COURSE INFORMATION FORM

DISCIPLINE  
INTE

COURSE TITLE  
Programmable Logic Controller II

CR.HR  3  
LECT HR.  2  
LAB HR.  2  
CLIN/INTERN HR.  
CLOCK HR.  

CATALOG DESCRIPTION
This course is designed to provide the individual with the skills needed to study process control, motion control, addressing Input/Outputs and intercommunications. Topics include: advanced instruction sets for applications, analog, stepper, searching, on-line editing, cross referencing and ControlLogix software.

PREREQUISITES
INTE 115 & INTE 271

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

1. Apply advanced techniques of Programmable Logic Controller Programming using RS Logix and ControlLogix software.

2. Demonstrate an understanding of and apply the advanced instruction sets (including math, comparison, and data transfer instructions).

3. Interconnect and program Networking Programmable Logic Controller & related hardware via Data Highway.

4. Apply sequence & shift registers to Programmable Logic Controller programming.

5. Create drivers for networking components in RSLinx.

6. Analyze networking components and specify addressing for Input/Output devices.
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.)

Written Exams: 1 - 3
Projects/Labs: 1 – 6

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. Relay/Ladder Logic  
   A. Review relay instructions  
   B. On-line editing  
   C. Advanced math instructions  
   D. Comparison instructions  
   E. Data transfer instructions

II. Programmable Logic Internal Utilities  
   A. Sequencers  
   B. Compare utility  
   C. Searching  
   D. Cross referencing

III. Hardware  
   A. I/O Devices  
   B. Addressing  
   C. Advanced Analog Cards  
   D. Review of Programmable Logic Controller requirements and installation  
   E. Safety requirements

IV. Communication  
   A. RSLinx  
      1. Drivers  
      2. Configuration  
   B. Remote I/O  
      1. Addressing  
      2. Cabling

V. ControlLogix software  
   A. Addressing  
   B. Creating logic  
   C. Hardware differences and set-up  
   D. Relay instructions  
   E. Timer/counter instructions

VI. All segments of the course work will include hands-on labs to reinforce the lecture