



# Advanced Production/Operations Management

## OSCM 3322 Fall 2023



**Instructor:** Mr. Michael S, Garcia MSPM

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**Class Hours:** MW 4:30-5:50pm

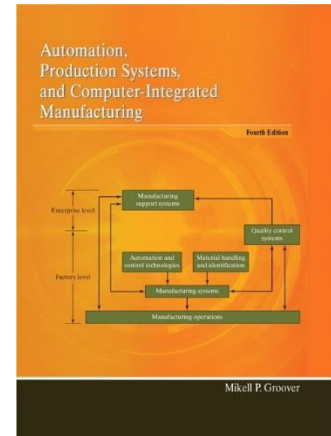
**Location:** COBA 301

**Office Hours:** MW 1:00-3:00pm, T 8:00-10:30am, or by appointment

### Required Textbook:

*Automation, Production Systems, and Computer-Integrated Manufacturing*, by Mikell P. Groover, Pearson, Fourth Edition

ISBN: 9780133499612



Welcome to the undergraduate Advanced Production/Operations Management Course. Official information for OSCM 3322, including grades, will be posted on Blackboard. You are responsible for reading and responding to Blackboard “Announcements”, “Assignments”, “Assessments”, and any other information concerning this course - **check your Blackboard account daily!**

### Course description (*From Goldmine*)

Advanced Production/Operations Management discusses the design and implementation of Advanced Manufacturing Technologies (AMT). This includes Just-in-Time (JIT) systems, cellular and Flexible Manufacturing Systems (FMS), and Computer Integrated Manufacturing (CIM). It also explores the key role that manufacturing plays in product development efforts and cross-functional teams. Other topics such as manufacturing, strategy, maintenance, and the design of work systems are presented as well. Case studies and group projects/presentations are used for instructional purposes.

### Objectives:

At the completion of this course, students will be able to:

1. Identify and describe Advanced Manufacturing Technologies.
2. Define and explain Just-in-Time manufacturing.
3. Define and explain Cellular Manufacturing Systems.
4. Define and explain Flexible Manufacturing Systems.
5. Define and explain Computer Integrated Manufacturing.
6. Define the key design issues of work systems.
7. Define the key factors for maintenance of manufacturing systems.
8. Define the key factors for strategic manufacturing planning.

**Prerequisite:** OSCM 3321 with Minimum Grade of C (may not be taken concurrently), or POM 3321 with Minimum Grade of C (may not be taken concurrently).



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### Lectures

Important material from the textbook, reference books, case studies, multimedia sources, and homework problem examples will be covered in class lectures. The detailed class outline, at the end of this syllabus, shows you exactly what activity and book chapters will be covered during each week of the entire semester session. You should plan to read a lot and take careful lecture notes. Discussion and engagement with your classmates is strongly encouraged about the topics being covered, both in class and through discussion board assignments.

### Regular Exams

There will be three regular, non-comprehensive exams that cover class materials and chapters in the textbook and other materials, taught up to the date of the last class before the exam, as well as a partially comprehensive final exam. Exams will be administered electronically in **TACC Lab 3, Room 324**, through Blackboard. You must use Respondus Lockdown Browser to take exams, and have a working webcam and microphone on the computer you are using. Respondus Monitor will be enabled and will be recording everything you do and say during your exam session. You will have 60 minutes to take exams. If you have some kind of problem with your computer or Internet connection, your answers will be saved, and you'll have plenty of time to restart and reenter the exam. You must complete the exam within 60 minutes of the time you started it, including any interruptions. Exams must be taken in class or in a Lab, **in person**. Exams will not be available remotely – no exceptions! **There are no make-up exams.**

### How we will Communicate:

I will communicate with you through Blackboard announcements, global emails sent to the whole class and either face-to-face or virtual office hours. Your best way to communicate directly with me is via email to [msgarcia4@utep.edu](mailto:msgarcia4@utep.edu). I teach many classes and have many students, so please identify your **course number** and a **message topic** clearly in the Subject line of your email. A good email Subject line would be:

Subject: OSCM 3322 – Question about Exam 1 Grades

If you do not include this information in the Subject line of your message, it may significantly delay my response. I will do my best get back to you within 1 business day.

### Netiquette Guidelines:

Netiquette is a set of rules for behaving appropriately online and face-to-face. We must establish and maintain a safe learning environment. All opinions and experiences, no matter how different or controversial they may be perceived, must be respected in a tolerant spirit of academic discourse. You are encouraged to comment, question, or critique an idea but you are not to dismiss or attack any individual. Working as a community of learners, we will build a polite and respectful course community.

The following netiquette tips will enhance the learning experience for everyone in this course:

- Do not dominate any discussion.
- Give other students the opportunity to join in the discussion.
- Do not use offensive language. Present ideas appropriately and professionally.
- Be cautious in using Internet language. For example, do not capitalize all letters since this suggests shouting. Popular emoticons, such as ☺, can be helpful to convey your tone but do not overdo or overuse them.
- Avoid using vernacular or slang language. This could possibly lead to misinterpretation.
- Never make fun of someone's ability to read or write.
- Share tips with other students.



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- Keep an “open-mind” and be willing to express even your minority opinion. Minority opinions will be respected.
- Think, pause, and edit before you push the “Send” button.
- Do not hesitate to ask for feedback.
- Be careful using humor – your perception of what is funny may be very different from someone else’s.

**Grading Policy:**

15 %	First Regular Exam	<b>A</b> =	numerical grade $\geq$ 90
15 %	Second Regular Exam	<b>B</b> =	$80 \leq$ numerical grade $<$ 90
15 %	Third Regular Exam	<b>C</b> =	$70 \leq$ numerical grade $<$ 80
15 %	Final exam	<b>D</b> =	$60 \leq$ numerical grade $<$ 70
10 %	Participation and Engagement	<b>F</b> =	numerical grade $<$ 60
30 %	Homework, Quizzes and other assignments		

**COURSE POLICIES**

**1. Electronic Devices**

All electronic devices (cell phones, laptops, tablets, camera containing devices, etc.) should be completely turned off in class and should not be in the hands of students at any time during class. The Professor reserves the right to temporarily confiscate electronic devices owned by students when electronic devices create distractions or disruptions. There will be absolutely no texting, phone calls, or social media interaction during class. All students are expected and required to comply. Keep in mind that adherence to this policy is part of your participation score, and will be worth 10% of your overall grade.

**2. Academic Integrity**

Cheating is unethical and unacceptable. Using information or original wording in a paper or assignment, including any information from an AI chat-bot like ChatGPT, without giving credit to the source of that information or wording is **plagiarism**, and is absolutely unacceptable and illegal. Do not submit work under your name that you did not do yourself. You may not submit work for this class that you did for another class. If you are found to be cheating or plagiarizing, you will be subject to disciplinary action, per UTEP catalog policy. Refer to <https://www.utep.edu/student-affairs/osccr/student-conduct/academic-integrity.html> for further information.

**3. Attendance and Punctuality**

Attendance is valued in this class, just as it is in the workplace. Being absent or late to class sends a negative message to the Professor, just like it does to an employer, manager, or customer. You cannot contribute to the class if you are not present. Please keep in mind that missing 1 class is equivalent to missing 5 days of work.

Class attendance is required and expected. Exam and quiz material will be substantially based on lectures, therefore you are responsible for all material covered in class. Please arrive on time and take your seat quickly and quietly. Arriving late hinders all students and is considered disruptive to everyone in class.



#### 4. Homework

There will generally be one homework assignment for each text chapter, taken from material previously covered in class. Please note that you should complete and turn in homework **exclusively through Blackboard**. Homework will not be accepted via hardcopy, email, or text messages and cannot be turned in after its due date. If you expect to be out-of-pocket, make sure you will be able to do the homework before its due date. No late assignments will be accepted. Unless specifically stated otherwise in a homework assignment, **all homework is a strictly individual, non-group, non-collaborative task**.

#### 5. Quizzes

There will generally be one short reading quiz for each text chapter, taken from material that will be covered in the days to follow. These reading quizzes are structured to compel and reward you for reading ahead in the text in preparation for upcoming lectures. Reading quizzes will be administered through Blackboard.

#### 6. Need for Assistance

If you have a disability and need classroom accommodations, please contact The Center for Accommodations and Support Services (CASS) at 747-5148, or by email to [cass@utep.edu](mailto:cass@utep.edu), or visit their office located in UTEP Union East, Room 106. For additional information, please visit the Center for Accommodations and Support Service (CASS) website at <https://www.utep.edu/student-affairs/cass/>

#### 7. Other Student Services

University Writing Center: <http://uwc.utep.edu/index.php>

Sexual Harassment Guide for students: <https://www.utep.edu/titleix/Filing-a-Complaint.html>

University Counseling Center: <https://www.utep.edu/student-affairs/counsel/>, 747-5302, 202 Union West; walk-ins encouraged.

Student Health and Wellness Center: <https://www.utep.edu/chs/shc/>, 747-5624. Many services free to students paid for through student health fee.

Student Engagement and Leadership Center: <https://www.utep.edu/student-affairs/selc/>, 106 Union West, 747-5670. Includes study space with workstations; family friendly room with lactation space.

University Career Center: <https://www.utep.edu/student-affairs/careers/>, 103 Union West, 747-5640.

Mine Tracker: <https://minetracker.utep.edu/>. Events, news and organizations.

#### 8. Campus Carry:

Persons who hold a Concealed Handgun License can lawfully carry their gun into a UTEP classroom as long as it remains concealed. Open carry remains prohibited on campus. Should you feel someone is intentionally displaying a gun (or any other weapon for that matter), do not hesitate to call Campus Police (ext. 5611) or 911. For information on campus concealed carry, see <https://www.utep.edu/campuscarry/>.

For more information on overall campus safety, see:

<https://www.utep.edu/student-affairs/dean-of-students-office/student-emergency/index.html>

Please note that the GBC is a designated **Campus Carry Exclusion Zone** – a property leased by the University which has existing tenant leases *prohibiting weapons*. For more on Exclusion Zones see:

<https://www.utep.edu/campuscarry/exclusion-zones/index.html>



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### 9. Student Responsibility

Individual students must operate with integrity in their dealings with faculty and other students; utilize learning materials with appropriate attention and dedication; maintain engagement when challenged by difficult learning activities; contribute to the learning of others; and perform to standards set by the faculty. Please see detailed class outline, beginning on the following page. It is a good idea to print this outline, double-sided, on a single page, and carry it with you at all times so you'll know what we are going to be doing on a particular day in class. Please note that all the exams are pre-scheduled on very specific dates that cannot change – so plan your personal activity accordingly and well in advance, **as there are no makeup exams, and late work is not accepted.**

#### COVID-19 Guidance:

If you have tested positive for COVID-19, you are encouraged to report your results to [covidaction@utep.edu](mailto:covidaction@utep.edu), so that the Dean of Students Office can provide you with support and help with communication with your professors. It is important to follow all instructions that you receive as part of the diagnosis, including isolation and staying at home until a negative test is produced.

If you experience COVID-19 symptoms, please follow the isolation protocol by staying at home and getting tested as soon as possible. If the test is negative but you are still seeking accommodations, please contact the Dean of Students Office for guidance in a timely manner. Your instructor will work with the Dean of Students Office to determine the extent of any such accommodations.

We strongly encourage you to think and act proactively in all matters related to COVID-19 and your academic endeavors. The Center for Disease Control and Prevention recommends that people in areas of substantial or high COVID-19 transmission wear face masks when indoors in groups of people. The best way that Miners can take care of miners is to get the vaccine. If you still need the vaccine, it is widely available in the El Paso area, and will be available at no charge on campus during the first week of classes. For more information about the current rates, testing, and vaccinations, please visit [epstrong.org](http://epstrong.org).

**Note:** This is a tentative syllabus and the Professor reserves the right to make appropriate changes.



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**Class Hours:** MW 4:30-5:50pm    **Location:** COBA 301

### Detailed Course Outline:

Week	Day	Date	Subject	Discussion	HW
1	Mon	Aug 28	Class Intro Chapter 1	Expectations for the course, Syllabus Introduction to Production Systems	
	Wed	Aug 30	Chapter 2 <b>Reading Quiz 1</b>	Manufacturing Operations Chapters 1, 2, on Blackboard	
2	Mon	Sep 4	<b>Labor Day</b>	<b>Holiday – University Closed</b>	
	Wed	Sep 6	Chapter 2 Problems/Activity <b>Reading Quiz 2</b>	Manufacturing Operations Chapter 3, on Blackboard	#1 - Ch 2
3	Mon	Sep 11	Chapter 3 <b>Reading Quiz 3</b>	Manufacturing Models and Metrics Chapter 4, on Blackboard	
	Wed	Sep 13	Chapter 3 Problems/Activity	Manufacturing Models and Metrics	#2 - Ch 3
4	Mon	Sep 18	Chapter 4 <b>Reading Quiz 4</b>	Introduction to Automation Chapter 7 on Blackboard	
	Wed	Sep 20	Chapter 7	Numerical Control	#3 – Ch 7
5	Mon	Sep 25	<b>Exam #1</b> <b>Reading Quiz 5</b>	<b>1 Hour exam on Chapters 1-4,7</b> Chapter 8, on Blackboard	Exams will be given in the COBA TACC Labs!
	Wed	Sep 27	Chapter 8	Industrial Robotics	#4 – DB
6	Mon	Oct 2	Chapter 9 <b>Reading Quiz 6</b>	Discrete Control Using PLCs, PCs Chapter 9, on Blackboard	
	Wed	Oct 4	Chapter 8 & 9 Problems/Activity	Industrial Robotics Discrete Control Using PLCs, PCs	#5 – Ch 8/9
7	Mon	Oct 9	Chapter 10 <b>Reading Quiz 7</b>	Material Transport Systems. Chapter 10, on Blackboard	
	Wed	Oct 11	Chapter 10 Problems/Activity	Material Transport Systems.	#6 – Ch 10/11
8	Mon	Oct 16	Chapter 11 <b>Reading Quiz 8</b>	Storage Systems Chapter 11, on Blackboard	
	Wed	Oct 18	Chapter 11 Problems/Activity	Storage Systems.	
9	Mon	Oct 23	<b>Exam #2</b> Chapter 12 <b>Reading Quiz 9</b>	<b>1-Hour exam covers Chapters 8-11</b> Automatic ID and Data Capture Chapter 12 - on Blackboard	Exams will be given in the COBA TACC Labs!
	Wed	Oct 25	Chapter 12 Problems/Activity	Automatic ID and Data Capture	
10	Mon	Oct 30	Chapter 13 <b>Reading Quiz 10</b>	Overview of Manufacturing Systems Chapters 13, 14 on Blackboard	
	Wed	Nov 1	Chapter 14	Single-station Manufacturing Cells	





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11	Mon	Nov 6	Chapter 14 Problems/Activity <b>Reading Quiz 11</b>	Single-station Manufacturing Cells Chapter 14, on Blackboard Chapter 15, on Blackboard	#7 – Ch 14
	Wed	Nov 8	Chapter 15	Manual Assembly Lines	
12	Mon	Nov 13	Chapter 16 <b>Reading Quiz 12</b>	Automated Production Lines Chapter 16, on Blackboard	
	Wed	Nov 15	Chapter 15/16 Problems/Activity	Manual Assembly Lines Automated Production Lines	
13	Mon	Nov 20	<b>Exam #3</b> <b>Reading Quiz 13</b>	<b>1 hour exam covers Chapters 12-16</b> Chapter 17, on Blackboard	Exams will be given in the COBA TACC Labs!
	Wed	Nov 22	Chapter 17	Automated Assembly Systems	
14	Mon	Nov 27	Chapter 18 <b>Reading Quiz 14</b>	Cellular Manufacturing Systems Chapters 18,19, on Blackboard	
	Wed	Nov 29	Chapter 19	Flexible Manufacturing Systems	
15	Mon	Dec 4	Chapter 26 <b>Reading Quiz 15</b>	JIT and Lean Production Chapter 26, on Blackboard	
	Wed	Dec 6	<b>Final Exam</b> at regular class time	<b>1 hour exam on Chapters 17-19,26</b> <b>+ selected comprehensive questions</b>	Exams will be given in the COBA TACC Labs!
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	Mon	Dec 11			



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### Fall 2023 Academic Calendar:

<b>Mar 27th</b>	Fall Registration Begins
<b>Aug 17th</b>	Last Day to Clear Students on Suspension/Probation as well as those with Insufficient Prerequisites
<b>Aug 18th</b>	Drops for Students with Unsatisfactory Academic Standing, Insufficient Prerequisites, and Prior Grades of C in the Course
<b>Aug 21st</b>	Financial Aid is Disbursed
<b>Aug 28th</b>	Fall classes begin
<b>Aug 28th-Sept 1st</b>	Late Registration (Fees are incurred)
<b>Sept 4th</b>	Labor Day Holiday- University Closed
<b>Sept 13th</b>	Fall Census Day
	Note: This is the last day to register for classes. Payments are due by 5:00 pm.
<b>Sept 25th</b>	20 <sup>th</sup> Class Day
	Note: Students who were given a payment deadline extension will be dropped at 5:00 pm if payment arrangements are not been made.
<b>Oct 6th</b>	Graduation application deadline for degree conferral
<b>Nov 3rd</b>	Fall Drop/Withdrawal Deadline
	Note: Student-initiated drops are permitted after this date, but the student is not guaranteed a grade of W. The faculty member of record will issue a grade of either W or F.
<b>Nov 17th</b>	Deadline to submit candidates' names for commencement program
<b>Nov 23rd-24th</b>	Thanksgiving Holiday- University Closed
<b>Dec 7th</b>	Fall- Last day of classes
<b>Dec 8th</b>	Dead day
<b>Dec 11th-15th</b>	Fall Final Exams
<b>Dec 16-17th</b>	Fall Commencement
<b>Dec 19th</b>	Grades are Due
<b>Dec 20th</b>	Grades are posted to student records; students are notified of grades and academic standing
<b>Payment Deadlines</b>	For more information visit the <a href="#">Student Business Services Website</a>