Quality Concept & Stat Appl

MFET - 2410 101

Course Description

This course is designed to impart knowledge of Statistical Process Control (SPC). STEM 1010 or appropriate placement. SPC is an industry-standard methodology for measuring and controlling quality during the manufacturing process. It integrates managerial, technological and statistical concepts across all functions of an organization to ensure that a product is fit for use. Provides a foundation in current quality paradigms and introduces students to software tools (MS Excel and Minitab) used to statistically analyze problems encountered in manufacturing firms. MATH 1040 is recommended for students planning to continue their program of study at Weber State.

Prerequisite: STEM 1010 or appropriate placement.
Semester: Spring

Course Student Learning Outcomes

- Demonstrate understanding of the rudiments of statistics that underlay statistical process control including sampling, means and standard deviations by formative and summative assessment.
- Document the use of SPC by surveying local manufacturing companies to learn how they use SPC to insure their product is fit for use. This documentation will demonstrate student understanding by formative and summative assessment.
- Demonstrate competence at the use of required software tools (MS Excel and Minitab) by formative and summative assessment.

Course Prerequisites

None

Engagement Plan

Example language:

- I will respond to email within24 hours. I will offer feedback on major assignments within next class time. The best way to contact me is via the Canvas Inbox, as I will prioritize this email over other modes of communication. Text 24/7.

Keys for Success (how to succeed in the course)

Come to class.

Help other students.

Get help from other students.

If you have questions, bring them up in class. It is likely that someone else will also have the same question.

Required Text or Materials

Title: TI36X Pro Calculator

For more information on textbook accessibility, contact Accessibility & Disability Services at ads@slcc.edu.

Brief Description of Assignments/Exams

One midterm covering the first half of the course.

Comprehensive final.

Assignment Schedule

Due Date	Assignment Name	Assignment Type	Points
	Final Test	Assignment	300
	HW01 Probability	Assignment	10
	HW02 CH1 - Introduction to Statistics	Assignment	10
	HW03 CH2 - Organizing Data	Assignment	10
	HW04 CH3A Introduction to Measures of Central Tendancy	Assignment	10
	HW05 CH3B	Assignment	10
	HW06 Normal Distribution	Assignment	10
	HW07 Normal Distribution II Using EXCEL	Assignment	10
	HW08 Probability II	Assignment	10
	HW09 Random Variables	Assignment	10

Due Date	Assignment Name	Assignment Type	Points
	HW10 Sampling Distributions	Assignment	10
	HW11 Hypothesis Testing I	Assignment	10
	HW12 Hypothesis Testing II	Assignment	10
	HW13 Check Sheets	Assignment	10
	HW14 Control Sheets	Assignment	10
	HW15 Flow Charts	Assignment	10
	HW16 Pareto Distributions and Charts	Assignment	10
	HW17 Histogram Charts	Assignment	10
	HW18 Fishbone Charts	Assignment	10
	HW19 Scatterplots	Assignment	30
	HW20 Pivot Tables	Assignment	10
	HW21 EXCEL Slicers	Assignment	10
	HW22 EXCEL Dashboards	Assignment	10
	HW22 Final Preparation	Assignment	100
	Introduce Yourself	Discussion	0
	Introduce Yourself	Discussion	0
	Introduce Yourself	Discussion	0

Due Date	Assignment Name	Assignment Type	Points
	Introduce Yourself	Discussion	0
	Introduction to Kaizen Quality Methods	Assignment	10
	Tutorial 3 Sample Means with EXCEL	Assignment	10
	Tutorial 4 Hypothesis Testing with EXCEL	Assignment	10

Grading Scale

SCALE:

A 93 – 100 % C 73 – 76 %

A- 90 – 92 % C- 70 – 72 %

B+ 87 – 89 % D+ 67 – 69 %

B 83 – 86 % D 63 – 66 %

B- 80 – 82 % D- 60 – 62 %

C+ 77 – 79 % E 0 – 59 %

WEIGHTS:

Homework/labs 65% of final grade

Midterm Exam 10% of final grade

Final Exam 25% of final grade

How to Navigate to Canvas

Institutional Policies

As members of our academic community, we would like to invite you to review the Institutional Syllabus which covers important policies and procedures. This document contains important links for students on the code of student rights and responsibilities, academic integrity, and grading policies, Title IX and other important acknowledgements. By familiarizing yourself with this information, you can help us create a safe and respectful environment for everyone.

For more information, navigate to the Institutional Policies tab on the Institutional Syllabus page.

Learning Support and Tutoring Services

We are pleased to offer a range of tutoring and learning support services to help you achieve your academic goals. Whether you need assistance with a specific subject or want to improve your study skills, you have many options for tutoring or other support.

To learn more about the services we offer and how to access them, visit the Institutional Syllabus page under the Tutoring and Learning Support tab. We encourage you to take advantage of these resources to help you succeed in your studies. If you have any questions or would like to schedule a tutoring session, please don't hesitate to reach out to us. We are here to support you in any way we can.

Advising and Counseling Support Services

At our institution, we are committed to supporting your academic and personal growth. That's why we offer a range of advising and counseling services to help you navigate the challenges of college life. To learn more about the resources available to you and how to access them, visit the Institutional Syllabus page under the Advising and Counseling Support Services tab. Our advising team and the support centers across campus are here to support you in achieving your goals and overcoming any obstacles you may face.

Student Academic Calendar

As students you should be aware of all important dates in the semester, such as the day that courses begin and end, as well as the drop date and the last day to withdraw. To learn more about those dates, navigate to the Student Academic Calendar below:

SLCC Student Academic Calendar