



**UTTyler**  
THE UNIVERSITY OF TEXAS AT TYLER

**The University of Texas at Tyler**  
*Soules College of Business*  
*Department of Technology*



## **TECH 4323 – LEAN PRODUCTION**

### **Course Syllabus**

Course: TECH 4323

Title: Lean Production

Section: 030

Pre-requisite: None

Semester: Fall 2024

Class Time: Mon 6:00 pm - 8:45 pm

Class Location: UT Tyler-KC Longview LH 227

Instructor: Mohammed Ali, PhD, MBA, CSMS

Office: UT Tyler-KC Longview, LH 230C

Phone: (903) 236-2040

Email: mohammedali@uttyler.edu

Preferred Method of Contact: email

Office Hours: TR 2:00 – 5:00 pm

and by appointment

### **Course Description**

Applications of metal materials processing with an emphasis on lean manufacturing tools for reducing waste and streamlining production.

### **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 (3<sup>rd</sup> ed.). Tinley Park, IL: Goodheart-Willcox. ISBN: 978-1-60525-569-9

### **Course Objectives**

At the end of this course, participants will be able to:

1. Explore the fundamental concepts of lean manufacturing.
2. Develop safe working habits.
3. Become familiar with processing equipment for metallic materials.
4. Develop skills working with metal processing equipment.
5. Investigate metallic materials, specifications, tools, and hardware.

### **Student Learner Outcomes:**

At the end of this course, participants will be able to:

1. Apply a thorough understanding machine tool technology by successfully manufacturing a class project to specified dimensions.
2. Demonstrate the understandings of sheet metal fabrication by successfully completing a project to required specifications.
3. Demonstrate fundamental knowledges of the metalworking production industry by earning passing scores on exams and quizzes.
4. Develop awareness of safety issues and practices by passing a safety quiz with a grade of 80% or higher and by working in the laboratory without incident.

### **Course Competencies**

1. Computer-Based Skills – the student will complete written assignments using the word processor.
2. Communication Skills—The student will exhibit mastery of both written and oral skills in completing and presenting the assigned projects.
3. Interpersonal Skills – the student will interact in class discussions 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 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, and senior seminars – Optional plant tours will be offered.

### **Grading Policy and Criteria to Determine Final Course Grade:**

Grading components are assigned weights\*

Daily Quizzes	200
Assignments	100
Projects	200
Midterm exam	200
Class participation/Attendance	100
Final Exam	200

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.

### **Talking:**

While the instructor is talking (in a face-to-face class), it is understood that no one should be talking. Students talking in class prevent other students from hearing the instructor and learning the material that is required to pass the course. If you are caught talking, then you **will earn a zero on your daily quiz grade**. On the second offense, you will be **asked to leave**. This behavior is rude and disruptive and most students who talk in class typically earn lower grades. It should be noted that students who have been granted permission to talk by the instructor should not be interrupted as well. For any reason, if a student does not like to listen to the lecture or any personal issue arises, he/she can leave the classroom gently but is NOT allowed to disturb or distract the classmates. Please respect your fellow classmates who have paid for this course and want to listen to the lecture and learn the content.

### **Chapter Quizzes and Exams:**

Chapter lectures will follow up with online quizzes. Exam content will be taken from lectures, demonstrations, quizzes, reading and writing assignments, laboratory exercises (if any), and any audio-visual materials used, i.e., films, tapes, slides, etc. **Cell phones, laptops, iPads, or other electronic communication equipment besides a calculator are not allowed during the exam.** The first violation will receive a warning, and the second violation will result in his/her right to take the exam.

Make up quizzes and examinations are the student's responsibility. **No excuses will be accepted after the due date is passed.** 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 the instructor has received a prior acceptable excuse for an absence.*

### **Late Work:**

All work **not turned in on time will automatically reduce the value to 50% of its full value.** Exceptions to this will be as per University Policy concerning absences from class. It is the student's responsibility to take the quizzes and submit assignments by the due date or the date administered them. **The instructor is NOT responsible for reminding a student about missed quizzes, assignments, or exams.** If you know a quiz/assignment/exam will be late for a valid reason, inform your instructor in advance to avoid unnecessary penalties.

### **Format for Lab Exercise Assignment Reports:**

Each assignment is expected to be written in such a way that the reader can easily examine the contents. 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 Dr. Mohammed Ali

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

### **Cell Phones:**

Cell phones are to be seen and not heard. Make sure you turn off your cell phone during class or turn it to the vibrator mode. A ringing cell phone is a distraction and is inappropriate for the classroom. Allowing your cell phone to ring and then answering it is very rude. It is not fair to your fellow classmates who have paid for this course. **Please be considerate and make sure your cell phone is turned off during any of your classes. Students will be asked to leave for the day if this behavior continues.**

### **Additional Course Management and Classroom Policies:**

1. No retakes of quizzes or exams for "technical difficulties or internet interruptions." Get reliable technology or use the campus resources with Ethernet cabling, NOT Wi-Fi.
2. There are no excuses for leaving the country and missing final exams or presentations in class. A zero will be given for these and any other assignments.
3. No telephone usage of any kind in the classroom - texting, talking, social media..... You will be asked to leave the classroom and counted as absent for the day and NOT allowed to make up any assignments, quizzes, etc.
4. Talking during class while the professor is talking, a guest speaker or student presentations will be penalized - No class participation points - up to 25% of the overall score.
5. If a student is more than 5 minutes late without an excuse, it is an absence. Three absences automatically reduce a letter grade in the class.

### **Tentative Schedule**

#### **August**

Administrative concerns about the course, assignments  
Introduction to engineering metrology  
Lathe and Milling Machines

#### **September**

Hole-making and threading  
Tooling and cutting theory  
Straight and contour cutting  
Lab activities

#### **October**

Micrometers and Verniers  
Refining metals  
Classification of metals

#### **Midterm Exam**

Lab activities

#### **November**

Nonferrous metals  
Sheet metal  
Fasteners  
Abrasives

#### **December**

Heat treating

Lean philosophies  
Lab activities  
Review for final

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

**Date of Final Exam:** Monday, Dec 9, 2024 – 6:00 pm – 8:00 pm.

**Last Date to Withdraw from course(s):** Monday, November 4, 2024.

**Census Date and Policies:** Refer to the respective section below.

### **COVID Guidance**

- ***Information for Classrooms and Laboratories:*** Taking the necessary precautions to ensure a healthy and successful year is important. UT Tyler continues to urge you to protect yourselves against the flu, COVID, and any new threats that may be developing. Be diligent about preventive measures such as washing hands, covering sneezes/coughs, social distancing, and vaccinations, which have succeeded in slowing the spread of viruses. Encourage those who don't feel well to stay home, and if they show symptoms, ask them to get tested for the flu or COVID. Self-isolation is important to reduce exposure ([CDC quarantine/isolation guidelines \(Links to an external site.\)](#)). Please work with your faculty members to maintain coursework and please consult [existing campus resources \(Links to an external site.\)](#) for support.

### **Technology Access:**

This is a face-to-face and some online course and will require reliable technology. Required technology includes:

#### **Hardware:**

- Desktop or laptop computer with internet access.
  - Note: if your internet connection is down, it is your responsibility to gain access to avenues such as the UTT computer lab (located BEP249 or HPR 134) and a public library to complete and submit your work on time.
- A camera, microphone, and sound speakers.

#### **Software:**

- A current operating system (Microsoft or Apple)
- A web browser (Internet Explorer, Chrome, Safari, Firefox, etc.)
- Access to Canvas and Patriot mail. Note: Google Chrome does not support JAVA. Do not use it for Soft Chalk lessons.
- Microsoft Office (Available at no charge to the student at <https://www.uttyler.edu/it/office365/proplus.php>)
- Note: Do NOT use Google Docs for writing assignments
- Also standard plug-ins such as Java, Flash, QuickTime, Adobe Reader, or another FDF reader such as Preview on the Mac.
- Other software, as noted in each module such as E-Portfolio

**Technical Support:**

Technology-related problems (e.g., Patriot email, Canvas, access problem to the myUTTyler, etc.) can often be solved by calling the UT Tyler Information Technology Hotline (903) 565-5555 x2 or by emailing them at [itsupport@patriots.uttyler.edu](mailto:itsupport@patriots.uttyler.edu). In your email, be sure to include:

- The title and number of the course
- The Canvas page in the question
- A description and message number for any error message that you receive
- What were you doing at the time you got an error message

**Discrimination:**

The policy of this department is to make your college experience as pleasant as possible. However, if you feel that you are being discriminated against, belittled, or not treated appropriately, please notify the instructor 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 unpleasant. Remember, the first step in the process is to inform the instructor so s/he can be 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 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 unaware of your vantage point.

**Offensive Language:**

Any offensive language will not be tolerated in the classroom, 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.**

**Required Activities Scheduled Outside of Regularly-Scheduled Class time (fees, tickets, procedures, and/or forms required):**

Read the textbook, review notes, and complete assignments.

**Department Website:** <https://www.uttyler.edu/soules-college-of-business/technology/>

**Commencement:** Friday-Saturday, December 13-14, 2024

**Holidays:** Thanksgiving Holidays November 24-30, 2024

**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>

## Artificial Intelligence Use Policy

UT Tyler is committed to exploring and using artificial intelligence (AI) tools appropriate for the discipline and task undertaken. We encourage discussing AI tools' ethical, societal, philosophical, and disciplinary implications. All uses of AI should be acknowledged as this aligns with our commitment to honor and integrity, as noted in UT Tyler's Honor Code. Students must not use protected information, data, or copyrighted materials when using any AI tool. Additionally, users should be aware that AI tools rely on predictive models to generate content that may appear correct but is sometimes shown to be incomplete, inaccurate, taken without attribution from other sources, and/or biased. Consequently, an AI tool should not be considered a substitute for traditional research approaches. You are ultimately responsible for the quality and content of the information you submit. Misusing AI tools that violate the guidelines specified for this course is considered a breach of academic integrity. The student will be subject to disciplinary actions as outlined in UT Tyler's Academic Integrity Policy.

I expect all work students submit for this course to be their own. I have carefully designed all assignments and class activities to support your learning. Doing your own work, without human or artificial intelligence assistance, is best for your efforts in mastering course learning objectives. For this course, **I expressly forbid using ChatGPT or any other artificial intelligence (AI) tools for any stages of the work process, including brainstorming.** Deviations from these guidelines will be considered a violation of UT Tyler's Honor Code and academic honesty values.

## 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>

## Tobacco-Free University

All forms of tobacco will not be permitted in the UT Tyler 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 <http://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 Spring, the Census Date is Jan 25) 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 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, and 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 get in touch with 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 of Tyler at Texas offers accommodations to students with learning, physical and/or psychological disabilities. Suppose you have a disability, including a non-visible diagnosis such as a learning disorder, chronic illness, TBI, PTSD, or ADHD, or you have a history of modifications or accommodations in a previous educational environment. In that case, you are encouraged to visit <https://hood.accessiblelearning.com/UTTyler> and fill out the New Student application. The Student Accessibility and Resources (SAR) office will contact you when your application has been submitted and an appointment with an Accessibility Case Manager. For more information, including filling out an application for services, please visit the SAR webpage at <http://www.uttyler.edu/disabilityservices>, the SAR office located in the University Center, # 3150 or call 903.566.7079.

### **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.

**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](mailto:writingcenter@uttyler.edu), <http://www.uttyler.edu/writingcenter/>
- UT Tyler Tutoring Center (903.565.5964), [tutoring@uttyler.edu](mailto:tutoring@uttyler.edu), <https://www.uttyler.edu/tutoring/>
- 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.
- UT Tyler Counseling Center (903.566.7254) <https://www.uttyler.edu/counseling/>

**Note: The instructor reserves the right to modify this syllabus. However, Canvas course's Syllabus link will have the most updated syllabus at any point of the semester.**