OPSM 4850 LEAN/SIX SIGMA

Instructor Contact

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Communication Expectations

All course communication will be through the Canvas platform. For personal concerns or questions, please email me at michael.savoie@unt.edu. When sending an email to my UNT address, please be sure to include the course number and section number (4850) in the subject line. Inquiries are replied to as quickly as possible, but always within 48 hours. In general, grades for reading assignments and quizzes (if any) are available immediately upon completion of the assignments. Case grades with feedback are available within a week of submission.

Course Description

OPSM 4850 Lean/Six Sigma involves studying and applying Lean principles in production processes and multiple stages in a supply chain network, including planning and coordinating the upstream and downstream activities of the supply chain network's trading partners. New product design and the launch of that design are used as an example of how Lean principles are applied throughout the supply chain network (Kaizen events). Emphasis is placed on material flow analysis, process, continuous improvement techniques, and employee development and empowerment as integral aspects of a Lean/Six Sigma philosophy. This course addresses not only Lean manufacturing techniques as applied throughout production and service processes but also the application of Lean extending upstream and downstream in coordination with suppliers and customers. The associated integrative concepts of Lean/Six Sigma provide the framework for the course that includes governance, project management, performance management, and analytics.

Course Structure

OPSM 4850 is taught in senior seminar format. Participation is key in a senior seminar, and a major portion of your grade. Simply reviewing the course material is not enough. You are expected to contribute your ideas to the course and back them up with external sources, views, and commentary. The course materials will be covered in approximately 16 weeks, from August 18 to December 14, 2025. There are 11 modules to the course plus four case studies. Each student will prepare and present a PowerPoint presentation for the first three cases and a group PowerPoint for the fourth case. In order to earn your Six Sigma Green Belt, you will need to pass the SSGB Exam with a score of 80 or higher, and earn a B or better in the course.

Course Prerequisites or Other Restrictions

Prerequisite(s): You are expected to have working knowledge of the topics covered in the first three years of a typical undergraduate business or engineering degree. This prerequisite material includes statistics, forecasting and regression. We will not address material already covered in those courses. You should also have working knowledge of the internet, Canvas LMS, Microsoft Office, and Zoom; and be comfortable presenting your work in front of others.

Course Objectives

At the conclusion of this course, the student should be able to:

1. Identify and define key terms associated with Lean/Six Sigma.

2. Describe the origins, framework and basic terminology associated with both Lean and Six Sigma.

3. Describe specific techniques associated with structured problem solving in new product design, project management and planning.

4. Identify and/or discuss actual or potential application of Lean and Six Sigma in various settings (manufacturing, service, government, etc.) as well as throughout the supply/value chain.

5. Pass the Six Sigma Green Belt Certification Exam

Materials

Text. There is no required text for the course. Case studies are assigned in the schedule below. Please click on this link Harvard Course Pack to purchase the cases. Cost is $33.30 for three readings and four cases. The Case Companion tutorial is optional. If you have not done Harvard business cases before, this is an excellent tutorial. You are expected to utilize additional outside resources as you prepare you case and individual presentations.

Course materials, assignments, and other readings will be available within the Canvas portal or on the Lean/Six Sigma Bookshelf.

As a student you have free access to LinkedIn Learning through your UNT ID. You are required to complete the Six Sigma: Green Belt course by Richard Chua. You should upload your certificate to the assignment tab in Canvas to receive credit for this course.

Teaching Philosophy

OPSM 4850 is an in-person senior seminar focused on expanding your understanding of Lean/Six Sigma principles and how to apply these in various situations. It utilizes in class discussions and presentations. All materials, readings, quizzes, and cases are providing within the Canvas shell.

The course is designed to provide you with a detailed overview of Lean and Six Sigma. Each module is self-contained. Cases are to be completed individually. You will be expected to present your case findings during class on the dates noted in the syllabus. Completing all the assignment readings in the required time window will prepare you for the class discussions and the issues you will find in the cases.

As always, please reach out to me should you have any questions or concerns regarding the course.

A typical class will follow this outline:

1. Brief review of prior class content
2. Individual Presentations
3. Case Presentations as applicable
4. Discussion of new content

Course Requirements

Week	Date	Chapter/Topic	Pre-Reading Assignment	Assignment
1	Aug 20	Administrative Overview Introduction to Lean Six Sigma	Course Syllabus	
2	Aug 27	Quality Basics Six Sigma use in Projects	It's Time to Rethink Continuous Improvement**	
3	Sep 3	Statistics for Six Sigma	Cartoon Guide to Statistics	Skittles Class Activity
4	Sep 10	Case 1	Samsung Electronics**	Case Presentations
5	Sep 17	Six Sigma Philosophy in the Supply/Value Chain	Optional: Six Sigma Handbook Chapter 1	
6	Sep 24	DMAIC Framework for Project Planning Six Sigma Define & Measure	Theory of Constraints* 7 Attributes of a Control Plan* Root Cause Analysis*	
7	Oct 1	Six Sigma Analyze, Improve, Control	Making Process Improvements Stick**	
8	Oct 8	Case 2	A Profile of Toyota's Production System**	Case Presentations
9	Oct 15	Six Sigma Review		Green Belt Exam due by 11:59pm Oct 21
10	Oct 22	Origins of Lean Lean Models	Decoding the DNA of Toyota*	2nd Exam Available Oct 29 @ 12:01am
11	Oct 29	Lean for New Product Design Value Stream Mapping	Value Stream Mapping*	
12	Nov 5	Case 3	Carestream Health Inc.: When Disruption Hits a Lean Supply Chain**	Case Presentations
13	Nov 12	Lean: Create Flow	Hirano's 8 Conditions for Flow*	
14	Nov 19	Lean: Establish Pull	Just in Time Overview*	
		Thanksgiving Break		
15	Dec 3	Lean: Seek Perfection	Want More from Lean Six Sigma?**	LinkedIn Learning Course Due by 11:59pm 12/3
16	Dec 10	Case 4	Fair Park Covid-19 Mass Vaccination Site**	Case Presentations Case 4 PE due 11:59pm
		Second attempt Green Belt Exam Due by 11:59pm, Dec 10, 2025		

Available on the Lean/Six Sigma Bookshelf   **Included in Course Pack**

Grading

Assignment	Points Possible	Percentage of Final Grade
Discussion Assignments	*100 points*	*10%*
Case 1	*150 points*	*15%*
Case 2	*150 points*	*15%*
Case 3 Individual Presentation	*50 points*	*5%*
Case 3 Group Presentation	*100 points*	*10%*
Case 4 Group Presentation	*150 points*	*15%*
Case 4 Peer Evaluation	*100 points*	*10%*
Six Sigma: Green Belt Course	*100 points*	*10%*
Green Belt Certification Exam	*100 points*	*10%*
Total Points Possible	*1000 points*	*100%*

A = 900-1000

B = 800-899

C = 700-799

D = 600-699

F = 500-599

Grades are based on total points earned during the semester. Point totals are not rounded. In order to earn your Six Sigma Green Belt, you will need to pass the SSGB Exam with a score of 80 or higher, and earn a B or better in the course.

Course Policies

Assignment Policy

All assignments are due by 6:30pm Wednesday of the week assigned. These should be uploaded to the appropriate assignment tab in Canvas. You are expected to approach each assignment with the professionalism required in the "business" world. Poor grammar and/or presentation formats will result in point deductions. Late assignments are not accepted without prior authorization from the instructor.

The University is committed to providing a reliable online course 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, adjustments to the time windows may be provided based on the situation. Students should immediately report any problems to the instructor and contact the UNT Student Help Desk: helpdesk@unt.edu or 940.565.2324 and obtain a ticket number. The instructor and the UNT Student Help Desk will work with the student to resolve any issues at the earliest possible time.

Examination Policy

You will need to score above 80% on the Green Belt Certification Exam in order to qualify for your Green Belt Certification. You have two attempts to pass the exam. See the course schedule for exam availability and due dates.

Attendance

Students are expected to attend class meetings regularly and to abide by the attendance policy established for the course. It is important that you communicate with the professor and your team prior to being absent, so you, the professor, and the team can discuss and mitigate the impact of the absence on your attainment of course learning goals. Please inform the professor and team if you are unable to

attend class meetings because you are ill, in mindfulness of the health and safety of everyone in our community.

Class Participation

You are expected to be prepared for each class and participate in class discussions and presentations. This includes completing all required readings and finding additional information on the topic to be covered. Failure to participate may result in you being dropped from the course.

Outside Readings, Videos or Podcasts

Outside readings, videos or podcasts provide different perspectives on the class topics. The readings are meant to provide a foundation for in-class discussion and to broaden the students' understanding of the topics. You are expected to use these to bring new/different insights to your individual and case presentations. A complete list of the readings, cases and recommended references are included at the end of this syllabus.

Instructor Responsibilities and Feedback

In addition to maintaining the Canvas course site, I will also
- Post announcements as needed to clarify and update information on the course
- Answer any questions/concerns you may have about the course, assignments, due dates, etc.
- Respond to all course inquiries usually within 24 hours, but always within 48 hours.

Late Work
I do not accept late work. Please plan your schedules accordingly.

Syllabus Change Policy

While every attempt has been made to cover possible contingencies, the syllabus may change during the semester. If it does, an announcement will be posted noted the changes and an updated syllabus will be posted in Canvas.

Course Evaluation

Student Perceptions of Teaching (SPOT) is the student evaluation system for UNT and allows students the ability to confidentially provide constructive feedback to their instructor and department to improve the quality of student experiences in the course. You will receive notification when SPOT evaluations become available for this course. Additionally, there will be a post in the Announcements on Canvas reminding you to complete the SPOT evaluation.

Technical Requirements & Skills

Minimum Technology Requirements
- Internet-enabled computer with video camera
- Reliable internet access
- Speakers & Microphone
- Plug-ins
- Microsoft Office Suite
- Canvas Technical Requirements (https://clear.unt.edu/supported-technologies/canvas/requirements)

Computer Skills & Digital Literacy

- Using Canvas
- Using email with attachments
- Downloading and installing software
- Using spreadsheet programs
- Using presentation and graphics programs

Rules of Engagement

- Treat your instructor and classmates with respect.
- Always use your professors' proper title: Dr. or Prof.
- Unless specifically invited, do not refer to your instructor by first name.
- Use clear and concise language. No profanity.
- Remember that all college level written communication should have correct spelling and grammar (this includes discussion boards).
- Use appropriate font styles and sizes for your presentations
- When posting online, be cautious when using humor or sarcasm as tone is sometimes lost in an email or discussion post and your message might be taken seriously or sound offensive.
- Be careful with personal information (both yours and other's).
- Do not send confidential information via e-mail

See these Engagement Guidelines (https://clear.unt.edu/online-communication-tips) for more information.

Getting Help

Technical Assistance

Part of working in the online environment involves dealing with the inconveniences and frustration that can arise when technology breaks down or does not perform as expected. Here at UNT we have a Student Help Desk that you can contact for help with Canvas or other technology issues.

UIT Help Desk: http://www.unt.edu/helpdesk/index.htm
Email: helpdesk@unt.edu
Phone: 940-565-2324
In Person: Sage Hall, Room 130
Walk-In Availability: 8am-9pm
Telephone Availability:
- Sunday: noon-midnight
- Monday-Thursday: 8am-midnight
- Friday: 8am-8pm
- Saturday: 9am-5pm
Laptop Checkout: 8am-7pm

For additional support, visit Canvas Technical Help (https://community.canvaslms.com/docs/DOC-10554-4212710328)

Student Support Services

UNT provides mental health resources to students to help ensure there are numerous outlets to turn to that wholeheartedly care for and are there for students in need, regardless of the nature of an issue or its severity. Listed below are several resources on campus that can support your academic success and mental well-being:

- Student Health and Wellness Center (https://studentaffairs.unt.edu/student-health-and-wellness-center)
- Counseling and Testing Services (https://studentaffairs.unt.edu/counseling-and-testing-services)
- UNT Care Team (https://studentaffairs.unt.edu/care)
- UNT Psychiatric Services (https://studentaffairs.unt.edu/student-health-and-wellness-center/services/psychiatry)
- Individual Counseling (https://studentaffairs.unt.edu/counseling-and-testing-services/services/individual-counseling)

Other student support services offered by UNT include

- Registrar (https://registrar.unt.edu/registration)
- Financial Aid (https://financialaid.unt.edu/)
- Student Legal Services (https://studentaffairs.unt.edu/student-legal-services)
- Career Center (https://studentaffairs.unt.edu/career-center)
- Multicultural Center (https://edo.unt.edu/multicultural-center)
- Counseling and Testing Services (https://studentaffairs.unt.edu/counseling-and-testing-services)
- Pride Alliance (https://edo.unt.edu/pridealliance)
- UNT Food Pantry (https://deanofstudents.unt.edu/resources/food-pantry)

Academic Support Services

- Academic Resource Center (https://clear.unt.edu/canvas/student-resources)
- Academic Success Center (https://success.unt.edu/asc)
- UNT Libraries (https://library.unt.edu/)
- Writing Lab (http://writingcenter.unt.edu/)
- MathLab (https://math.unt.edu/mathlab)

UNT Policies

Academic Integrity Policy

The G. Brint Ryan College of Business takes academic honesty seriously. Ethics and integrity are important business values, essential to building trust and adhering to both professional and legal standards. Academic dishonesty destroys trust, damages the reputation and the value of the degree and is unacceptable.

According to UNT Policy 06.003, Student Academic Integrity, academic dishonesty occurs when students engage in behaviors including, but not limited to cheating, fabrication, facilitating academic dishonesty, forgery, plagiarism, and sabotage. A finding of academic dishonesty may result in a range of academic penalties or sanctions from admonition (a warning) to expulsion from the University.

Some of the most common examples of academic integrity violations include plagiarism or cheating, such as unauthorized assistance on examinations, homework, research papers or case analyses. Your work must be entirely your own. When working on assignments, you should not discuss your work with others unless approved by the course instructor. Group assignments should only be discussed with members assigned to your group, and all group members may be held accountable in some way for known academic integrity violations in a group assignment.

Another example of academic dishonesty relates to improper attribution. When preparing your assignments, you must cite all outside sources in the manner requested by your instructor. Copying or using material from any source prepared by or previously submitted by others, at UNT or other institutions, or downloaded from the Internet, is plagiarism. Unless directed otherwise in an assignment, large scale "cutting and pasting" from other sources, even if properly footnoted, is not appropriate. You should synthesize this material in your own words and provide a footnote.

Your instructor will specify what materials, if any, may be used on the tests and exams. Using materials other than those permitted, talking with other individuals during the exam, individuals exchanging information about an exam when one has taken the exam and the other has not, or copying or using material from another individual's exam is academic dishonesty and will result in a meeting to discuss academic integrity violations and potentially issue sanctions mentioned above, and may result in ineligibility for academic scholarships. The use of online assistance, such as sites commonly used for finding homework solutions, group chat, cell phones, smart watches, and similar tools during exams is not allowed for any reason unless specifically permitted. No portion of an exam may be copied or photographed without permission.

Students are expected to conduct themselves in a manner consistent with the University's status as an institution of higher education. A student is responsible for responding to a request to discuss suspected academic dishonesty when issued by an instructor or other University official. If a student fails to respond after a proper attempt at notification has been made, the University may take appropriate academic actions in the absence of the student's participation.

AI Use

In this course, the use of AI tools is limited as directed by the instructor. Any additional use requires explicit permission, proper citation, and authentic student work.

ADA Policy

The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking reasonable accommodation must first register with the Office of Disability Access (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with a reasonable accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request reasonable accommodations at any time; however, ODA notices of reasonable accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of reasonable accommodation for every semester and must meet with each faculty member prior to implementation in each class. Students are strongly encouraged to deliver letters of reasonable accommodation during faculty office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during their designated office hours to protect the privacy of the student. For additional information, refer to the Office of Disability Access website at http://www.unt.edu/oda. You may also contact ODA by phone at (940) 565-4323.

Emergency Notification & Procedures

UNT uses a system called Eagle Alert to quickly notify students with critical information in the event of an emergency (i.e., severe weather, campus closing, and health and public safety emergencies like chemical spills, fires, or violence). In the event of a university closure, please refer to Canvas for contingency plans for covering course materials.

Retention of Student Records

Student records pertaining to this course are maintained in a secure location by the instructor of record. All records such as exams, answer sheets (with keys), and written papers submitted during the duration of the course are kept for at least one calendar year after course completion. Course work completed via the Canvas online system, including grading information and comments, is also stored in a safe electronic environment for one year. Students have the right to view their individual record; however, information about student's records will not be divulged to other individuals without proper written consent. Students are encouraged to review the Public Information Policy and the Family Educational Rights and Privacy Act (FERPA) laws and the University's policy. See UNT Policy 10.10, Records Management and Retention for additional information.

Acceptable Student Behavior

Student behavior that interferes with an instructor's ability to conduct a class or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Dean of Students to consider whether the student's conduct violated the Code of Student Conduct. The University's expectations for student conduct apply to all instructional forums, including University and electronic classroom, labs, discussion groups, field trips, etc. Visit UNT's Code of Student Conduct (https://deanofstudents.unt.edu/conduct) to learn more.

Access to Information - Eagle Connect

Students' access point for business and academic services at UNT is located at my.unt.edu. All official communication from the University will be delivered to a student's Eagle Connect account. For more information, please visit the website that explains Eagle Connect and how to forward e-mail Eagle Connect (https://it.unt.edu/eagleconnect).

Student Evaluation Administration Dates

Student feedback is important and an essential part of participation in this course. The student evaluation of instruction is a requirement for all organized classes at UNT. The survey will be made available during weeks 13, 14 and 15 [insert administration dates] of the long semesters to provide students with an opportunity to evaluate how this course is taught. Students will receive an email from "UNT SPOT Course Evaluations via IASystem Notification" (no-reply@iasystem.org) with the survey link. Students should look for the email in their UNT email inbox. Simply click on the link and complete the survey. Once students complete the survey, they will receive a confirmation email that the survey has been submitted. For additional information, please visit the SPOT website (http://spot.unt.edu/) or email spot@unt.edu.

Sexual Assault Prevention

UNT is committed to providing a safe learning environment free of all forms of sexual misconduct, including sexual harassment sexual assault, domestic violence, dating violence, and stalking. Federal laws (Title IX and the Violence Against Women Act) and UNT policies prohibit discrimination on the basis of sex, and therefore prohibit sexual misconduct. If you or someone you know is experiencing sexual harassment, relationship violence, stalking, and/or sexual assault, there are campus resources available to provide support and assistance. UNT's Survivor Advocates can assist a student who has been impacted by violence by filing protective orders, completing crime victim's compensation applications, contacting professors for absences related to an assault, working with housing to facilitate a room change where appropriate, and connecting students to other resources available both on and off campus. The Survivor Advocates can be reached at SurvivorAdvocate@unt.edu or by calling the Dean of Students Office at 940-565- 2648. Additionally, alleged sexual misconduct can be non-confidentially reported to the Title IX Coordinator at oeo@unt.edu or at (940) 565 2759.

Important Notice for F-1 Students taking Distance Education Courses

Federal Regulation

To read detailed Immigration and Customs Enforcement regulations for F-1 students taking online courses, please go to the Electronic Code of Federal Regulations website (http://www.ecfr.gov/). The specific portion concerning distance education courses is located at Title 8 CFR 214.2 Paragraph (f)(6)(i)(G).

The paragraph reads:

(G) For F-1 students enrolled in classes for credit or classroom hours, no more than the equivalent of one class or three credits per session, term, semester, trimester, or quarter may be counted toward the full course of study requirement if the class is taken on-line or through distance education and does not require the student's physical attendance for classes, examination or other purposes integral to completion of the class. An on-line or distance education course is a course that is offered principally through the use of television, audio, or computer transmission including open broadcast, closed circuit, cable, microwave, or satellite, audio conferencing, or computer conferencing. If the F-1 student's course of study is in a language study program, no on-line or distance education classes may be considered to count toward a student's full course of study requirement.

University of North Texas Compliance

To comply with immigration regulations, an F-1 visa holder within the United States may need to engage in an on-campus experiential component for this course. This component (which must be approved in advance by the instructor) can include activities such as taking an on-campus exam, participating in an

on-campus lecture or lab activity, or other on-campus experience integral to the completion of this course.

If such an on-campus activity is required, it is the student's responsibility to do the following:

(1) Submit a written request to the instructor for an on-campus experiential component within one week of the start of the course.

(2) Ensure that the activity on campus takes place and the instructor documents it in writing with a notice sent to the International Student and Scholar Services Office. ISSS has a form available that you may use for this purpose.

Because the decision may have serious immigration consequences, if an F-1 student is unsure about his or her need to participate in an on-campus experiential component for this course, s/he should contact the UNT International Student and Scholar Services Office (telephone 940-565-2195 or email internationaladvising@unt.edu) to get clarification before the one-week deadline.

Student Verification

UNT takes measures to protect the integrity of educational credentials awarded to students enrolled in distance education courses by verifying student identity, protecting student privacy, and notifying students of any special meeting times/locations or additional charges associated with student identity verification in distance education courses.

See UNT Policy 07-002 Student Identity Verification, Privacy, and Notification and Distance Education Courses (https://policy.unt.edu/policy/07-002).

Use of Student Work

A student owns the copyright for all work (e.g., software, photographs, reports, presentations, and email postings) he or she creates within a class and the University is not entitled to use any student work without the student's permission unless all of the following criteria are met:

- The work is used only once.
- The work is not used in its entirety.
- Use of the work does not affect any potential profits from the work.
- The student is not identified.
- The work is identified as student work.

If the use of the work does not meet all of the above criteria, then the University office or department using the work must obtain the student's written permission.

Download the UNT System Permission, Waiver and Release Form

Transmission and Recording of Student Images in Electronically-Delivered Courses

1. No permission is needed from a student for his or her image or voice to be transmitted live via videoconference or streaming media, but all students should be informed when courses are to be conducted using either method of delivery.

2. In the event an instructor records student presentations, he or she must obtain permission from the student using a signed release in order to use the recording for future classes in accordance with the Use of Student-Created Work guidelines above.

3. Instructors who video-record their class lectures with the intention of re-using some or all of recordings for future class offerings must notify students on the course syllabus if students' images may appear on video. Instructors are also advised to provide accommodation for students who do not wish to appear in class recordings.

   Example: This course employs lecture capture technology to record class sessions. Students may occasionally appear on video. The lecture recordings will be available to you for study purposes and may also be reused in future course offerings.

No notification is needed if only audio and slide capture is used or if the video only records the instructor's image. However, the instructor is encouraged to let students know the recordings will be available to them for study purposes.