

ISYE 430 QUALITY CONTROL Spring 2026

Course Description: QUALITY CONTROL (3).Importance of quality; statistical concepts relevant to process control: control charts for variables and attributes; process capability analysis; acceptance sampling plans for variables and attributes. PRQ: IENG 335 or STAT 350 or UBUS 223.

Textbook: Montgomery, D.C. Introduction to Statistical Quality Control, 8th edition, John Wiley, 2020.

Goals: This course is designed to teach engineering students how to control product quality through the design and application of statistical quality control charts and acceptance sampling plans.

Prerequisites by Topic:

1. Basic ideas and fundamental laws of probability and statistics.
2. Elementary statistical inference.

Topics:

1. Introduction to Quality.
2. Fundamentals of Statistics and Probability.
3. Control Charts for Variables.
4. Control Charts for Attributes.
5. Other Control Charts
6. Process Capability Analysis
7. Acceptance Sampling Plans for variables.
8. Acceptance sampling plans for attributes.
9. Continuous sampling plans and chain sampling plans.

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Office: Room 238 Engineering Building

Office Hours: Tuesdays and Thursdays 11:00 am to 12:00 pm

Grading policy:	Homework:	10%
	Presentation:	10%
	Test 1:	10%
	Test 2:	35%
	Test 3:	35%

Tests dates:

Test number 1: Thursday 2/19
Test number 2: Thursday 3/26
Test number 3: Thursday 4/30

*** No final exam in this course.**

Grading Scale:

$A \geq 90$
 $89 \leq A- < 90$
 $87 \leq B+ < 89$
 $80 \leq B < 87$
 $79 \leq B- < 80$
 $77 \leq C+ < 79$
 $70 \leq C < 77$
 $60 \leq D < 70$
 $F < 60$

Course Objectives:

- 6.3.** Applies appropriate tools and techniques to analyze data.
- 6.4.** Interprets results and draws conclusions with respect to the assumptions and constraints.

Services and Accommodations for Students with Disabilities: Any student who believes that they may need an academic accommodation based on the impact of a disability should contact the Disability Resource Center as soon as possible. The DRC coordinates accommodations for students with disabilities. It is located on the 4th floor of the Health Services Building, and can be reached at 815-753-1303 (V) or drc@niu.edu. Also, please contact me privately as soon as possible so we can discuss your accommodations. The sooner you let us know your needs, the sooner we can assist you in achieving your learning goals in this course. All tests will be given the same time as regular class.