

**MOUNT WACHUSETT COMMUNITY  
COLLEGE DEVENS,  
MASSACHUSETTS**

**COURSE OUTLINE**

**COURSE:**        **AQS 200 Root Cause Investigations**  
3 credits,

**TEXT:**         Root Cause Analysis: Simplified Tools & Techniques, 2<sup>nd</sup> Edition  
Andersen, Bjorn and Fagerhaug, Tom  
ASQ Quality Press  
ISBN: 978-0-873859-6992-4

**COURSE DESCRIPTION:**

This course will provide the student with problem solving skills by exploring the process of conducting an investigation. The quality system tools used to document and facilitate an understanding of the problem and potential solutions will be studied. Prerequisites: ENG098, RDG098, FYE101, AQS110, MAT143, or placement.

**COURSE OBJECTIVES**

Students will learn the problem solving methods used in industry, both manufacturing and service, to investigate and correct the issues faced in a real-world setting. The student will apply the tools, analyze the data and evaluate the results to demonstrate an understanding of root cause analysis.

**OUTCOME ASSESSMENTS:**

1. Demonstrate the ability to distinguish and define the various methods used in root cause analysis (i.e. 7-step, six sigma, plan-do-check-act, etc.)
2. Demonstrate the ability to differentiate the root cause analysis tools (i.e. pareto chart, histogram, flowcharts, etc.) and when they are best used.
3. Demonstrate the ability to write and speak effectively through written assignments and discussions.

**TENTATIVE SCHEDULE OF  
CLASSES**

The instructor reserves the right to make any necessary adjustments to the schedule of topics

<b>WEEK (date)</b>	<b>LECTURE TOPIC</b>	<b>TEXT CHAPTER</b>
1	Quality Principles Overview / Review	Handout
2	Manufacturing / Service Processes	Handout
3	Problem Solving	1
4	Root Cause Analysis	2
5	Problem Understanding	3
6	Problem Cause Investigation	4
7	Problem Cause Data Collection	5
8	Mid Term	
9	Problem Cause Data Analysis	6
10	Problem Cause Data Analysis	6
11	Root Cause Identification	7
12	Root Cause Elimination Solution Implementation	8, 9
13	Current Methodologies– <i>PDCA, Six Sigma DMAIC, 7-Step, 8D</i>	Handout
14	Current Methodologies (con't) Project Report Out	
15	Final Exam (cumulative)	