

COURSE SYLLABUS

Course Title:	Principles of Quality Control		Date submitted:	4/30/2018 (18-34)					
Department:	Advanced Manufacturing Technology								
Curriculum:	Technology Studies								
Course Descriptors: <small>Make certain that the course descriptors are consistent with college and Board of Trustees policies, and the current course numbering system.</small>	Course Code: (eg. ACC 101)	QUA*114	Prerequisites:						
	Course Type:	L			Manufacturing Math II (MFG*105)				
	A: Clinical B: Lab D: Distance Learning I: Individual/Independent L: Lecture N: Internship M: Seminar P: Practicum U: Studio X: Combined Lecture/Lab Y: Combined Lecture/ Clinical/Lab Z: Combined Lecture/Studio								
	Elective Type:	G	Corequisites:						
	AH: Art History E: English FA: Fine Arts FL: Foreign Language G: General HI: History HU: Humanities LAS: Liberal Arts & Sciences M: Math S: Science SS: Social Science								
	Credit Hours:	3					None		
	Developmental: (yes/no)	No							
	Lecture:	3							
	Clinical:	0							
	Lab:	0							
	Studio:	0							
	Other:	0							
TOTAL:	3	Other Requirements:							
Class Maximum:	24				None				
Semesters Offered:	Fall, Spring								
Catalog Course Description:		First course in statistical quality control. Topics covered include determination of process capabilities, estimation of process standard deviation from sample data, use of control charts, calculation of probability of simple events. Student will develop SPC and TQM Manufacturing Plans.							
Topical Outline: <small>List course content in outline format.</small>		INSTRUCTIONAL UNITS: 1. What is SPC							

	<ol style="list-style-type: none"> 2. Cost of Quality 3. SPC Example 4. Tools of Quality 5. Using Histograms and Pareto Charts 6. Organizing data into cells 7. Formulas for Standard of deviation 8. Formulas for standard deviation 9. Standard normal curve 10. Applications of the normal curve 11. Choosing sample size 12. Average, Range and Standard Deviation 13. The P chart 14. The C and U charts <p>LABORATORIES:</p> <ol style="list-style-type: none"> 1. Interpretation of the data 2. Cost of Quality 3. SPC example 4. Tools of quality 5. Using Histograms and Pareto charts 6. Organizing data into cells 7. Formulas for standard deviation 8. Formulas for standard deviation 9. Standard normal curve 10. Applications of the normal curve 11. Choosing sample size 12. Average, Range and Standard Deviation 13. The P chart 14. The C and U charts
<p>Outcomes: Describe measurable skills or knowledge that students should be able to demonstrate as evidence that they have mastered the course content.</p>	<p>Upon successful completion of this course, the student will be able to do the following:</p> <ol style="list-style-type: none"> 1. Demonstrate an understanding of the tools of Quality Control 2. Use control charts 3. Construct various control charts
	<p>PROGRAM: <i>Electronics Technology Certificate and A.S. Degree</i></p> <ol style="list-style-type: none"> 1. Demonstrate an understanding of Shop Safety. 2. Demonstrate an understanding the theory of electrical structure, voltage, current, resistance, and electrical circuit and their measurement. 3. Demonstrate an understanding of the basic laws of arithmetic. 4. Demonstrate an understanding of several number systems and codes that are the foundation of digital theory and digital applications. 5. Make comparisons with personal computers; as well as, develop an understanding of its origin and growth since conception. 6. Demonstrate an understanding of the fundamentals of Automated Manufacturing systems.
	<p>GENERAL EDUCATION: <i>(Numbering reflects General Education Outcomes as they appear in the college catalog)</i></p> <ol style="list-style-type: none"> 7. Quantitative Reasoning -Students will learn to recognize, understand, and use the

	<p>quantitative elements they encounter in various aspects of their lives. Students will develop a habit of mind that uses quantitative skills to solve problems and make informed decisions</p> <p>Demonstrates: Interprets numerical information and applies sufficient laws of logic and mathematics to solve problems using numbers, symbols, graphs and/or descriptions</p> <p>Does Not Demonstrate: Misinterprets numerical information or insufficiently applies laws of logic and mathematics to solve problems using numbers, symbols, graphs, and/or descriptions</p>
<p>Evaluation: List how the above outcomes will be assessed.</p>	<p>Assessment will be based on the following criteria:</p> <ol style="list-style-type: none"> 1. Quizzes 2. Lab Assignments 3. Homework 4. Exams
<p>Instructional Resources:</p> <p>List library (e.g. books, journals, on-line resources), technological (e.g. Smartboard, software), and other resources (e.g. equipment, supplies, facilities) required and desired to teach this course.</p>	<p>Required: No special resources required.</p> <p>Desired: None</p>
<p>Textbook(s)</p>	<p><u>Statistical Process Control</u>; Leonard A. Doty, Industrial Press Inc.; New York, New York, latest edition</p>