

COURSE SYLLABUS

Course Title:	Benchmark		Date submitted:	4/30/2018 (18-31)	
Department:	Advanced Manufacturing Technology				
Curriculum:	Technology Studies				
Course Descriptors: Make certain that the course descriptors are consistent with college and Board of Trustees policies, and the current course numbering system.	Course Code: (eg. ACC*101)	MFG*166	Prerequisites:		
	Course Type:	X			None
	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			
	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:	1	Corequisites:		
	Developmental: (yes/no)	No			
	Lecture:	.5			
	Clinical:	0			
	Lab:	.5			
Studio:	0				
Other:	0				
TOTAL:	1	Other Requirements:			
Class Maximum:	24	None			
Semesters Offered:	Fall, Spring				
Catalog Course Description:	Benchmark is a basic course in the fundamentals, principles, practices, and tools used in semi-precision and precision layout and in the various tools, methods and procedures for common machine shop benchwork. Topics will include, measurement systems, layout principles, hand tools and power tools.				
Topical Outline: List course content in outline format.	INSTRUCTIONAL UNITS:				

	<ol style="list-style-type: none"> 1. Basics of Applied Benchwork 2. Mechanical Fasteners 3. Units of Measure 4. Semi-precision Measuring Tools and Gages 5. Precision Measuring Tools and Gages 6. Tolerances and Fits 7. Non-precision and Semi-precision Layout Tools 8. Precision Layout Tools 9. Layout Procedures 10. Assembly Tools, Arbor and Shop Presses 11. Chisels, Files, Scrapers, and Abrasive Cloth 12. Power hand Drills and Grinders 13. Special Benchwork Tools and Procedures <p>LABORATORIES:</p> <ol style="list-style-type: none"> 1. Demonstrate the basics of Applied Benchwork 2. Use of Mechanical Fasteners 3. Identify Units of Measure 4. Use of Semi-precision Measuring Tools and Gages 5. Use of Precision Measuring Tools and Gages 6. Exercises in Tolerances and Fits 7. Use of Non-precision and Semi-precision Layout Tools 8. Use of Precision Layout Tools 9. Apply Layout Procedures 10. Use of Assembly Tools, Arbor and Shop Presses 11. Use of Chisels, Files, Scrapers, and Abrasive Cloth 12. Use Power Hand Drills and Grinders 13. Use Special Benchwork Tools and Procedures
<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> <p>COURSE:</p> <ol style="list-style-type: none"> 1. demonstrate the ability to use units of measure 2. identify various types of fasteners 3. demonstrate an understanding of fits and tolerances 4. demonstrate an understanding of the difference between semi-precision and precision layout 5. demonstrate the proper use of arbor presses 6. identify and understand the use of hand tools 7. use tools to layout semi-precision and precision layout work <p>PROGRAM: <i>(Numbering reflects Program Outcomes as they appear in the college catalog)</i></p> <p><u>Electronics Technology Certificate and A.S. Degree</u></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

	<p>the foundation of digital theory and digital applications</p> <p>5. make comparisons with personal computers; as well as, develop an understanding of its origin and growth since conception</p> <p>6. demonstrate an understanding of the fundamentals of Automated Manufacturing systems</p>
	<p>GENERAL EDUCATION: <i>(Numbering reflects General Education Outcomes as they appear in the college catalog)</i></p> <p>No General Education outcomes.</p>
<p>Evaluation: List how the above outcomes will be assessed.</p>	<p>Assessment will be based on the following criteria:</p> <p>quizzes exams lab Projects</p>
<p>Instructional Resources: 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: Manufacturing lab with machine shop benchwork tools.</p> <p>Desired:</p>
<p>Textbook(s)</p>	<p><u>Machine Tool Practices</u>; Kibbe, Neely, Meyer, Prentice Hall, Saddle River, New Jersey, latest edition</p>