



Course OPRE 6302.001 – Operations Management
SYSM 6334.001 – Systems Operations Management
Professor Sonia E. Leach, Ph.D.
Term Spring 2023
Meetings Tue: 1:00 – 3:45 PM; JSOM 1.217

Professor Contact Information

Professor Sonia E. Leach, Ph.D., Clinical Professor
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Email Address sonia.leach@utdallas.edu
Office Location JSOM 3.229
Office Hours Office hours are available throughout the week by appointment. Office hours will be carried out using MS Teams. If you have an issue that requires personal attention not pertaining to other students in the course, please email me and I will return your message within one day to schedule an appointment time.

About the Instructor

Dr. Leach began her supply chain career in 1992 as a systems acquisition/procurement officer on active duty in the United States Air Force. After overseeing the development of several software systems, she transitioned to operations analysis and conducted large-scale simulations and statistical output analysis for improved military operations in support of U.S. Congressional budget decisions. Dr. Leach then worked in supply chain compliance for supplier relations, transportation, logistics, subcontractor performance and customer service for a world-wide retail organization. Dr. Leach joined UT Dallas in 2012 upon retirement from her 20-year active duty career in the United States Air Force and now holds the position of Clinical Professor. Dr. Leach maintains relationships with several supply chain professional organizations and has actively interacted with supply chain professionals for the past ten years while directing the Industry Mentor Program for UTD MS SCM students. Her teaching expertise includes probability and statistics, operations management, global supply chain management, spreadsheet modeling and analytics, and project management. Dr. Leach has earned a BS in Mathematics from The Pennsylvania State University, a MS in Operations Research from the Air Force Institute of Technology and a Ph.D. in Industrial Engineering from Arizona State University.

TA Information

Name, contact information, and office hours are posted on eLearning.

Course Modality

Instructional Mode	In-person classroom lectures
Course Platform	eLearning

COVID-19 Guidelines and Resources

The information contained in the following link lists the University's COVID-19 resources for students and instructors of record. Please see <http://go.utdallas.edu/syllabus-policies>.

Co-Requisite

OPRE 6301, knowledge of calculus and probability, or consent of the instructor.

Course Description

Operations Management (OM): Management of the efficient transformation of inputs into outputs to suitably satisfy customers. Inputs are materials, labor, capital and management. Outputs are products or services that customers want and pay for. The course provides an introduction to the operations and the related management concepts. The level of discussion varies from strategic to daily control of business processes.

Learning Outcomes and Expectations

Upon completion of the course, the student should be able to determine performance measures of manufacturing/service processes/systems in key operational dimensions. The student should also know what factors affect these measures, how these measures can be calculated and how these measures can be improved. More specific objectives include:

1. Describe and explain services, manufacturing, just in time, and total quality management strategies.
2. Derive and compute optimal decisions and performance measures, such as costs and profits.
3. Develop analytical thinking for operations practices.

Required Text/Material

Matching Supply with Demand: An Introduction to Operations Management (4th Edition), by Gerard Cachon and Christian Terwiesch, ISBN: 978-0-07-809665-5.

The Goal: A Process of Ongoing Improvement (3rd Edition), by Eliyahu M. Goldratt and Jeff Cox, ISBN: 978-0884271956.

The book *The Goal* has been chosen as a reading to accompany your textbook. This is a self-paced reading to be completed prior to week 12 of the Course Calendar below. This book is a relatively quick read, but you may want to read the book more than once. *The Goal* has been a perennial bestselling business book since its first publication in 1984. While there have been numerous business books written since *The Goal* was first published, it remains the preeminent book on the specific impact that operations management has on business success. This book is written as a novel, allowing the authors to use both personal and professional interactions and observations by the main character to demonstrate essential operations management methodologies. *The Goal* can still be found on the shelves of business executives today, and is likely one of the few business books that they've actually read cover to cover.

Textbooks and some other bookstore materials can be ordered online or purchased at the [UT Dallas Bookstore](#).

Technical Requirements

Please review the important technical requirements on the [Getting Started with eLearning](#) webpage.

You are expected to possess a confident level of computer and Internet literacy for this course. **A computer and Microsoft Excel with the Solver Add-In are required.**

To activate the Solver Add-In:

- **On a Window-based computer, open MS Excel**, click on File, click on Options, click on Add-ins, then at the bottom of the window you will see a drop-down menu that is set on Excel Add-ins. Click on Go, put a checkmark in the box next to Solver, and click on OK. The Solver command will now be visible in the Data ribbon under the Analysis group on the far right of the toolbar.
- **On an Apple/Macintosh computer**, open MS Excel, click on Tools in the top menu, then click on Excel Add-Ins.... Put a checkmark in the box next to Solver and click on OK. The Solver command will now be visible in the Data ribbon on the far right of the toolbar.

Course Access and Navigation

This course can be accessed using your UT Dallas NetID account on the [eLearning](#) website. Please see the course access and navigation section of the [Getting Started with eLearning](#) webpage for more information. To become familiar with the eLearning tool, please see the [Student eLearning Tutorials](#) webpage.

UT Dallas provides eLearning technical support 24 hours a day, 7 days a week. The [eLearning Support Center](#) includes a toll-free telephone number for immediate assistance (1-866-588-3192), email request service, and an online chat service.

Server Unavailability or Other Technical Difficulties

The University is committed to providing a reliable learning management system to all users. However, in the event of any unexpected server outage or any unusual technical difficulty which prevents students from completing a time sensitive assessment activity, the instructor will provide an appropriate accommodation based on the situation. Students should immediately report any problems to the instructor and also contact the online [eLearning Help Desk](#). The instructor and the eLearning Help Desk will work with the student to resolve any issues at the earliest possible time.

eLearning Course Resources

Most everything you need for the course has been posted to eLearning, such as:

- PowerPoint slides for each lecture (in .pptx and .pdf format)
- Data files for lecture examples and all textbook problems
- Formula sheet for each exam
- Supplemental readings and videos for each lesson
- Solutions for all textbook problems
- Sample exam questions and solutions

Course Calendar

Module 1	Process Analysis
Week 1	Week of Tuesday, January 17
Lecture Topics	Course Overview and Syllabus Review Introduction
Textbook Reading	Chapter 1
Week 2	Week of Monday, January 23
Lecture Topic	The Process View of the Organization
Textbook Reading	Chapter 2
Recommended Practice Problems	2.1 – 2.4, 2.6 – 2.8, 2.10, 2.12
Week 3	Week of Monday, January 30
Lecture Topics	Process Capacity
Textbook Reading	Chapter 3
Recommended Practice Problems	3.1, 3.2, 3.5 – 3.8

Week 4	Week of Monday, February 6
Lecture Topic	Labor Costs Operations and Finance
Textbook Readings	Chapters 4, 6
Recommended Practice Problems	4.1 – 4.5, 4.8, 6.1, 6.2
Graded Assignment	Module 1 Assignment: will be available on eLearning on Tuesday, January 17 and due via eLearning by Friday, February 10 at 11:59PM CST.
Week 5	Week of Monday, February 13
Graded Assessment	Module 1 Exam: (2 hours) Tuesday, February 14 at the UTD Testing Center.
Module 2	Setups, Quality and Waiting
Week 6	Week of Monday, February 20
Lecture Topic	Batching
Textbook Reading	Chapter 5
Recommended Practice Problems	5.1, 5.2, 5.4, 5.5, 5.10 – 5.13
Week 7	Week of Monday, February 27
Lecture Topic	Quality and Statistical Process Control
Textbook Reading	Chapter 7
Recommended Practice Problems	7.1 – 7.3, 7.6
Week 8	Week of Monday, March 6
Lecture Topics	Lean and the Toyota Production System (TPS)
Textbook Reading	Chapter 8
Recommended Practice Problems	8.1 – 8.3
Week 9	Week of Monday, March 13
SPRING BREAK	
Week 10	Week of Monday, March 20
Lecture Topic	Waiting Time Throughput Losses
Textbook Readings	Chapters 9, 10
Recommended Practice Problems	9.1 – 9.5, 9.9, 10.1 – 10.3, 10.6
Graded Assignment	Module 2 Assignment: will be available on eLearning on Monday, February 20 and due via eLearning by Friday, March 24 at 11:59PM CST.
Week 11	Week of Monday, March 27
Graded Assessment	Module 2 Exam: (2 hours) Tuesday, March 28 at the UTD Testing Center.

Module 3	Project Management, Linear Programming and Inventory
Week 12	Week of Monday, April 3
Lecture Topic	Project Management
Textbook Reading	Chapter 12
Recommended Practice Problems	12.1, 12.3
Week 13	Week of Monday, April 10
Lecture Topic	Linear Programming “The Goal” video lecture (viewed on eLearning)
Reading	LP Supplement (provided on eLearning)
Recommended Practice Problems	19, 22, 1, 2, 3, 6, 9, 15, 18 Note: Solve problems 19 and 22 first and use a computer to solve these problems despite the instructions.
Graded Assessment	“The Goal” Quiz: (30 minutes) Sunday, April 16, 9AM – 11:59PM CST on eLearning.
Week 14	Week of Monday, April 17
Lecture Topic	Newsvendor Model and Mismatch Cost
Textbook Readings	Chapters 14, 15
Recommended Practice Problems	14.1 – 14.3, 14.5 – 14.8, 15.1 – 15.4, 15.9
Graded Assignment	Group Project/Paper: due via eLearning on Sunday, April 23 at 11:59PM CST.
Week 15	Week of Monday, April 24
Lecture Topics	Order-up-to-Model
Textbook Reading	Chapter 16
Recommended Practice Problems	16.1 – 16.7
Graded Assignment	Module 3 Assignment: will be available on eLearning on Monday, April 3 and due via eLearning by Friday, April 28 at 11:59PM CST.
Week 16	Week of Monday, May 1
Graded Assessment	Module 3 Exam: (2 hours) Tuesday, May 2 at the UTD Testing Center.

GRADING POLICIES

Grading Criteria

Assessment Activity	
Assignments (5% each)	15%
Module 1 Exam	20%
Module 2 Exam	20%
Module 3 Exam	25%
“The Goal” Quiz	10%
Group Project	10%
TOTAL	100%

Letter Grades

Weighted Average	Course Letter Grade
≥ 93	A
90 – 92.9	A-
87 – 89.9	B+
83 – 86.9	B
80 – 82.9	B-
77 – 79.9	C+
70 – 76.9	C
< 70	F

A C grade is the lowest passing grade in a graduate-level course. Undergraduates taking this graduate course will be subject to the same grading policy as graduate students.

Accessing Grades

Students can check their grades by clicking My Grades under Course Tools after the grade for each assessment is released.

Exams

Three (3) exams will be given in this course. All exams are closed book, closed notes. The exams will require you to demonstrate your understanding of the concepts presented in the associated learning Module. You will have two (2) hours to complete each exam.

Testable materials include: lecture, assigned chapter readings, supplemental readings in eLearning, and posted videos in eLearning.

A formula sheet relevant to the material being tested will be provided to you for each exam. This formula sheet is available for preview in eLearning.

You are authorized to use MS Excel, the downloaded pdf formula sheet, any calculator (but not a smartphone) and scratch paper on all exams.

All exams must be taken at the Student Success Center Testing Center in Synergy Park North Two during the designated timeframe given for each exam. You must reserve a seat for each exam at least 72 hours in advance of each exam at <http://registerblast.com/utdallas/exam>.

The value of each exam is given in the table below.

Your grade for each exam will be available in My Grades in eLearning after all students have completed the exam and the exams have been reviewed and released by your instructor. Prior to this happening, you may not see your exam listed in My Grades in eLearning – this is normal even if you have completed and submitted your exam. You will receive an emailed course announcement once the instructor has released the exams grades. Once released, your grade will be visible in My Grades in eLearning. To view your exam, click on My Grades, click on the name of the exam, then click on your score. Please note the points awarded for each question, and not just the correct/incorrect marking, as your grade may have been overridden by the instructor during the review. Questions regarding a graded exam must be submitted by email. A response to your inquiry will be emailed and may include comments typed within the Feedback section of your exam question.

- The Module 1 Exam will be a combination of multiple-choice, true-false and/or problem solving.
- The Module 2 Exam will be a combination of multiple-choice, true-false and/or problem solving. It will be assumed that the student has cumulative knowledge from Module 1 material.
- The Module 3 Exam will be a combination of multiple-choice, true-false and problem solving. It will be assumed that the student has cumulative knowledge from Module 1 and Module 2 material.

Quiz

One quiz will require you to demonstrate your comprehension of the concepts related to you in the required Goldratt book, *The Goal*. This quiz will be open book/open notes and administered through eLearning. The quiz consists of 10 multiple choice and true/false questions, each question worth 10 points. You will have 30 minutes to complete this quiz. Please see the Course Calendar for the date and time of this quiz.

Group Project/Paper

There will be one group project/paper in this course worth 10% of your course grade. Your groups will be randomly assigned and will not be changed based on student preference. The groups will be tentatively set at the beginning of the course, but will not be finalized until after Census Day, which is approximately three weeks into the semester. The details of the group project/paper are available in eLearning. The due date of the group project/paper is listed in eLearning and in the Course Calendar presented above.

Graded Assignments/Assessments

After returning an assignment/assessment, students have 7-days (5-business days) to question the grade.

Rescheduled Exams

A reschedule exam will be provided to any student who has a conflict with a scheduled exam. Please contact the instructor via email as soon as you are able prior to the scheduled exam date to arrange for a rescheduled exam.

Makeup Exams

Multiple opportunities to take the same exam in an attempt to earn a better grade are not allowed. Only one attempt is allowed per exam. **Makeup examinations will NOT be offered for this course under any circumstances.** (Note: The UTD Testing Center refers to Makeup exams as those on alternate test dates from the original class schedule. These are not second opportunities for a student to take an exam.)

Late Work

If you need to miss an assignment deadline, you must pre-notify the instructor before the deadline. You should provide the reason for missing the deadline and an alternative date for submitting the assignment. The instructor must approve the extension and the new deadline. If you do not pre-notify the instructor, the assignment will be reduced in grade by 10% for each day (or portion of a day) late.

Additional Information

Extra credit will NOT be offered for this course under any circumstances.

COURSE/UNIVERSITY POLICIES

Accessibility Accommodations

It is the policy and practice of The University of Texas at Dallas to make reasonable accommodations for students with properly documented disabilities. However, written notification from the Office of Student AccessAbility (OSA) is required. If you are eligible to receive an accommodation and would like to request it for this course, please discuss it with me and allow one week advance notice. Students who have questions about receiving accommodations, or those who have, or think they may have, a disability (mobility, sensory, health, psychological, learning, etc.) are invited to contact the Office of Student AccessAbility for a confidential discussion. OSA is located in the Student Services Building, suite 3.200. They can be reached by phone at (972) 883-2098, or by email at studentaccess@utdallas.edu.

Class Materials

The instructor may provide class materials that will be made available to all students registered for this class as they are intended to supplement the classroom experience. These materials may be downloaded during the course, however, these materials are for registered students' use only. Classroom materials may not be reproduced or shared with those not in class, or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the [Student Code of Conduct](#).

Class Attendance

The University's attendance policy requirement is that individual faculty set their course attendance requirements. Regular and punctual class attendance is expected. Students who fail to attend class regularly are inviting scholastic difficulty. In some courses, instructors may have special attendance requirements; these should be made known to students during the first week of classes.

Class Participation

Regular class participation is expected. Students who fail to participate in class regularly are inviting scholastic difficulty. A portion of the grade for this course is directly tied to your participation in this class. It also includes engaging in group or other activities during class that solicit your feedback on homework assignments, readings, or materials covered in the lectures (and/or labs). Class participation is documented by faculty. Successful participation is defined as consistently adhering to University requirements, as presented in this syllabus. Failure to comply with these University requirements is a violation of the [Student Code of Conduct](#).

Class Recordings

Students are expected to follow appropriate University policies and maintain the security of passwords used to access recorded lectures. Unless the Office of Student AccessAbility has approved the student to record the instruction, students are expressly prohibited from recording any part of this course. Recordings may not be published, reproduced, or shared with those not in the class, or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the [Student Code of Conduct](#).

The instructor may record meetings of this course. These recordings will be made available to all students registered for this class if the intent is to supplement the classroom experience. If the instructor or a UTD school/department/office plans any other uses for the recordings, consent of the students identifiable in the recordings is required prior to such use unless an exception is allowed by law.

Comet Creed

This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

"As a Comet, I pledge honesty, integrity, and service in all that I do."

Academic Support Resources

The information contained in the following link lists the University's academic support resources for all students. Please see <http://go.utdallas.edu/academic-support-resources>.

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus. Please review the catalog sections regarding the credit/no credit or pass/fail grading option and withdrawal from class. Please go to <http://go.utdallas.edu/syllabus-policies> for these policies.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.