

**Soules College  
Department of Technology  
Course Syllabus**

TECH 3320-060 Lean Six Sigma  
Lecturer: RaeJean Griffin  
Summer (I) 2024

Office Hours: Virtual  
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**Course Description:**

This course is an intermediate analysis of lean and statistical tools used to reduce costs, improve processes, and reduce variation. The DMAIC approach will be discussed as well as most topics currently covered on lean six sigma certification exams.

**Textbook:**

Sperl T., Ptacek R., and Trewen J. (2013). *The Practical Lean Six Sigma Pocket Guide XL*, The Lean Store.  
ISBN- 978-0-9903-1236-9

**Course Objectives:**

By successfully passing assigned homework, participating in online discussions in CANVAS, writing assignments, quizzes, and exams by a grade of 70% or better. Students that complete this course should be able to:

- Understand and discuss the utilization of the Define, Measure, Analyze, Improve, and Control (DMAIC) and Lean methodologies in a professional setting.
- Identify waste in processes and work to eliminate waste using lean methods, tools, and techniques.
- Effectively manage change throughout the continuous improvement cycle.
- Establish standard work practices, measurements and be able to explain their significance in quality management.
- Successfully pass the ATMAE Greenbelt Lean Six Sigma Certification Exam

**Course Competencies:**

- Computer-based skills - By use of standard software the student will be able to utilize, interpret, and present Lean Six Sigma tools and concepts.
- Communication skills - The student will research, develop, and present a Lean Six Sigma project charter
- Interpersonal skills - Students will work in group discussions concerning quality improvement to develop their quality

improvement problem solving and quality control measurement skills.

- Problem-solving - Each student will use course material and textbook examples to work through the waste reduction and problem solving methods known as Lean and DMAIC
- Personal accountability for achievement - Each student will follow the designated suspense dates for course work as listed in the course syllabus.
- Understand the vocabulary and philosophy of Lean Six Sigma methodologies by studying the practical approach to in a multimedia format in a wave training setting.

### **Course Grading:**

<b>Grading Criteria:</b>	<b>Percentage of Grade:</b>
Chapter Assignments	25
Discussions	20
Quizzes	25
Final Exam	30
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<b>Total</b>	<b>100%</b>

### **Grading Scale:**

- A = 90 - 100 %
- B = 80 - 89 %
- C = 70 - 79 %
- D = 60 - 69 %
- F = Below 60%

**This is an approximate weighting of the course work for this semester and may change slightly during the semester. Students are required to log on to CANVAS through their UT Tyler account to review study materials, participate in group discussions, submit course work, complete tests and quizzes that the instructor may post. Instructor reserves the right to make changes with prior notice to students.**

**Course Dates:**

Class Start Date	Mon, Jun,3
Census Date	Thurs, Jun, 6
Last Day to Drop	Mon, Jun 25
Final Exam Due	Sat, Jul 6
End of Term	Sat, Jul 6
Final Grades Due	Tue, Jul 9

**Course Module Schedule:**

**Module 1                      Introduction and Prepare Phase                      June3 – June 9**

**Topics Covered**

- What is Lean?
- What is Six Sigma?
- Lean Thinking and Philosophies
- Transformation Process
- Managing Change
- Gap Analysis
- Stakeholder Analysis
- A3 Reports

**Module 2                      Define Phase                      June 10 – June 16**

- Project Charters
- Team Selection
- Effective Meetings
- Project Management
- Process Mapping
- Value Stream mapping
- SIPOC

**Module 3                      Measure Phase / Analyze Phase                      June 17 – June 23**

- Waste Walk
- Value Added versus Non-Value Added Analysis
- Constraints Analysis
- Demand Analysis

- Takt Time
- Voice of the Customer
- Quality Function Deployment
- Measurement System Analysis
- Process Capability
- Charting
- Brainstorming
- Cause and Effect Diagram
- 5 Whys
- Force Field Analysis
- Impact Map

**Module 4**

**Improve Phase**

**June 24 – June 30**

- Kaizen Events
- Plan Do Check Act Process
- 5S
- Visual Controls
- Mistake Proofing
- Standard Work
- Work Area Layout
- Mass Customization
- Flow
- Quick Changeovers
- Total Productive Maintenance
- Cross-Training

**Module 5**

**Control Phase / Final Exam**

**July 1 – July 6**

- Statistical Process Control
- Visual Management
- Layered Process Audits
- Final Exam / Certification Exam

**Any late work must be cleared with the instructor prior to the due date. Any late coursework without approval will not be accepted after the due date. Any reconciliation will be**

**considered on a case by case basis with legitimate excuses at the instructor's discretion.**

### **IDEA Statement**

If you have a disability, including a learning disability, for which you request disability support services/accommodations(s), please contact Ida MacDonald in the Disability Support Services office so that the appropriate arrangements may be made. In accordance with federal law, a student requesting accommodation must provide documentation of his/her disability to the Disability Support Services counselor. In order to assure approved services the first week of class, diagnostic, prognostic, and prescriptive information should be received 30 days prior to the beginning of the semester services are requested. For more information, call or visit the Student Services Center located in the University Center, Room 282. The telephone number is 566-7079 (TDD 565-5579). Additional information may also be obtained at the following UT Tyler Web address: <http://www.uttyler.edu/disabilityservices>.

### **Academic Honesty Statement**

“Academic dishonesty, such as unauthorized collusion, plagiarism and cheating, as outlined in the Handbook of Operating Procedures, University of Texas at Tyler, will not be tolerated. University regulations require the instructor to report all suspect cases of academic dishonesty to the Dean of Students for disciplinary action. In the event disciplinary measures are imposed on the student, it becomes part of the student's official school records.” Also, please note that the handbook obligates you to report all observed cases of academic dishonesty to the instructor.

### **Grade Replacement Statement**

If you are repeating this course for a grade replacement, you must file an intent to receive grade forgiveness with the registrar by the 12<sup>th</sup> day of class. Failure to file an intent to use grade forgiveness will result in both the original and repeated grade being used to calculate your overall grade point average. A student will receive grade forgiveness (grade replacement) for only three (undergraduate student) or two (graduate student) course repeats during his/her career at UT Tyler. (2017-2018 Catalogue, p. 100).

### **University Policies Regarding Academic Processes:**

**Can also be found at:**

<http://www.uttyler.edu/academicaffairs/syllabuspolicies.pdf>

## **Students Rights and Responsibilities**

To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please follow this link:

<http://www2.uttyler.edu/wellness/rightsresponsibilities.php>

## **Grade Replacement/Forgiveness and Census Date Policies**

Students repeating a course for grade forgiveness (grade replacement) must file a Grade Replacement Contract with the Enrollment Services Center (ADM 230) on or before the Census Date of the semester in which the course will be repeated. Grade Replacement Contracts are available in the Enrollment Services Center or at <http://www.uttyler.edu/registrar>. Each semester's Census Date can be found on the Contract itself, on the Academic Calendar, or in the information pamphlets published each semester by the Office of the Registrar.

Failure to file a Grade Replacement Contract will result in both the original and repeated grade being used to calculate your overall grade point average.

Undergraduates are eligible to exercise grade replacement for only three course repeats during their career at UT Tyler; graduates are eligible for two grade replacements. Full policy details are printed on each Grade Replacement Contract.

The Census Date is the deadline for many forms and enrollment actions that students need to be aware of. These include:

- Submitting Grade Replacement Contracts, Transient Forms, requests to withhold directory information, approvals for taking courses as Audit, Pass/Fail or Credit/No Credit.
- Receiving 100% refunds for partial withdrawals. (There is no refund for these after the Census Date)
- Schedule adjustments (section changes, adding a new class, dropping without a "W" grade)
- Being reinstated or re-enrolled in classes after being dropped for nonpayment
- Completing the process for tuition exemptions or waivers through Financial Aid

## **State-Mandated Course Drop Policy**

Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the census date (See Academic Calendar for the specific date).

Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Enrollment Services Center and must be

accompanied by documentation of the extenuating circumstance. Please contact the Enrollment Services Center if you have any questions.

### **Disability Services**

In accordance with Section 504 of the Rehabilitation Act, Americans with Disabilities Act (ADA) and the ADA Amendments Act (ADAAA) the University offers accommodations to students with learning, physical and/or psychiatric disabilities. If you have a disability, including non-visible disabilities such as chronic diseases, learning disabilities, head injury, PTSD or ADHD, or you have a history of modifications or accommodations in a previous educational environment you are encouraged to contact the Student Accessibility and Resources office and schedule an interview with the Accessibility Case Manager/ADA Coordinator, Cynthia Lowery Staples. If you are unsure if the above criteria applies to you, but have questions or concerns please contact the SAR office. For more information or to set up an appointment please visit the SAR office located in the University Center, Room 3150 or call 903.566.7079. You may also send an email to [cstaples@uttyler.edu](mailto:cstaples@uttyler.edu)

### **Student Absence due to Religious Observance**

Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second class meeting of the semester.

### **Student Absence for University-Sponsored Events and Activities**

If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor) must notify the instructor at least two weeks prior to the date of the planned absence. At that time the instructor will set a date and time when make-up assignments will be completed.

### **Social Security and FERPA Statement:**

It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.

### **Emergency Exits and Evacuation:**

Everyone is required to exit the building when a fire alarm goes off. Follow your instructor's directions regarding the appropriate exit. If you require assistance during an evacuation, inform your instructor in the first week of class. Do not

reenter the building unless given permission by University Police, Fire department, or Fire Prevention Services

**Note: The instructor reserves the right to modify the syllabus. All modifications will be communicated to the students in a timely manner.**