Effective: Summer 2005

Course prefix/ No:	EGR 175
Course Title:	Manufacturing Processes
Lecture Hours/ Week:	3.0
LAB HRS/ WK:	0.0
Credit Hours/ Semester:	3.0

DL ATTENDANCE/VA STATEMENT
TEXTBOOK INFORMATION

COURSE DESCRIPTION
This course includes the processes, alternatives, and operations in the manufacturing environment.

COURSE COMPETENCIES
Upon successful completion of this course, the student should be competent to perform the following tasks:

Module 1 – Atomic Structure of Matter
- Apply knowledge of atomic structure of matter in making material selections as required for industrial processes.
- Perform computation and conversions from English to SI units and vice-versa.

Module 2 – Machining of Metals
- Select the most appropriate process for manufacturing based on the type of raw material provided.
- Demonstrate an understanding of heat-treating of metal components as it relates to hardening, annealing and quenching.
- Demonstrate knowledge of hardness measuring tools and the corresponding hardness scales, such as Rockwell, Brinell, Knoop, and Mohs

Module 3 – Survey of Production Machineries
- Demonstrate understanding of modern machining operations and production equipment such as, lathe machine, milling machine, drill presses, grinding machines, punch presses, circular saws, band saws, broach, shapers and planers.
- Demonstrate understanding of powder metallurgy and the related processes.

Module 4 – Basic NC Programming
- Demonstrate basic knowledge of NC programming for turning and machining centers.

Module 5 – Principles and Ethics
- Define ethics as it relates to engineering technology profession.
- Identify engineering principles and ethics and their significance in a decision making process.
- Cite five of the six fundamental canons of NSPE code of ethics for engineers.

STANDARDS
Assignments and attendance must be completed as designated in "Evaluation Strategies/Grading." Criteria for minimal acceptable performance will be provided by the instructor.

COURSE REQUIREMENTS
Students are responsible for attaining competencies through completion of the following requirements:

ATTENDANCE
Students will be bound by the policies stated in the latest edition of York Technical College Student Catalog and Handbook. Students must attend 80% of the hours assigned to the class for a semester to receive the credit for the course.

In case a student does miss a class, the student is responsible for obtaining the material that was covered during the absence.

If a student is aware that a class will be missed, then the student should notify the instructor at the earliest possible date.

If a student misses a test because of illness or urgent emergency, it is the responsibility of the student to notify the instructor prior to the class period, or at the earliest possible date. At that time a new date for a make up test can be scheduled.

Students with unexcused absences during tests will be allowed to take a make up test at the discretion of the instructor.

It is the student's responsibility to ensure that some arrangement was made with the instructor for taking a make up test on time.

MAINTAINING A COURSE NOTEBOOK
Student will maintain a class notebook. Notes should be made during study, during class, and while performing assignments. The instructor will periodically review the notebook during the semester for quality and content.

ACADEMIC HONESTY
York Technical College adheres to the South Carolina TECH Student Code, approved by the State Board for Technical and Comprehensive Education on March 13, 1974 (revised last April 25, 1984). Copies of this code are available in the Library and from Student Services. … Any student caught cheating or involved in any other academic dishonesty will be given a grade of zero and will be subject to further disciplinary action.

NO BEEPERS OR CELL PHONES WILL BE ALLOWED IN THE CLASSROOM.

EVALUATION CRITERIA / GRADING
The grading scale follows:

GRADE	POINTS
A	90-100
B	80-89
C	70-79
D	60-69
F	0-59

EVALUATION METHOD	**TOTAL POINTS**
Tests (5 minimum, 1 per module)	80%
Homework	10%

ENTRY LEVEL SKILLS
None

PREREQUISITES
RDG 100 or equivalent and EGT 110, Engineering Graphics I

CO- REQUISITES
None

METHOD OF INSTRUCTION
Two hours of lecture wiil be delivered per week. Lab time is devoted to lecture, demonstration and lab experiments. Some class time will be reserved for coaching as students solve problems related to lab work and exams. The instructor may use all available means, including video, DVD, and CD-ROM, necessary to ensure proper transfer of knowledge in the classroom and lab.

Disability Statement: Any student who feels s/he may need an accommodation based on the impact of a disability should contact the Special Resources Office (SRO) at 803-327-8007 in the 300 area of Student Services. The SRO coordinates reasonable accommodations for students with documented disabilities.