



<b>Division:</b>	Industrial Technology	<b>Area:</b>	Quality Systems Technology
<b>Course Number:</b>	QSTC 220	<b>Course Name:</b>	Calibration and Gage R & R
<b>Prerequisite:</b>	None		
<b>Corequisite:</b>	None		
<b>Hours Required:</b>	<b>Class:</b> 30	<b>Lab:</b> 30	<b>Credits:</b> 3

## Course Description/Purpose

This course covers techniques of gage calibration and gage repeatability and reproducibility studies (Measurement System Analysis). Hands-on work includes calibration of measuring tools and computerized gage documentation using Gage-trak software.

## Major Units

- Measurement System Analysis
- Assessing Measurement Systems
- Calibration methods

## Educational/Course Outcomes

Student learning will be assessed by a variety of methods, including, but not limited to, quizzes and tests, journals, essays, papers, projects, laboratory/clinical exercises and examinations, presentations, simulations, portfolios, homework assignments, and instructor observations.

**Cognitive** Each student will be expected to *Identify/Recognize* . . .

- Measurements and measurement systems, including the relation to quality systems (QS-9000).
- Categories and sources of measurement error.
- Measurement systems study, preparation, and planning.
- Application and interpretation of measurement system studies.
- Procedures for calibration of measuring tools and gages.

**Performance** Each student will be expected to *Demonstrate/Practice* . . .

- Perform a variable gage repeatability and reproducibility study.
- Perform an attribute gage short study.
- Perform an attribute gage long study.
- Calibrate micrometers, calipers, indicators, and fixed gages.
- Perform basic maintenance and repair of hand tools.