

# Rethinking Redesign to Enhance Course Engagement

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Engineering Management and Systems Engineering

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Educational Technology

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# Courses

- EMgt 4710 Quality
  - 46 – Fall 2015
  - 42 – Spring 2016
- EMgt 5710 Six Sigma
  - 18 campus, 10 distance – Fall 2015
- EMgt 6710 Design for Six Sigma
  - 16 campus, 7 distance – Spring 2016

# Course Framework

EMgt 4710: Quality  
 Course Schedule  
 Spring 2016

Date	Topic	Reading	Scoop.It Topics*	Ted.Ed Videos	Homework Due
Jan. 19	Introduction - Course Overview, Grading, Semester Project		SS Case Study	<a href="#">What is quality and continuous improvement?</a>	
Jan. 21	Six Sigma and Organizational Goals	Ch. 1	Belts, Change, Continuous Improvement, Deployment, Leadership, Quality, Quality Gurus	<a href="#">Introduction to Six Sigma</a>	HW#1
Jan. 26	Lean Principles in the Organization	Ch. 2	Flow, Gemba, Jidoka, Lean, Kaizen, OEE, Poke Yoke, Pull, SMED, Supply Chain, Waste, Value Stream Mapping, Visual Management, 5S	<a href="#">Reducing Changeover Time with SMED</a>	
<b>DEFINE PHASE</b>					
Jan. 28	Design for Six Sigma Methodologies Define – Project Identification Define – Voice of the Customer	Ch. 3 Ch. 4 Ch. 5	Customer, DFSS, DFSS Case Study, Project Selection, Voice of the Customer		HW#2
Feb. 2	Define –Project Management Basics	Ch. 6	Project Charter, Project Management	<a href="#">Is your process capable?</a>	
Feb. 4	Define –Management and Planning Tools	Ch. 7	Balanced Scorecard, Benchmarking, Cause and Effect Diagram, Cost of Poor Quality, FMEA, PDCA, Process Flow Diagram, SIPOC, SS Case Study, Survey, SWOT, Taguchi Loss Function	<a href="#">Will your process fail? Using FMEA</a>	HW#3
Feb. 9	Define –Management and Planning Tools	Ch. 7			
Feb. 11	Define –Business Results for Projects Define –Team Dynamics and Performance	Ch. 8 Ch. 9	Communication, Culture, Decision-making, Teams	<a href="#">Teaming and Decision-Making</a>	HW#4

# Scoop.It

- Combines the benefits of social networking with educational material

The screenshot displays the Scoop.It website interface. At the top, there is a green navigation bar with the Missouri S&T logo, a search bar, and user information for Beth Cudney (1.6K | +0). Below the navigation bar, a breadcrumb trail reads "Quality, Six Sigma, and DFSS" with options for "Edit", "Sharing", "Customization", "SEO / Site integration", and "Newsletter". The main content area features a scoop titled "Quality, Six Sigma, and DFSS" curated by Beth Cudney. Below the title is a form to "Paste a link to create a new scoop" and a "Scoop without link | Get suggestions" button. A section titled "Finding Lean in Good Change" is also visible, with a quote from opexsociety.org dated June 11, 1:11 PM. On the right side, a tag cloud is displayed, listing various tags with their respective counts: 3P (1), SS (4), agility (1), ANOVA (4), Balanced Scorecard (1), Benchmarking (1), box plot (1), branding (1), case study (10), Cause and effect diagram (4), change (11), communication (1), Concept selection (1), and continuous improvement (20).

# TED.Ed Lessons

- Educational website create or share lessons

The screenshot shows a TED.Ed lesson interface. At the top, there are navigation links for 'Edit Lesson' and 'Review Student Work'. The main title is 'Will Your Process Fail? Using Failure Mode and Effects Analysis'. Below the title, it states 'LESSON CREATED BY ELIZABETH CUDNEY USING TED Ed' and 'VIDEO FROM Beth Cudney YOUTUBE CHANNEL'. The lesson content begins with 'Let's Begin...' followed by a paragraph explaining FMEA: 'FMEA is a qualitative analysis that ranks probability, severity, and detection. It is a step-by-step approach to identifying all of the possible failures that can occur in a process, product, or service. The result of the approach is improved safety, reliability, quality, customer satisfaction, profit margin, and production yield. This lesson takes you through the FMEA methodology.' Below this text is a video player with a yellow background and the title 'Potential Causes'. The video player shows a close-up of a caliper and a screw. To the right of the video player, there are four interactive buttons: 'Watch', 'Think', 'Dig Deeper', and 'Discuss'. At the bottom of the video player, there are social media sharing icons for Facebook, Twitter, Pinterest, and Google+.

# Quizlet

- Website that provides learning tools

The screenshot shows a Quizlet interface for a study set titled "Chapter 1: Six Sigma and Organizational Goals". The top navigation bar includes options for Cards, Learn, Speller, Test, Scatter, and Race. The main content area displays a collection of terms and their definitions:

- Walter Shewhart**: Developed three managerial processes for uses in managing for quality: quality control, planning, and improvement.
- Developed the cause-and-effect diagram.**
- Referred to as the father of quality control, for bringing together statistics, engineering and economics.**
- Kaoru Ishikawa**
- Armand Feigenbaum**
- W. Edwards Deming**
- Advocated for changes in management structure and attitude. Developed a list of fourteen points.**
- Taught that any departure from the target value represents a loss to society.**
- Created the concept of total quality control.**
- Genichi Taguchi**
- Philip Crosby**
- Joseph M. Juran**
- Originated the zero defects concept and was an honorary member and president of the ASQ.**

A timer in the top right corner shows a score of 0:41.8 with the text "Your Record None".

Thank you!