Syllabus – J-Term 2019
BUS 359 Management Systems Analysis
Friday 01/11/19 ONLINE
Monday-Thursday 01/14-01/17 8:00am – 5:00pm

Instructor: D. Hales and C. Sinatra

Correspondence: csinatra@my.uri.edu or dhales@uri.edu

Office Hours: By appointment only. Please schedule via email.

Class Time and Place: Mon-Thurs 8am – 5pm and Friday will be Online, Library Room 166


Prerequisite: BUS 202 and 210 or STA 308

Required Materials: To take full advantage of the class, students should bring their textbooks, class notes, handouts, notebook, pencil/pen, calculator, and laptop computer (w/ charger) to each class.

Class Description: This class is an introduction to Lean Six Sigma Operations and a multitude of techniques that can be used in the evaluation and analysis of business processes. In addition to this course, students may be actively working on a Green Belt project at a URI approved business partner.

Academic Integrity Statement:
As an institute of higher learning, we recognize that academic dishonesty detracts from the value of a URI degree; therefore, we shall not tolerate lying, cheating, or stealing in any form. Violations of this policy will result in a grade of ‘F’ for the class, and possible expulsion from the University.

The Academic Enhancement Center:
Much of the work in this course is complex and intensive. If you need assistance outside of class, visit at the Academic Enhancement Center (AEC) in Roosevelt Hall. You may make an appointment or walk-in anytime during office hours -Monday through Thursday from 9 am. to 9 pm, Friday from 9 am to 1 pm, and Sunday from 4 pm. to 8 pm. For a complete schedule -- including when tutors are available specifically for this class -- go to www.uri.edu/aec, or call (401) 874-2367, or stop by the fourth floor in Roosevelt Hall.
**Mini Semester Format:**
This course will be taught in an accelerated 4 day format. Since, this is an accelerated course students are expected to be prepared and have done all the readings prior to the first day of class. Daily lectures will focus on the high-level concepts and students will be responsible for researching, studying, and practicing the concepts outside of the classroom. This is particularly true for the mathematical and statistics-based sections of the curriculum.

**Course Objectives:**

**GENERAL OBJECTIVE:** Develop a thorough understanding of Lean Six Sigma Operations. By the end of this course, students will be candidates for the Six Sigma Yellow Belt Certification.

**LEARNING OBJECTIVES:** After completing this course, students will be able to use the Lean Six Sigma DMAIC method to evaluate and analyze business processes. Specific learning objectives include:

- Understanding Six Sigma vs. Lean
- Team Dynamics
- Development of Project Notebooks
- Voice of the Customer (VOC)/KANO Models
- Value Stream Mapping
- Measurement System Analysis
- Pareto Analysis
- Descriptive Statistics
- Process Capability
- Design of Experiments
- Design Thinking Theory
- Regression Analysis
- 5S, 7 Wastes, SMED
- Statistical Process Control
**Attendance Policy:**
Attendance in all class periods is mandatory. The first class on 01/11 will be Online with readings. The majority of course material will be delivered through class lectures, exercises, handouts, and in-class group work. Due to the seasonal virus concerns, each student must be especially diligent in keeping up with class work so that in case they contract the flu. If the instructor is more than 30 minutes late, you may assume that class is cancelled for that morning only and will resume after lunch. If URI is closed due to weather, assignments (including exams) will be due the next scheduled class. There is no makeup for in-class exercises. Makeup days for URI closures will be discussed on a case-by-case basis.

**Grading System:**

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Assessment 1</td>
<td>25%</td>
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<tr>
<td>Assessment 2</td>
<td>25%</td>
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<tr>
<td>Final project/Presentation 3</td>
<td>25%</td>
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<tr>
<td>In-class Exercises Online Readings and Quiz (01/11)</td>
<td>25%</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
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**Students with Disabilities:**
Appropriate accommodations will be made for students with disabilities that are documented by Disabilities Services. It is expected that students will follow the policies and procedures of Disabilities Services. Students must present a letter stating that the disability has been documented and requesting the specific accommodations during the first day of class. Additionally, it is the responsibility of the student to give the professor a notice by 01/11/19 each instance where an accommodation will be needed. If a student is granted additional time to take an exam, they are required to take the exam during the regular class time. The student may be granted additional time at the beginning or the end of the regular class period.

**Assessments and Exams:**
Three non-cumulative exams will be given during the semester. Since this is an accelerated course and Quiz will be given on Friday 01/1, with additional assessments on Tuesday, Wednesday, and presentations on Thursday. Everything that is on the exam will be covered in class.
**Final Project:**
Over the week students will work in a group to design a PowerPoint that is addressing a specific problem or issue. This problem can be anything from limited parking to the waste of drinking water or food at URI, etc. Each group will create a PowerPoint using the DMAIC framework to clearly identify the problem. Groups will be expected to research and analyze data. Each team will need to suggest a solution and how to maintain the solution for future success. At the end of class on Thursday each group will present their PowerPoint to the entire class. Since this is an accelerated class the presentation will be a high level overview and touch on the key aspects of the DMAIC framework.

**Communication:**
Please utilize email as the primary way to get in touch with me. If necessary, you may also call or text me at (401) 864-5958 if you have an urgent question or issue. Office hours are by appointment only. I don’t mind coming in early or staying late if anybody needs additional instruction.

**Distractions:**
While participation is encouraged, discourtesy is not tolerated. Excessive arguments, disrespect, offensive language, or behavior leading to the disruption of learning will result in the expulsion of the student from class and possible disciplinary action of the student judiciary. PLEASE turn off all devices that create "noise" or set them on "silent".

**Disclaimer:**
The descriptions, policies, procedures, and schedules are not intended to be comprehensive of all class and student activity. They are to provide clear expectations of student performance and behavior during the semester. Read the syllabus carefully and ask questions about anything that is unclear. Assignments will not be changed due to minor technical or typographical errors in printing.
### Schedule of Topics and Activities:

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Topic Description (Details Below)</th>
<th>Readings</th>
<th>Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-Jan</td>
<td>Friday - Prior to First Class</td>
<td>Course Readings</td>
<td>Pyzdek Chs.1 and 2 &amp; Case Study 1.) (Below)</td>
<td>Read and Take Online Quiz</td>
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<tr>
<td>14-Jan</td>
<td>Monday</td>
<td>Introduction / Define / Measure</td>
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<td>15-Jan</td>
<td>Tuesday</td>
<td>Measure / Analyze</td>
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<td>Assessment 1</td>
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<td>16-Jan</td>
<td>Wednesday</td>
<td>Analyze / Improve / Design Think</td>
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<td>Assessment 2</td>
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<td>17-Jan</td>
<td>Thursday</td>
<td>SPC / Control</td>
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<td>Final Presentation</td>
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### Case Studies:

1.) A Successful Pain Management Initiative at LDS Hospital


2.) Use Six Sigma to Reduce Temporary Labor Expenses


3.) Aligning Call Center Agent Goals with Customer Desires


4.) Improving Recruitment Processes

URI Supply Chain Lean Six Sigma Training Overview:

<table>
<thead>
<tr>
<th>Section</th>
<th>Topic</th>
<th>Pyzdek</th>
<th>Tools and Training</th>
<th>Brussee</th>
<th>Duration</th>
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<tbody>
<tr>
<td>Introduction</td>
<td>Overview of Six Sigma</td>
<td>1,2,5</td>
<td>Working with Teams</td>
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<td></td>
<td>History of Process Improvement</td>
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<td>Conducting Effective Meetings</td>
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<td></td>
<td>6 σ versus Lean</td>
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<td>Brainstorming</td>
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<td></td>
<td>DMAIC and PDS(C)A</td>
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<td>Project Notebooks</td>
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<td></td>
<td>Project Management</td>
<td></td>
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<tr>
<td>Define</td>
<td>Define the project business case</td>
<td>6</td>
<td>Project Charters</td>
<td></td>
<td>1/2 Day</td>
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<tr>
<td></td>
<td>Identify Customers</td>
<td></td>
<td>Voice of the Customer (VOC)</td>
<td>6</td>
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<td></td>
<td>Current State Map</td>
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<td>Process Mapping</td>
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<td>Future State Map</td>
<td></td>
<td>Quality Function Deployment</td>
<td>3</td>
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<td></td>
<td>Project Scope</td>
<td></td>
<td>Value Stream Mapping</td>
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<td></td>
<td>Identify Project Deliverables</td>
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<td>Benchmarking</td>
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<td></td>
<td>Set Project Due Dates</td>
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<tr>
<td>Measure</td>
<td>Define Key Metrics</td>
<td>7</td>
<td>Key Performance Indicators</td>
<td></td>
<td>1/2 Day</td>
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<tr>
<td></td>
<td>Validate the reliability of the metrics</td>
<td></td>
<td>Data Visualization/Distributions</td>
<td>8,11</td>
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<td></td>
<td>Identify data sources for the measurements</td>
<td></td>
<td>Pareto Analysis</td>
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<td></td>
<td>Determine how progress and success will be measured</td>
<td></td>
<td>Descriptive Statistics/Probability</td>
<td>10</td>
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<td>Measurement Systems Analysis</td>
<td>9</td>
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<td></td>
<td>Exploration Data Analysis/Correlation</td>
<td>7</td>
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<tr>
<td>Analyze</td>
<td>Analyze Current State</td>
<td>10</td>
<td>Cause and Effect Diagram</td>
<td>5</td>
<td>1/2 Day</td>
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<tr>
<td></td>
<td>Can the current state be improved</td>
<td></td>
<td>Design of Experiments</td>
<td>15</td>
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<td></td>
<td>What resources are needed to make changes</td>
<td></td>
<td>Testing for Statistical Change</td>
<td>12,13,14</td>
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<td></td>
<td>What can cause this project to fail</td>
<td></td>
<td>ANOVA/Regression</td>
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<td></td>
<td>What obstacles does the project face</td>
<td></td>
<td>Failure Mode Effects Analysis (FMEA)</td>
<td>4</td>
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<tr>
<td>Improve</td>
<td>Identifying new ways to conduct the process</td>
<td>11</td>
<td>7 (8) Wastes</td>
<td>7</td>
<td>1/2 Day</td>
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<td></td>
<td>Determining Specific Project Activities &amp; Tasks</td>
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<td>M Tools</td>
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<td>Measuring Process Improvement</td>
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<td>5S</td>
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<td>SMED</td>
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<td>Prototype &amp; Pilot Studies</td>
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<td>Control</td>
<td>How to control risk, cost, quality, etc change management</td>
<td>12</td>
<td>Statistical Process Control (SPC)</td>
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<tr>
<td></td>
<td>Define how progress will be tracked &amp; reported</td>
<td></td>
<td>Advanced Project Management (CPM/PERT)</td>
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<td></td>
<td>Determine how to ensure success</td>
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<td>Management Control &amp; Reporting Systems</td>
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<td>Implement measures to ensure gains are sustained</td>
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<td>Application of Control Charts</td>
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