The objective of the course is teaching the statistical underpinnings of quality thinking. A weekly recitation will test the skills taught, and will also explore the use of software.

Topics covered will include:

- The three areas: quality assurance, quality control, and quality improvement.
- Statistical foundations – variables and attributes measurements.
- Other charts – the cumulative sum and exponentially weighted moving average charts. Non-independent time series and their analysis using the EWMA.
- Changepoint methodologies.
- Process capability, gage R&R measurement, nested analysis of variance models.
- Design of experiments for quality improvement. Full and fractional factorial experiments. Taguchi concepts.
- Response surface modeling.

Text:


There will be **weekly homeworks**, two in-term tests and a final exam. The in-term tests will replace regular scheduled lectures. All exams are **open book / open notes** and need a **calculator**.

The final grade will be a composite of:
Homeworks 45% of the total weight
Midterms 30% of the total weight
Final 25% of the total weight

The cutoffs for different letter grades are:

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