COURSE INFORMATION FORM

DISCIPLINE  ETEC  
COURSE TITLE  Microcontroller Architecture  
CR.HR  4  LECT HR.  3  LAB HR.  2  CLIN/INTERN HR.  _______  CLOCK HR.  _______

CATALOG DESCRIPTION
This course covers the operation and architecture of the basic microcontroller, programming commands and system design. Also includes an introduction to robotics.

PREREQUISITES
ETEC 130

EXPECTED STUDENT OUTCOMES IN THE COURSE
Upon completion of this course, the student will be able to:

1. Demonstrate an understanding of basic microcontroller operation.
2. Evaluate different number systems.
3. Identify microcontroller circuits.
4. Describe the steps needed to interface with and troubleshoot the microprocessor.
5. Demonstrate an understanding of microcontroller registers, memory, and input/output circuits.
6. Demonstrate an understanding of elementary programming including move, branch, arithmetic, logic, test and additional commands.
7. Describe concepts of programming and system design.
CLASS-LEVEL ASSESSMENT MEASURES

Student accomplishment of expected student outcomes will be assessed using the following measures. (Identify which measures are used to assess which outcomes.)

Quizzes: 1 – 7
Block Tests: 3, 5
Practice Exercises: 1 – 7
Lab Experiments: 3 – 7

PROGRAM-LEVEL OUTCOMES ADDRESSED

General Education Outcomes
Specify which general education outcomes, if any, are substantially addressed by the course by completing the “Course/Program Assessment Matrix” to show the relationship between course and program outcomes and assessment measures.

Occupational Program Outcomes
Specify which occupational program outcomes, if any, are substantially addressed by the course by completing the “Course/Program Assessment Matrix” to show the relationship between course and program outcomes to assessment measures.
Individual instructors may order this outline as fits the needs of their individual courses. In addition, they may place more emphasis on some areas than on others. What is assured is that this particular list is covered in the course. Other topics may be added to a course as the instructor sees fit, and as time and interest allow. An *asterisk can be used to mark an item as optional.

I. Introduction to Microcontrollers
   A. Basic Microcontroller Operation
   B. Number Systems

II. Microcontroller Operation
   A. Microcontroller Circuits
   B. Interfacing with the Microcontroller
   C. Troubleshooting

III. Introduction to Programming
   A. Move and Branch Commands
   B. Arithmetic and Logic Commands
   C. Test and Additional Commands
   D. Programming and System Design

IV. Introduction to Robotics