



# Manufacturing Technology

## TECH 3133

### Spring 2022



**Name of the Instructor:** Dr. Ali Elmozughi  
**Email:** ali.elmozughi@msutexas.edu  
**Office Location:**  
**Office Hours:** Online  
**Office Phone :** 484-633-0598

**Course Dates:** Jan 10 – April 30  
**Course Credits:** 3

## Introduction

Hello everyone. I am Dr. Ali Elmozughi and I will be your professor for Manufacturing Technology- TECH 3133.

Manufacturing Technology is a complete web or online course, which is conducted in D2L learning management system (LMS). Along with the recommended text, online lectures, which are summarized elaborations of the text, sample papers and additional reading on subject matter is encouraged. This aids in the completion of homework assignments, projects or group work that I would assign at the end of each chapter. Completed homework should be submitted in the specified drop-box as stipulated. Discussions will be posed from time to time, to ensure that the learning process remain as interactive as possible. Late work is not accepted.

If you have any questions, queries or concerns, feel free to contact me via email. I will be more than willing to help.

## Course Description

**Course Prerequisites:** Sophomore standing or the consent of the instructor.

**Course Catalog Description:** This course is a study of survey of manufacturing processes for metals and polymers. Students will learn about selecting the appropriate manufacturing processes, major

processing actions, design for manufacturability, types of automation, physical and mechanical properties of metals, advantage of plastics, classifications of wood, ceramics, and composites, and reasons for packaging.

**Overview of the course:**

**Purpose:** This course is a study of the problems involved in developing an integrative manufacturing program for an industrial or commercial establishment.

**Objectives/outcomes:** Managers, technical personnel, and engineers must be knowledgeable about Manufacturing and be prepared to oversee a corporate program that encompasses these areas of responsibility.

**General Topics:** Material and Process Classifications; Planning for Production; Identifying opportunities for Improving Manufacturing Processes; When to Consider Automation; Behavior and Characteristics of Manufacturing Materials; Processes Used to form Metallic, Plastic, Plastic, Wood, Ceramic, and Composite Materials; Types of Packaging.

**Target Audience:** Junior

**Required for any specific major:** Online BAAS in Technology.

**Method of instruction:** (powerpoint lectures, audio files, Tegrity, discussions, group work, etc.)

## Required Text

J. Barry DuVall and David R. Hillis: Manufacturing Processes, The Goodheart-Wilcox Company, Inc. ISBN 978-1-60525-569-9. (Latest Edition).

## Important Dates

<b>Summer 2020</b>	
Classes begin:	Jan 10
Last Day for "W", 4:00 p.m. – Drops after this date will receive grades of "F"	March 21
Deadline to file for graduation	Feb 14
Last Day in Class	April 29
Final Exams:	April 30

## Course Assessment

<b>Course Activity</b>	<b>Points</b>	<b>Percentage of Total Grade</b>
Home Work 1- 36	100 each	20%
Quiz1	100	10%
Quiz 2	100	10%
Quiz 3	100	10%
Final	100	10%
Individual Paper (2- 3 page) Due by Midterm (week 9)	100	10%
Presentation ( 8 - 10 slides) Due by final (week 13)	100	10%
Discussion participation		
Topic # 1	10	5%
Topic # 2	10	5%
Topic # 3	10	5%
Topic # 4	10	5%
<b>Total</b>		100%

## Grading Scale:

90. and above	A
80 to 89	B
70 to 79	C
60 to 69	D
Less than 59	F

## Student e-mail:

All students are provided with email accounts through the university server. Every student must use the university email for student-instructor interaction.

If you choose not to use university email, I will accept yahoo or hotmail or gmail email as long as the email address has your *first* and *last* name.

## Policies & Procedures:

### 1. **Submit *Student Information Sheet*:**

Every student in this course is expected to complete the student information in discussion 1 at the beginning of the semester.

### 2. **Course Content Structure:**

The course is divided into 4 parts.

Every part covers:

- a. online homework;
- b. several chapters,
- c. online discussion topics, and
- d. online test.

You should read the textbook chapter first, and then review the online power points provided. The power point will be summaries or elaborations of the textbook, and the homework is administered at the end of each chapter. After you have completed reviewing the power point, you should then log into "Discussion Tool" and post answers to the discussion question (specific to the part) posted by the instructor. You must also read other students' posts and respond to two other students' responses. Discussion posts must be made by the due date on the schedule in order to receive full credit. You should also complete the Test/Quiz, by the set dates.

### 3. **Grading and Feedback:**

All the course activities will be graded one week after the set due date. You can check your grades by going to **GradeBook**. If there is any discrepancy in the grade, you must contact me immediately. I will provide individual feedback or a general feedback throughout the course, as it relates to performance in course activities.

### 4. **Cheating/Plagiarism/Academic Dishonesty:**

Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, falsifying academic records, misrepresenting facts, 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 such as, but not limited to, submission of essentially the same written assignment for two courses without the prior permission of the instructor or the attempt to commit such acts.

**"Plagiarism" includes, but is not limited to** the appropriation of, buying, receiving as a gift, or obtaining by any means material that is attributable in whole or in part to another source, including words, ideas, illustrations, structure, computer code, other expression and media, and presenting that material as one's own academic work being offered for credit.

NOTE: Students found plagiarizing or cheating will receive a zero for course activity which could cause failure in the class, suspension and/or dismissal from the college.

### 5. **Discussion Board Participation:**

Each discussion board post is worth 5% of the grade.

For each discussion question, students must firstly , respond to the question directly, then secondly, read and respond to other students posts and reply to at least two other students responses (not optional). You must ensure that the responses to the questions are meaningful, reflective, refer to personal experience and support your course readings. Avoid postings that are limited to 'I agree' or 'great idea', etc. If you agree (or disagree) with a posting then say why you agree by supporting your statement with concepts from the readings or by bringing in a related example or experience.

You are expected to read all messages. You are responsible for reading all of the messages that are posted in the online discussion. Not reading messages is the equivalent of sleeping in class.

Use a person's name in the body of your message when you reply to their message. It helps to keep all of us oriented. It helps us maintain a clearer sense of who is speaking and who is being spoken to. As we begin to associate names with tone and ideas, we come to know each other better.

Change the subject line when you introduce a new topic. The value of this tip will become apparent as the number of messages grows.

#### **6. Submission and Naming Convention of Course Activities:**

Keep in mind the following standards/practices for naming and submission of assignments:

- a. All course activity files that will be submitted to the instructor should bear the name as follows:

*First name + last name + the name of the assignment*

Example: *Jane Doe Home Work 1* or *Jane Doe Paper*

- b. Be sure to put your name at the top of each page header
- c. Always keep a copy of all the work you submit so that you won't need to re-do it if it should get lost in cyberspace.

#### **7. Make-Up/Late Submission Policy:**

All course activities must be submitted before or on set due dates.

#### **8. Accommodation for Students with Disabilities:**

Midwestern State University is committed to providing equal access for qualified students with disabilities to all university courses and programs, and by law all students with disabilities are guaranteed a learning environment that provides reasonable accommodation of their disability.

This guarantee is provided through Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act. The ADA reads: "No qualified individual with a disability shall, by reason of such disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of a public entity, or be subject to discrimination by any such entity."

The Director of Disability Support Services serves as the ADA Coordinator and may be contacted at (940) 397-4140, TDD (940) 397-4515, or 3410 Taft Blvd., Clark Student Center 168.

#### **9. Course Incomplete/Withdrawal/Grade Appeal:**

All students are required to complete the course within the semester they are signed up. Incomplete grades for the course are rarely given and will only be granted if the student has complete at least 75% of the course with a grade of 'C' or better and provides a valid, documented excuse for not being able to complete the course on time and has contacted prior to the scheduled last class to request an extension. The student will sign a contract that includes the incomplete course activities and the new due dates.

#### 10. Netiquette:

Anything you type in the discussion area is public – which means that every student in this class (including your instructor) will see what you write. Please pay attention to the language you use and adhere to the following guidelines:

- 1) Do not post anything too personal;
- 2) **Do not use language that is inappropriate for a classroom setting or prejudicial in regard to gender, race, or ethnicity;**
- 3) **Do not all caps in the postings (it is considered shouting)**
- 4) Be courteous and respectful to other people on the list
- 5) Do not overuse acronyms like you would use in text messaging. Some of the list participants may not be familiar with acronyms.
- 6) If the posting is going to be long, use line breaks and paragraphs
- 7) Fill in the Subject Line
- 8) Write your full name at the end of the posting
- 9) Be careful with sarcasm and subtle humor; *one person's joke is another person's insult.*

NOTE: If you do not adhere to the guidelines for any posting, you will lose the points that would have been granted, and the instructor reserves the right to remove your posting and to deny you any further posting privileges.

#### 11. Attendance and Class Participation:

Regular and active participation is an essential, unmistakably important aspect of this online course. The expectation of the instructor is that students will log on a minimum of three times every seven days. It is critical that you read all of the lecture and assignment materials as well as all of the public discussion materials. Your full participation ON A WEEKLY BASIS is not only a requirement; it is also an essential aspect of the online course process. All students are expected to do the work assigned, notify the instructor when emergencies arise, and make up assignments no later than the due dates.

#### 12. Tracking:

D2L course platforms have a tracking feature. This feature quantifies how often students access different tools, pages, features, links, discussions, etc. in your course.

#### 13. Absenteeism:

All the course activities have set dates to be completed and submitted. After the due dates the activities will not be available for the students. Thus, if you are ill for a prolonged time and cannot complete the activities, you must contact me and update the situation. You are expected to log into

the course every week.

If I am going to be out because of ill health, attending a conference, etc you will be notified through email.

## Hardware/Software Requirements:

### **Computer:**

A minimum of 64 MB RAM, 1 G of free disk space, 150 MHz or higher recommended, a monitor capable of at least 800 x 600 resolution

**Peripherals:** You will need speakers to be able to listen to audio files.

### **Software:**

The course content is presented through Microsoft Office 2007 - Powerpoint presentations, Word documents, Acrobat documents and Tegrity files. In order to view the content you must have Microsoft 2007 programs and Acrobat Reader. You are required to submit all the course activities typed in Microsoft Word 2007.

**Anti-virus software:** is highly recommended for students and instructors. Online courses involve much file sharing, which increases your risk of computer virus infection. Anti-virus software will help protect your computer in case of exposure to a computer virus.

**Other software:** There will be audio/video files in the course for which you will need [Windows Media Player](#) or [QuickTime](#) or [Real Player](#).

**Internet connection:** Recommended - Cable modem, DSL, or intranet (T-1); or 56.6 KBPS modem  
Note: Corporate or academic security firewalls may block some course content, such as chat or streaming media. Accommodations for access can usually be arranged if you contact your network administrator, though local security policies ultimately dictate what is allowed. 56 K modem or better

### **Unsupported Browsers:**

America Online (AOL), Prodigy, Juno, MSN, Yahoo and other Internet Service Providers (ISPs), provide their own internal and proprietary web browsers. These browsers may not be compatible with online courses.

## Preparation for Computer Emergencies:

### **Computer Crash**

Not having a working computer or a crashed computer during the semester will NOT be considered as an acceptable reason for not completing course activities at a scheduled time. NOTE: Identify a second computer before the semester begins, that you can use when/if your personal computer crashes.

### **Server problems**

When the Blackboard server needs downtime for maintenance, the Blackboard administrator will post an announcement in your course informing the time and the date. If the server experiences unforeseen problems your course instructor will send an email.

### ***Complete Loss of Contact***

If you lose contact with me completely (i.e. you cannot contact me via email), you need to call me at my office, and explain the reason you cannot contact me and leave me a way to contact you.

### ***Lost/Corrupt/Disappeared files***

You must keep/save a copy of every project/assignment on an external disk or personal computer. In the event of any kind of failure (e.g., D2L server crash or virus infection, students own computer crashes, loss of files in cyberspace, etc) or any contradictions/problems, I may/will request you to resubmit the files. In other words, if you submit a document to me, and I either do not receive it (lost in cyberspace) or it is corrupted when I open it, it is incumbent upon you to resend it to me, corrected, with little or no "downtime" in regard to the timeline for submission.

## **End-of-Course Evaluation & Instructor Evaluation:**

Every student must complete end-of-course evaluation provided by MWSU.

## **Disclaimer & Rights:**

Information contained in this syllabus was to the best knowledge of the instructor considered correct and complete when distributed for use in the beginning of the semester. However, the instructor reserves the right, acting within the policies and procedures of MWSU to make changes in the course content or instructional techniques without notice or obligation. The students will be informed about the changes, if any.

## **SCHEDULE**

A daily or weekly schedule is not required or required addendum as part of the syllabus. It does however, help keep the course on track throughout the semester. It helps the instructor from "running out of time" at the end of a course, enables students to see what is coming up, where classes fit into the plan, and shows evidence of good planning and organization. It also saves the instructor significant planning time during the course. It is particularly important for an Internet course, because students "attend" classes at different times, so it helps to eliminate the logistical problems caused by changing subject matter or improvising "on the fly."

Week	Topic/Activity	Suggested Reading	Homework	Discussion	Due date
------	----------------	-------------------	----------	------------	----------

1	<p>Review the schedule and syllabus</p> <p>Chapter 1 – Introduction to Manufacturing.</p> <p>Chapter 2 – Material and Process Classifications.</p>	<p>Chapter1 - 2</p> <p>Power points on Chapters 1-2</p>	<p>End of Chapter 1, 2</p> <p>Power Point Questions.</p>	<p><b>Introductions</b></p> <p><b>Each student should create their profile, by adding appropriate details.</b></p> <p><b>Name, Address, Phone number (cell/ work), Email address.</b></p> <p><b>And a profile picture.</b></p>	<p>11:59pm</p> <p>Sunday of week 2</p>
2	<p>Chapter 3 – Planning for Production.</p> <p>Chapter 4 – Identifying opportunities for Improving Manufacturing Processes</p>	<p>Chapter3-4</p> <p>Power points on Chapters 3-4</p>	<p>End of Chapter 3, 4</p> <p>Power Point Questions</p>		<p>11:59pm</p> <p>Sunday of week 3</p>
3	<p>Chapter 5 – When to Consider Automation</p> <p>Chapter 6 – Automated Manufacturing Systems.</p> <p>Chapter 7 – Sensors and Devices for Automation</p>	<p>Chapter 5-7</p> <p>Power points on Chapters 5-7</p>	<p>End of Chapter 5-7</p> <p>Power Point Questions</p>		<p>11:59pm</p> <p>Sunday of week 4</p>

4	<p>Chapter 8 – Behavior and Characteristics of Manufacturing Materials</p> <p>Chapter 9 – Characteristics of Metallic Materials</p> <p>Chapter 10 – Characteristics of Plastic Materials.</p>	<p>Chapter 8-10</p> <p>Power points on Chapters 8-10</p>	<p>End of Chapter power point Questions.</p> <p>Chapter 8-10 questions</p>	<p><b>Post a discussion on any ONE and reply to any TWO:</b></p> <p><b>Any topic on: chapters 1-10</b></p>	<p>11:59pm</p> <p>Sunday of week 5</p>
5	<p>Chapter 11 – Characteristics of Wood Materials</p> <p>Chapter 12 – Characteristics of Ceramic Materials</p> <p>Chapter 13 – Characteristics of Composite Materials.</p>	<p>Chapter 8-10</p> <p>Power points on Chapters 8-10</p>	<p>End of Chapter power point Questions.</p> <p>Chapter 8-10 questions</p>		<p>11:59pm</p> <p>Sunday of week 6</p>
6	<p>Quiz 1: Chapter 1-13</p>				
7	<p>Chapter 14 – Processes Used to form Metallic</p> <p>Chapter 15 – Processes Used to form Plastic Materials</p> <p>Chapter 16 – Processes Used to form Wood Materials</p>	<p>Chapter 11-12</p> <p>Power points on Chapters 11-12</p>	<p>End of Chapter power point Questions.</p> <p>Chapter 11-12 questions</p>		<p>11:59pm</p> <p>Sunday of week 7</p> <p>Quiz 1: Chapters 1 – 13: 10 short answer questions</p>

8	<p>Chapter 17 – Processes Used to form Ceramic Materials</p> <p>Chapter 18 – Processes Used to form Composite Materials</p> <p>Chapter 19 – Processes Used to Separate Metallic Materials</p>	<p>Chapter 17-19</p> <p>Power points on Chapters 17-19</p>	<p>End of Chapter power point Questions.</p> <p>Chapter 17-19 questions</p>	<p><b><u>Post a discussion on any ONE and reply to any TWO:</u></b>  <b>Any topic on: Chapters 1- 16</b></p>	<p>11:59pm Sunday of week 9</p>
9	<p>Chapter 20 - Processes Used to separate Plastic Materials</p> <p>Chapter 21 – Processes Used to separate Wood Materials</p> <p>Chapter 22 – Processes Used to separate Ceramic Materials.</p> <p><b>Individual 2 - 3 page paper due with 2-4 references on any topic related to material studied till now.</b></p>	<p>Chapter 20-22</p> <p>Power points on Chapters 20-22</p>	<p>End of Chapter power point Questions.</p> <p>Chapter 20-22 questions</p>		<p>11:59pm Sunday of week 10</p>

10	<p>Chapter 23 – Processes Used to separate Composite Materials</p> <p>Chapter 24 – Processes Used to fabricate Metallic Materials</p> <p>Chapter 25 – Processes Used to fabricate Plastic Materials</p>	<p>Chapter 23-25</p> <p>Power points on Chapters 23-25</p>	<p>End of Chapter power point Questions.</p> <p>Chapter 23-25 questions</p>		<p>11:59pm Sunday of week 5</p>
11	<p>Chapter 26 – Processes Used to fabricate Wood</p> <p>Chapter 27 – Processes Used to fabricate Ceramic Materials Materials</p> <p>Chapter 28 – Processes Used to fabricate Composite Materials</p>	<p>Chapter 26-28</p> <p>Power points on Chapters 26-28</p>	<p>End of Chapter power point Questions.</p> <p>Chapter 26-28 questions</p>	<p><b><u>Post a discussion on any ONE and reply to any TWO:</u></b> <b>Any topic on: Chapters 14- 28</b></p>	
12	<p><b>Quiz 2 – Chapters 14-28</b></p> <p><b>10 short answer questions</b></p>	<p>Chapter 14 - 28</p> <p>Power points on Chapters 14-28</p>	<p>End of Chapter power point Questions.</p> <p>Chapter 14 - 28 questions</p>		<p>11:59pm Sunday of week 13</p>

13	<p>Chapter 29 – Processes Used to condition Metallic Materials</p> <p>Chapter 30 – Processes Used to condition Plastic Materials</p> <p>Chapter 31 – Processes Used to condition Wood Materials</p> <p>Chapter 32 – Processes Used to condition Ceramic Material</p> <p><b>Presentation: 8 – 10 slides on any topic related to material studied till now</b></p>	<p>Chapter 29-32</p> <p>Power points on Chapters 29-32</p>	<p>End of Chapter power point Questions.</p> <p>Chapter 29-32 questions</p>		<p>11:59pm Sunday of week 14</p>
14	<p>Chapter 33 - Processes Used to condition Composite Material</p> <p>Chapter 34 – Processes Used to finish Metallic Material</p> <p>Chapter 35 – Processes Used to finish Plastic Material</p> <p>Chapter 36 – Processes Used to finish Wood Material</p>	<p>Chapter 33-36</p> <p>Power points on Chapters 33-36</p>	<p>End of Chapter power point Questions.</p> <p>Chapter 33-36 questions</p>		<p>11:59pm Sunday of week 15</p>

15	<p>Chapter 37 – Processes Used to finish Ceramic Material</p> <p>Chapter 38 – Processes Used to finish Composite Material</p> <p>Chapter 39 – Types of Packaging</p> <p><b>Quiz 3: Chapters 29 -39.</b></p>	<p>Chapter 37-39</p> <p>Power points on Chapters 37-39</p>	<p>End of Chapter power point Questions.</p> <p>Chapter 37-39 questions</p>		<p>Only Due Quiz (3) 11:59pm Sunday of week 16</p> <p><b>You can do your HW questions for your understanding</b></p>
16	<b>Final</b>				

Reminder for Grades: It is the student's responsibility to frequently check their grades. Remember; most grading will not be completed until after the module closes. Once it closes, all assignments not completed should have zeros placed into the grade book. If a zero has not been placed into a missed exam or assignment, please inform the instructor. Unless there is a value in all possible assignments, the grade will not be accurate. I do my best to place zeroes in material that has been closed but I need your help in checking for accuracy. Also, if students have taken an exam and it does not show up in the grade book after the module closes, please inform me.