COURSE INFORMATION

Course Prefix/Number: MET 235
Course Title: Manufacturing Engineering Principles
Lecture Hours/Week 2.0
Lab Hours/Week 0.0
Credit Hours/Week 2.0

VA Statement/Distance Learning Attendance
Textbook Information
Student Code and Grievance Policy
Attendance Statement (3-30-4000.1)

COURSE DESCRIPTION

This course covers an analysis of the management of manufacturing using the tools of work cell design, standards, process planning, inventory control, and quality control. It includes analytical decision making and planning techniques.

COURSE COMPETENCIES

Upon successful completion of the course, the student should be competent to perform the following:

Module 1: Basic Operations Process Sheet
- Apply knowledge of manufacturing process and create operations process sheet based on a given set of engineering drawings.
- Given a particular product, student should be able to recommend the best type of shop floor layout.

Module 2: Critical Path Method
- Student should be able to calculate the minimum process time for a given product using critical path method and analytical decision making.

Module 3: Basic NC Programming
- Student should be introduced to basics of Numerically Controlled (NC) programs.
- Student should be able to use and apply NC Programming/Auto CAD programming knowledge to Laser Machining.

Module 4: Fundamentals of Quality Control
- Student is introduced to the basics of quality control using statistical process control methods.
METHOD OF INSTRUCTION

Two hours of instruction are provided each week. Most of that time is devoted to lecture, demonstration and chalkboard problem solving. About one fourth of class time is reserved for coaching as students solve problems and for quizzes and exams.

NOTE: All Modules are equally weighted. All of the above topics will be covered if time permits. If time runs short, omissions will be made at the discretion of the instructor.

MINIMAL STANDARDS/PERFORMANCE OBJECTIVE

- On a closed book examination, student will be able to create a simulated operator’s process sheet from a given set of blue prints.
- At the conclusion of the course, student should be able to determine the minimum throughput time for a particular product using Critical Path Method (CPM).
- Given an engineering drawing, student should be able to write NC program.
- Given a particular operation process, student should be able to use the basic statistical approach to quality control, (e.g. X and R charts).
- Using simple CAD drawing and knowledge of NC programming, student should be able to process a simple part on the laser machine.

COURSE REQUIREMENT

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

Missing a Class
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.

Missing a Test
If a student misses a test because of illness or urgent emergency, it is the responsibility of the student: 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. The student has the burden to be sure that some arrangement was made with the instructor for taking a make-up test.

Academic Integrity
The policies stated in the York Technical College Handbook will be enforced. Any student violating these policies will be subject to academic discipline.

EVALUATION CRITERIA/GRADING

Evaluation Method

Evaluation Method
Exams/Quizzes (minimum of 4) .................. 60%
Homework ........................................... 20%
Project ............................................. 20%
The grading scale follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Range</th>
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<tbody>
<tr>
<td>A</td>
<td>90 - 100</td>
</tr>
<tr>
<td>B</td>
<td>80 - 89</td>
</tr>
<tr>
<td>C</td>
<td>70 - 79</td>
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<tr>
<td>D</td>
<td>60 - 69</td>
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<tr>
<td>F</td>
<td>Below 60</td>
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ENTRY LEVEL SKILLS

Permission of instructor

PREREQUISITES

EGR 175

COREQUISITES

None

DISABILITIES 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.