettes, cigars, pipes, water pipes (hookah), bidis, kreteks, electronic cigarettes, smokeless tobacco, snuff, chewing tobacco, and all other tobacco products.

There are several cessation programs available to students looking to quit smoking, including counseling, quitlines, and group support. For more information on cessation programs please visit www.uttyler.edu/tobacco-free.

Grade Replacement/Forgiveness and Census Date Policies

Students repeating a course for grade forgiveness (grade replacement) must file a Grade Replacement Contract with the Enrollment Services Center (ADM 230) on or before the Census Date of the semester in which the course will be repeated. (For Fall, the Census Date is Sept. 12.) Grade Replacement Contracts are available in the Enrollment Services Center or at <http://www.uttyler.edu/registrar>. Each semester's Census Date can be found on the Contract itself, on the Academic Calendar, or in the information pamphlets published each semester by the Office of the Registrar. Failure to file a Grade Replacement Contract will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates are eligible to exercise grade replacement for only three course repeats during their career at UT Tyler; graduates are eligible for two grade replacements. Full policy details are printed on each Grade Replacement Contract.

The Census Date (Sept. 12th) is the deadline for many forms and enrollment actions of which students need to be aware. These include:

- Submitting Grade Replacement Contracts, Transient Forms, requests to withhold directory information, approvals for taking courses as Audit, Pass/Fail or Credit/No Credit.
- Receiving 100% refunds for partial withdrawals. (There is no refund for these after the Census Date)
- Schedule adjustments (section changes, adding a new class, dropping without a "W" grade)
- Being reinstated or re-enrolled in classes after being dropped for non-payment
- Completing the process for tuition exemptions or waivers through Financial Aid

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 census date (See Academic Calendar for the specific date). Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Enrollment Services Center and must be accompanied by documentation of the extenuating circumstance. Please contact the Enrollment Services Center if you have any questions.

Disability/Accessibility Services

In accordance with Section 504 of the Rehabilitation Act, Americans with Disabilities Act (ADA) and the ADA Amendments Act (ADAAA) the University offers accommodations to students with learning, physical and/or psychological disabilities. If you have a disability,

including non-visible a disability diagnosis such as a chronic disease, learning disorder, head injury or ADHD, or you have a history of modifications or accommodations in a previous educational environment you are encouraged to contact the Student Accessibility and Resources office and schedule an interview with an Accessibility Case Manager. If you are unsure if the above criteria applies to you, but have questions or concerns please contact the SAR office. For more information or to set up an appointment please visit the SAR webpage (<http://www.uttyler.edu/disabilityservices/>) or the SAR office located in the University Center, Room 3150 or call 903.566.7079. You may also send an email to saroffice@uttyler.edu.

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. Revised 09/16

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.

Student Standards of Academic Conduct

Disciplinary proceedings may be initiated against any student who engages in scholastic dishonesty, including, but not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

i. "Cheating" includes, but is not limited to:

- copying from another student's test paper;
- using, during a test, materials not authorized by the person giving the test;
- failure to comply with instructions given by the person administering the test;

- possession during a test of materials which are not authorized by the person giving the test, such as class notes or specifically designed “crib notes”. The presence of textbooks constitutes a violation if they have been specifically prohibited by the person administering the test;
- using, buying, stealing, transporting, or soliciting in whole or part the contents of an unadministered test, test key, homework solution, or computer program;
- collaborating with or seeking aid from another student during a test or other assignment without authority;
- discussing the contents of an examination with another student who will take the examination;
- divulging the contents of an examination, for the purpose of preserving questions for use by another, when the instructors has designated that the examination is not to be removed from the examination room or not to be returned or to be kept by the student;
- substituting for another person, or permitting another person to substitute for oneself to take a course, a test, or any course-related assignment;
- paying or offering money or other valuable thing to, or coercing another person to obtain an unadministered test, test key, homework solution, or computer program or information about an unadministered test, test key, home solution or computer program;
- falsifying research data, laboratory reports, and/or other academic work offered for credit;
- taking, keeping, misplacing, or damaging the property of The University of Texas at Tyler, or of another, if the student knows or reasonably should know that an unfair academic advantage would be gained by such conduct; and
- misrepresenting facts, including providing false grades or resumes, for the purpose of obtaining an academic or financial benefit or injuring another student academically or financially.

ii. “Plagiarism” includes, but is not limited to, the appropriation, buying, receiving as a gift, or obtaining by any means another’s work and the submission of it as one’s own academic work offered for credit.

iii. “Collusion” includes, but is not limited to, the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any section of the rules on scholastic dishonesty.

iv. All written work that is submitted will be subject to review by SafeAssign™, available on Canvas.

UT Tyler Resources for Students:

- UT Tyler Writing Center (903.565.5995), writingcenter@uttyler.edu
- UT Tyler Tutoring Center (903.565.5964), tutoring@uttyler.edu
- The Mathematics Learning Center, RBN 4021, this is the open access computer lab for math students, with tutors on duty to assist students who are enrolled in early-career courses.

Tentative Schedule

August

Administrative concerns, about the course, assignments
Introduction to manufacturing
Major material families, forming, separating, fabricating, conditioning, finishing,
Types of production, lean manufacturing
Planning for production, Total Quality Management, Just-in-time manufacturing,
Simultaneous engineering, design for assembly, design for manufacturing
Manual assembly model, process flow charts, PERT charts, Critical Path Method

September

Safety
Introduction to nonmetallic materials, lumber and wood technology, fasteners, adhesives
Processing nonmetallic materials with table saw, router, miter saw, combination sander,
band saw, drill press, planer, jointer, mortise, shaper, lathe, panel saw, and radial arm saw
Finishing and conditioning wood materials, spray equipment, staining, RF dielectric
heating, wood plastic composition, impreg and compreg, acetylated wood, plasticized
wood, staypack, pressure treated lumber, polyethylene glycol, dip coating, roller coating,
tumbling, varnishes, lacquers, latex and oil based paints
Lab activities

Midterm Exam

October

Introduction to composite materials, advantages and disadvantages, carbon fiber, layered
composites, particulate composites, laminar composites, autoclave molding, pressure roll
forming, liquid infiltration, plasma arc spraying, chemical vapor deposition, filament
winding
Processing composite materials, diamond wire sawing, dicing, water jet cutting, lasers,
ultrasonic machining, finishing composite materials
Lab activities

November

Introduction to ceramic materials, advantages and disadvantages, binders, lubricants,
slurry Processing of ceramic materials, dry pressing, dust pressing, wet pressing, hot
pressing, throwing, jiggering, jollying, extrusion, slip casting, drawing, float glass
processing, glass blowing,
Fabricating and assembly with ceramic materials

November – December

Lab activities and finishing foosball table project
Review for final

NOTE: Additional instructions on how to complete quizzes, assignments, term
paper/projects, exams and submission requirements will be available in the Canvas, so
please check your Canvas dashboard, course calendar every-other-day (if possible)
throughout the semester.

Date of Final Exam: Thursday December 12th – 6:00 pm – 8:00 pm.

Last Date to Withdraw from course(s): November 4, 2019.

Census Date and Policies: Refer to the respective section above.