MGT 314 – Operations Management
Spring 2024 (Section 701)
Course Syllabus

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Instructor Support:	https://wku.blackboard.com/

Office Hours:	By appointment at https://calendly.com/gihan-edirisinghe
Office Hours Location:	GH 215 **AND** Zoom online meeting (https://wku.zoom.us/j/92945354943)

Class Meeting Time and Location:

Videos posted on the course Blackboard (https://wku.blackboard.com/)

Course Overview

Operations management refers to the process by which an organization converts inputs (e.g., labor, material, knowledge, equipment) into outputs (goods and services) for both its external and internal markets. Students will be introduced to commonly occurring application problems such as the development of a manufacturing and service strategy, capacity planning, production planning, inventory control, forecasting, quality management, and location analysis. For many of these applications, such as production planning and inventory control, detailed solution techniques will be presented. For others, we seek only a clear articulation of the problems, an identification of the strategies available, and, if possible, an analysis of the trade-offs inherent in choosing among them.

Course material will be presented with an emphasis on developing critical thinking and analytical skills essential for business students by applying them to real-life operations scenarios.

Expected Student Learning Outcomes

1. Apply analytical tools for analysis, management, and performance improvement of business processes and supply chains.
2. Apply total quality management concepts and techniques.
3. Design and control manufacturing and services processes.
4. Forecast demand and implement appropriate inventory control systems.
5. Provide a global comparison of operations among some of the most important economies around the world.
6. Discuss recent advances and issues in operations management.

Course Prerequisites:

ECON 206 and COBA Course Eligibility with a score of 2.

Required Course Material:

1. Pearson **MyOMLab**, online homework and assessment tool, packaged with the custom book and including online access to the full Heizer, Render, & Munson text: *Operations Management: Sustainability and Supply Chain Management*.

   This class participates in The WKU Store's "First Day Access" program. As part of this program, MyOMLab, along with the required textbook for this course, will be pre-loaded on your course BlackBoard account.

   Students who wish to opt-out of this program may do so, but by opting out you agree to have your e-book access terminated and you will be responsible to obtaining the required package on your own. You will see the opt-out link in Blackboard as you access the e-book.

2. Goldratt, Eliyahu M. & Jeff Cox, *The Goal: A Process of Ongoing Improvement*, 3rd Revised Edition, Great Barrington, MA: North River Press, 2004 (widely available online).

3. Lecture notes will be available on **Blackboard** (https://wku.blackboard.com/) by topic; or a complete bound version of the notes may be purchased from the **WKU Print Center** (currently operating out of Liberty Imaging, 3021 Nashville Road).

   Students are strongly encouraged to have a set of printed or electronic notes with them during classes. The notes provided will be *incomplete* initially and eventually completed as part of classroom discussions.

Recommended Course Material:

1. Practice problems located on Blackboard (https://wku.blackboard.com/).

Tentative Course Outline:

Module	Topic	Week	Description
I	1	1, 2	***Introduction to Operations Management and Operations Strategy*** Evolution of OM, Productivity, Competitive priorities, Manufacturing strategies
	2	2, 3	***New Product Development*** Design for manufacturability, Calculating product reliabilities
II	3	3, 4	***Total Quality Management*** Evolving views of quality, Quality costs, Concepts of TQM, Quality standards
	4	4, 5	***Statistical Process Control*** Developing charts to monitor the quality of output over time
III	5	5, 6, 7	***Process and Capacity Design*** Bottleneck and capacity analysis, Process strategies, Operational hedging
IV	6	8, 9	***Forecasting*** Qualitative and quantitative forecasting methods, Forecast error calculation
V	7	9, 10	***Deterministic Demand Inventory Theory*** ABC Analysis, EOQ/POQ, Quantity discounts, One-time sales, MRP
	8	11	***Stochastic Demand Inventory Theory*** Safety stock, Continuous and periodic review systems, Newsvendor problems
VI	9	11, 12	***Just-in-Time and Lean Systems*** Pull vs Push production, Disadvantages of JIT, Lean Operations
	10	13	***Scheduling and Planning*** Priority rules, Flowtime calculations, Minimizing late jobs, Scheduling on two machines
	11	14	***Learning Curves*** Computing learning rates / procedure durations / future costs, Labor planning
	12	14	***Facility Layout and Location*** Layout strategies for: offices, supermarkets, warehouses, processes; Facility location
VII	13	15	***Supply Chain Management*** Warehouse centralization, Purchasing philosophies, Supply chain risks
	14	15	***International Operations Management*** Overseas manufacturing, Practices in Japan, South Korea, China, India & Germany

Note: Class outline and schedule may be modified to meet the needs of the students better.

Grading:

	Weight	Maximum Group Size
Problem Sets	20%	1
Group Project	20%	4
'What's O.M. the News?'	5%	4
Final Exam	24%	1
Midterm Exam	18%	1
The Goal Exam Questions	9%	1
Contribution to discussion boards*	4%	1

* Based on the frequency and quality of posts, comments, and discussion

Up to 4% of extra credit may be earned based on class participation (details will be provided later). After class participation adjustment (if any), the following letter grades based on absolute percentage score will be guaranteed:

90% and above	**A**
80 – 89.99%	**B**
70 – 79.99%	**C**
55 – 69.99%	**D**
Less than 55%	**F**

Exams

There will be two exams during the semester, including a non-cumulative final exam. All exams are open book, open notes, and a calculator is allowed. However, devices such as computers, tablets, phones, and any materials available in e-book format are <u>not</u> allowed during the exams. The content and format of the exams will be announced in class. If you cannot take an exam as scheduled due to an emergency, you must notify the instructor as soon as possible with official documents for special arrangements.

<u>Midterm Exam</u>:   Available on Gradescope (100 minutes max duration)
4:00 PM on Thursday, March 7 – 4:00 PM Sunday, March 10
Covers Topics 1 – 5.

<u>Final Exam</u>:   Available on Gradescope (120 minutes max duration)
4:00 PM on Tuesday, April 30 – 4:00 PM Friday, May 3
Covers Topics 6 – 14.

Prior to each exam, a practice exam will be made available on the course Blackboard (https://wku.blackboard.com/).

Problem Sets:

Five problem sets will be assigned during the class. The problems are designed to give students practice in applying the quantitative techniques learned in class. Typically, the problem sets will be assigned upon completion of the lecture regarding the material covered in the problem set and will be due (typically) between 1 to 2 weeks after being assigned. The *tentative* homework and exam schedule is as follows:

Assignment	Assigned	Due
Problem Set 1	Monday, 01/29	Monday, 02/12
Problem Set 2	Wednesday, 02/14	Monday, 02/26
Problem Set 3	Wednesday, 02/28	Wednesday, 03/06
Midterm Exam	*Thursday, March 7 – Sunday, March 10*	
Problem Set 4	Monday, 03/11	Wednesday, 04/03
Problem Set 5	Wednesday, 04/03	Wednesday, 04/17
Final Exam	*Tuesday, April 30 – Friday, May 3*	

All problem sets should be completed through Pearson MyLab, which is accessible through the course Blackboard. Instructions on accessing MyLab and completing the problem sets will be emailed to students in the *second week of class*. Late assignments will not be accepted.

Required Book: *The Goal*

This novel is an extremely popular book that is assigned in many undergraduate and graduate business courses throughout the nation. In addition, many corporate executives require their employees to read it. The story format combines entertainment with educational value, and most students report that the book is a pleasure and that it reads very "quickly."

Students are responsible for Chapters 1-20 on the Midterm Exam and Chapters 21-40 on the Final Exam. For testing purposes, *The Goal* may be brought to the exams. Each exam will contain a few multiple choice or short answer questions related to the book. For the most part, these will be "reading check" questions and should be able to be answered quickly by the well-prepared student. For the 12 *Goal* questions asked during the course, students will receive **no penalty for the first three missed**. Each question missed thereafter counts as a 1% deduction from the final grade average.

News Update: *'What's O.M. the News?'*

Each week, one or more groups of four students (assigned the first week of class) will present a news article or event related to operations management and the course. The article or event must come from the **last six months** or the latest issue of the source (please use reputable sources). Each presentation should be about 5 minutes and students are encouraged to use *more engaging* presenting methods than a traditional slideshow. Any references cited (and slides, if any) should be posted on the '*What's O.M. the News?*' Discussion Forum on Blackboard.

Students in the audience will also grade the presentation on a scale of 1 to 5. The primary criteria for grading would be how interesting, unique, and "cool" your news story and analysis are. Mostly, it is important to demonstrate your skill in relating freshly discussed class materials to the challenges business organizations currently.

Each group should create a video containing their presentation and upload it to the designated discussion forum on Blackboard. No live presentations will take. A portion of the grade will be assigned to viewing and critically commenting on other groups' presentations.

Group Project: *'Insights from an Insider'*

Students will be introduced to the fundamentals of many concepts in operations management under this course. However, industry practices are, in most cases, more complicated than the examples you may encounter in class, as they involve a more significant number of variables and high levels of uncertainty. In order to provide students a broader understanding of industry practices of these concepts, a comprehensive group project will be assigned. They are expected to conduct a *semi-structured interview* with an executive of a business and investigate the firm's practices related to one or more of the many topics we will be discussing in class (e.g., the firm's inventory practices, their methods and considerations in forecasting demand, elements of process and capacity design). Students are encouraged to work on this project in groups of 4.

A portion of the assignment grade will be based on a 10-minute oral presentation, where you will be sharing the knowledge you gained with the rest of the class. Students in the audience will also be asked to assess and rank-order the presentations from all the other groups. The primary criteria for grading would be how interesting, unique, and "cool" your findings are. A short write-up should accompany the presentation.

More details on scheduling Zoom meetings with the instructor to discuss the project plan, the timeline for deliverables, and specific grading criteria will be posted on Blackboard as the course progresses. Some important deadlines to remember are as follows:

- Group details submission: by **11:59 p.m.** on **Wednesday, March 13**.
- Group meetings with instructor: **9:00 a.m.** – **12:00 p.m.** on **03/25, 03/26, 03/27** (*sign-up in advance*)
- Single-page proposal: by **11:59 p.m.** on **Wednesday, March 27**.
- Presentation and two-page report: **11:59 p.m.** on **Monday, April 22**.

Class Participation:

Class attendance is expected and *strongly recommended*. Students can help to improve their grades by **up to 4%** by attending and actively participating in class (the maximum available credit may be any value between 0 and 4). The instructor will do his best to assign bonus points objectively; thus, they will not be open to negotiation. Attendance will be taken randomly during the semester.

The following can be a guideline for the allocation of bonus points.

Attendance*
Up to 1%   You have attended most to nearly all of the classes.
Up to 2%   You have attended nearly all to all of the classes.

Participation*
Up to 1%   You have participated multiple times throughout the course.
Up to 2%   You have contributed constructive comments/questions in many classes.

*   *Applies to attendees of face-to-face classes as well as synchronous Zoom sessions.*

Most grading in college (and in this course) is based on achievement. This class attendance bonus allows students to improve their grades based on effort. If any students are struggling with their assignments, then they have no excuse for not striving to receive a 4% class attendance bonus. This represents a very easy way to improve your grade. In addition, active class participation should improve the class experience for everyone. **Students are strongly encouraged to bring a computer to every class**, to maintain an engaging environment in a physically distanced class**.**

Office Hours

Office hours are intended to be an opportunity to clarify any questions you have regarding course materials, get help on problem sets, and/or ask questions before the exams. They are **NOT** intended to be a place for you to attempt your homework for the *first time*. You are encouraged to attempt them beforehand and come to my office hours prepared with questions. Once your questions have been answered, you are expected to make another attempt to solve the problems. If you then have further questions (even if it is 5 minutes later), we can discuss them.

I am not trying to discourage you from attending office hours; instead, it is quite the contrary. I want you to use office hours to be an effective component of your learning process and maximize your opportunities to succeed.

To provide you with more flexibility, **all office hours will be hosted as both face-to-face and Zoom online meetings**. The Zoom meeting is directly accessible via Blackboard.

ChatGPT and Generative AI:

In general, I expect that the work you submit in this class will be your own and **you are not authorized to use artificial intelligence (AI) tools such as ChatGPT and Bard**. However, there will be specific assignments or activities in which we will utilize these tools to enhance your learning experience. In these instances, I will provide you with additional information about the assignment and how AI will be employed and cited. Again, unless permission is granted, you are expected to complete assignments without substantive assistance from others, including AI tools.

Regular and Substantive Interaction:

The U.S. Department of Education requires that distance education courses must include regular and substantive interaction between students and faculty. For more information about Regular and Substantive Interaction at WKU, please visit the [Regular and Substantive Interaction in Online and Distance Learning webpage](#).

In this course, regular and substantive interaction will take place in the following ways:

- Instructor participation in weekly discussion boards,
- Synchronous exam review sessions with the instructor and students,
- Weekly video and/or email announcements,
- Scheduled meetings and help sessions for the group project with the instructor, and

Timely, detailed, and personalized feedback on assignments provided via Gradescope.

ADA Accommodation:

In compliance with University policy, students with disabilities who require academic and/or auxiliary accommodations for this course must contact the Student Accessibility Resource Center located in Downing Student Union, Room 1074. The SARC can be reached by phone number at 270-745-5004 [270-745-3030 TTY] or via email at sarc.connect@wku.edu. Please do not request accommodations directly from the professor or instructor without a faculty notification letter (FNL) from The Student Accessibility Resource Center.

Academic Integrity/Honor Code:

Academic integrity is the cornerstone of higher education. As such, all members of the university community share responsibility for maintaining and promoting the principles of integrity in all activities, including academic integrity and honest scholarship. Academic integrity will be strongly enforced in this course.

Students assume full responsibility for the content and integrity of the academic work they submit. In MGT 314, cheating includes but is not limited to the following actions which are thus considered as violations of the academic honor code:

1. Use of prohibited items during exams.
2. Represent the work of others as their own.

3. Copying other students' work, however minor, during the exam.
4. Use or obtain unauthorized assistance in any academic work.
5. Give unauthorized assistance to other students.
6. Modify, without instructor approval, an examination, paper, record, or report for the purpose of obtaining additional credit.
7. Misrepresent the content of submitted work.
8. Signing in for class on other students' behalf.
9. Making another student sign in for class on one's behalf.

If a student is unclear about whether a particular situation may constitute an honor code violation, the student should meet with the instructor to discuss the situation. Students who violate the honor code will receive a **failing grade** and will be reported to the Office of Student Conduct.

Title IX/ Discrimination & Harassment:

Western Kentucky University (WKU) is committed to supporting faculty, staff and students by upholding WKU's [Sex and Gender-Based Discrimination, Harassment, and Retaliation](#) (#0.070) and [Discrimination and Harassment Policy](#) (#0.2040). Under these policies, discrimination, harassment and/or sexual misconduct based on sex/gender are prohibited. If you experience an incident of sex/gender-based discrimination, harassment and/or sexual misconduct, you are encouraged to report it to the Executive Director, Office of Institutional Equity/Title IX Coordinator, Ena Demir, 270-745-6867 or Title IX Investigators, Michael Crowe, 270-745-5429 or Joshua Hayes, 270-745-5121.

Please note that while you may report an incident of sex/gender based discrimination, harassment and/or sexual misconduct to a faculty member, WKU faculty are "Responsible Employees" of the University and MUST report what you share to WKU's Title IX Coordinator or Title IX Investigator. If you would like to speak with someone who may be able to afford you confidentiality, you may contact WKU's [Counseling and Testing Center](#) at 270-745-3159.

WKU Counseling and Testing Center:

The university experience should be challenging, but not overwhelming. To this end, the WKU Counseling Center provides a variety of services to help strengthen students' capacity to tolerate distress, form healthy relationships, and seek healthy expressions of their ideals and values. If you would like to speak with someone, you may contact WKU's Counseling and Testing Center at 270-745-3159 or use their Here To Help service at https://www.wku.edu/heretohelp/heretohelpemail.php. If you need immediate help, please visit the Counseling Center in 409 Potter Hall or call the 24-hour emergency help line at 270-843-4357.

Big Red Backpack:

The Big Red Backpack program is the title of WKU's partnership with Barnes & Noble College for their First Day Complete initiative. Big Red Backpack is a course materials delivery

program that ensures students have their required course materials on the first day of class and may reduce the costs of materials for many of their courses. Enrollment in the program occurs automatically when students register for classes. Students may opt out of the program each semester, as long as they choose to opt out for all of their classes.

Students MUST carefully and completely follow all instructions regarding the Big Red Backpack Program. Those instructions will be provided by:

1. An email to all Topper email addresses from the Big Red Backpack Program one month prior to the start of classes.
2. The Big Red Backpack Program site: https://www.wku.edu/bigredbackpack.

Students should refer to the Big Red Backpack Program site referenced above for opt-out deadlines and any additional details.

Other Resources:

- Student Resource Portal: https://www.wku.edu/online/srp
- Sexual Assault Resources: https://www.wku.edu/titleix
- Counseling Center: https://www.wku.edu/heretohelp
- Writing Center assistance: https://www.wku.edu/startcenter
- Active Shooter Preparedness: https://youtu.be/chr4C4dgvHs
- WKU Police Department: https://www.wku.edu/police

*** SYLLABUS MAY BE REVISED BY NOTICE, BY EMAIL, OR ON BLACKBOARD ***