REGULAR COURSE SYLLABUS

School of: Professional Studies

Department: Engineering Technology

Prefix & Course Number: EET 4340  Crosslisted With*: ______

Course Title: Interface Techniques

Check All That Apply:  Required for Major: X  Required for Minor: _____  Specified Elective: _____
  Required for Concentration:  __ Elective:  ____  Service Course:  _____

Credit Hours: 3  (2+2)

Total Contact Hours per semester (assuming 15-16 week semester):
  Lecture 30  Lab 30  Internship _____  Practicum _____  Other (please specify type and hours):  ______

Schedule Type(s): B  Grading Mode(s): L

Variable Topics Courses (list restrictions, including the maximum number of hours that can be earned**):

** NOTE: This information must be included in the course description.

Restrictions (Variable Topics Course):  ______

Prerequisite(s):  EET 3330 and EET 4370, with grades of “C” or better.

Corequisite(s):  ______

Prerequisite(s) or Corequisite(s):  ______

Banner Enforced:
  Prerequisite(s):  EET 3330 and EET 4370, with grades of “C” or better.
  Corequisite(s):  ______
  Prerequisite(s) or Corequisite(s):  ______

Catalog Course Description:
This course covers interfacing techniques between computers, peripherals, and other digital circuits.

APPROVED:

Richard Rozga                                           3/10/2011

Department Chair OR Program Director

Dean OR Associate Dean

Associate VP, Academic Affairs

*If crosslisted, attach completed Course Crosslisting Agreement Form
Required Reading and Other Materials will be equivalent to: Han-Way Huang (2004). *PIC Microcontroller: An Introduction to Software & Hardware Interfacing*. or latest edition. Delmar Cengage Learning

Specific, *Measurable Student Behavioral Learning Objectives*: Upon completion of this course the student should be able to:
1. Program and debug microprocessor devices.
2. Design microprocessor based circuits for common applications.
3. Create PC hardware interfaces, using Input/Output cards.
4. Create PC interface programs that support communications using serial, USB, and parallel ports.

Detailed Outline of Course Content (Major Topics and Subtopics) or Outline of Field Experience/Internship (experience, responsibilities and supervision):

I. Busses:
   A. Standard Busses
   B. Bus Interfaces
   C. Unidirectional vs. Bi-directional Busses

II. Peripheral Interfaces:
   A. Common Types
   B. Common Devices:
      1. UART
      2. USART
      3. PIA
      4. ACIA
      5. Other

III. Memory Interfaces:
   A. DMA
   B. Other

IV. Analog & Digital Interfaces:
   A. Analog to Digital Conversion
   B. Digital to Analog Conversion

V. Keyboard Interfaces

VI. Optical Couplers

VII. Standard Serial Ports

VIII. Standard Parallel Ports

IX. Interfacing Different Logic:
   A. Different Logic Families
   B. Different Logic Levels

Evaluation of Student Performance:
1. Written exams
2. Written lab reports