APS1040S: Quality Control for Engineering Management
Summer 2018

Course Description: This course introduces quality control techniques applicable in various engineering settings. These techniques are widely used in monitoring and improving the quality of both products and services. Topics include process quality inferences, statistical process control, various control charts, system capability analysis, design of experiments, and acceptance sampling. Various simulation models will be used to represent and generate data sets in various settings, for analysis and charting with widely available software.

Exclusion **MIE364, MIE304, MIE1727 or equivalent**

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Textbook Introduction to Statistical Quality Control by D.C. Montgomery, Wiley, 7th Edition.

Course Duration and Format: The course can be accessed over the Internet, to allow wider participation by students. Video lectures are posted daily May 1-4 and May 7-11. Students are expected to do problems between video postings, and can access an online office hour daily 4-5 pm EST. Students submit a daily assignment online, and write an in-person final exam 9-12 Tuesday May 15th.

Required Software to Complete Assignments: Excel and Minitab

Daily Office Hour: Online 4-5 pm

Marking:

Daily Assignments (Submitted online)	40%
Partnering (Requires Webinar attendance)	10%
In-person Final Exam 9-12 May 15th	50%

Day	Date	Topic	Ref*
1	01-May	Review of Statistics and Probability	3
2	02-May	Review of Statistical Inference	4
3	03-May	Introduction to QC and Control Charts for Variables	5-6
4	04-May	Control Charts for Variables	6
	05-May		
	06-May		
5	07-May	Intro to Process Capability and Control Charts for Attributes	7-8
6	08-May	Control Charts for Attributes	7
7	09-May	Control Charts for Attributes and Process Capability	7-8
8	10-May	Process Capability and CUSUM Charts	9
9	11-May	CUSUM Charts and EWMA Charts	9
	15-May	Final Exam	

* Chapter references shown are from the Textbook