

FLORIDA STATE COLLEGE AT JACKSONVILLE

COLLEGE CREDIT COURSE OUTLINE

COURSE NUMBER:	EST 1352
COURSE TITLE:	Introduction to Manufacturing Processes
PREREQUISITE(S):	None
COREQUISITE(S):	None
CREDIT HOURS:	3
CONTACT HOURS/WEEK:	4
CONTACT HOUR BREAKDOWN:	
Lecture/Discussion:	3
Laboratory:	1
Other _____:	
FACULTY WORKLOAD POINTS:	3.67
STANDARDIZED CLASS SIZE ALLOCATION:	24
CATALOG COURSE DESCRIPTION:	This course will provide the student with a basic understanding of the processes used to produce industrial goods. Topics discussed include measurement, layout and inspection, machine tool processes and operations, metallurgy, welding, shop math, and blueprint reading. Students will experience hands-on training with measurement, layout, and machine tool operation. A host computer will be integrated into the factory laboratory for just in time and flexible manufacturing for students manufacturing a product.
SUGGESTED TEXT (S):	<u>Introduction to Manufacturing Processes</u> , by John A. Schey Latest Edition, ISBN: 0-07-031136-6
IMPLEMENTATION DATE:	Spring Term, 2003
REVIEW OR MODIFICATION DATE:	Fall Term, 2002 (20031) Fall Term, 2009 (20101) - Proposal 2009-11

<u>COURSE TOPICS</u>	<u>CONTACT HOURS PER TOPIC</u>
I. Introduction to Manufacturing Processes - Text Overview, History, and Definitions	4
II. Manufacturing	2
III. Geometric Attributes of manufactured parts	4
IV. Service Attributes of Manufactured Products	2
V. Materials in Design and Manufacturing	2
VI. Solidification and Heat Treatment of Metals	2
VII. Metals Casting	2
VIII. Plastic Deformation of Metals	4
IX. Bulk Deformation of Metals	2
X. Sheet-Metalworking Processes	2
XI. Powder Metallurgy	2
XII. Processing of Ceramics	3
XIII. Polymers and Plastics	2
XIV. Processing of Plastics	4
XV. Composites	2
XVI. Machining	4
XVII. Nontraditional Machining Processes	2
XVIII. Joining Processes	3
XIX. Surface Treatments	2
XX. Manufacture of Semiconductor Devices	3
XXI. Manufacturing Systems	3
XXII. Competitive Aspects of Manufacturing Processes	4

PROGRAM TITLE: Engineering Technology Specialization Tract
Advanced Manufacturing

COURSE TITLE: Introduction to Manufacturing Processes

CIP NUMBER: 1615.061300 AS

LIST PERFORMANCE STANDARDS ADDRESSED:

NUMBER(S): TITLE(S):

01.0 DEMONSTRATE KNOWLEDGE OF INDUSTRIAL PROCESSES and MATERIALS PROPERTIES - The student will be able to:

- 01.01 Demonstrate knowledge of current manufacturing processes.
- 01.02 Demonstrate knowledge of the use of current manufacturing machines, operating systems and mechanisms.
- 01.03 Estimate manpower needs and skills needed in assembly operations.
- 01.04 Demonstrate knowledge of the criteria for tool design, maintenance, procurement and handling.
- 01.05 Demonstrate knowledge of gage design, usage and limitations.
- 01.06 Analyze and recommend the usage of jigs and fixtures, including effectors and special grippers for automated systems.
- 01.07 Demonstrate knowledge of processes used to ensure that changes do not negatively impact production or product.
- 01.08 Demonstrate knowledge of production timing to ensure customer satisfaction and on-time delivery.
- 01.09 Demonstrate knowledge of time and motion to enhance productivity.
- 01.10 Make continuous adjustments to equipment and procedures that result in improved productivity.
- 01.11 Demonstrate knowledge of how raw materials are moved.
- 01.12 Setup or modify new equipment per engineering specifications and documentations.
- 01.13 Demonstrate an understanding of the importance and impact of routine maintenance of machines and equipment on operations.



NOTE: Use either the Tab key or mouse click to move from field to field. The box will expand to accommodate your entry.

Section 1	
COURSE PREFIX AND NUMBER: EST 1352	SEMESTER CREDIT HOURS: 3
COURSE TITLE: Introduction to Manufacturing Processes	

Section 2

TYPE OF COURSE: (Click on the box to check all that apply)

AA Elective
 AS Required Professional Course
 College Prep
 AS Professional Elective
 AAS Required Professional Course
 Technical Certificate
 Other _____
 General Education: (For General Education courses, you must also complete Section 3 and Section 7)

Section 3 (If applicable)

INDICATE BELOW THE DISCIPLINE AREA FOR GENERAL EDUCATION COURSES:

Communications
 Social & Behavioral Sciences
 Mathematics
 Natural Sciences
 Humanities

Section 4

INTELLECTUAL COMPETENCIES:

Reading
 Speaking
 Critical Analysis
 Quantitative Skills
 Scientific Method of Inquiry
 Writing
 Listening
 Information Literacy
 Ethical Judgment
 Working Collaboratively

Section 5		
LEARNING OUTCOMES		METHOD OF ASSESSMENT
•	Demonstrate knowledge of current manufacturing processes.	Written quizzes, tests, and/or simulation hardware exercises
•	Demonstrate knowledge of gage design, usage and limitations.	Written quizzes, tests, and/or simulation hardware exercises
•	Analyze and recommend the usage of jigs and fixtures, including effectors and special grippers for automated systems.	Written quizzes, tests, and/or simulation hardware exercises
•	Demonstrate knowledge of processes used to ensure that changes do not negatively impact production or product.	Written quizzes or tests.
•	Demonstrate knowledge of how raw materials are moved.	Written quizzes or tests.
•	Demonstrate an understanding of the importance and impact of routine maintenance of machines and equipment on operations.	Written quizzes or tests.
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Section 6 Name of Person Completing This Form: Evan Kuharich Date: 05/6/08