

MASTER SYLLABUS

(Revised *fill in semester such as Fall 2007*)

Clarendon College

Course Number

Name of Course

This **Master Syllabus** is a template that should be used by all full-time and adjunct faculty who teach this course.

Add to the required information your personal information as indicated on the following pages. The appearance (format) of your syllabus may be changed to your preferences as long as the required information remains in the syllabus.

If you have recommendations for changes to the Master Syllabus, discuss them with the program coordinator, _____.

You may request an electronic copy of this Master Syllabus by emailing your division director, _____, at email address

Programmable Logic Controller Basic Level SYLLABUS

CLARENDON COLLEGE

Division of Business and Technology

Course Name: ELMT 1201.343 Programmable Logic Controllers.

Credit Hours: 2

Semester: Spring 2010

Classroom Location: HSFA102

Instructor: Cagle

Office Location: N/A

Phone: 806-679-2464

Email: donny.cagle@clarendoncollege.com

Fax: N/A

Other: N/A

Office Hours: by appointment or ½ hr prior to class

Course Description:

An entry level course in digital electronics covering number systems, binary mathematics, digital codes, logic gates, Programming a PLC, Input/Output devices and troubleshooting digital I/O.

Statement of Purpose

This course is required for successful completion of the wind energy program of study offered by Clarendon College.

Required Instructional Materials:

Textbook: Dunning, Gary Programmable Logic Controllers 3rd Edition, Thompson, 2006

Other Relevant Materials: Pens/Pencils and note paper

Student Requirements

Students must actively participate in class and attend class unless arrangements are made in advance for absence.

Methods of Instruction:

Lecture, Using PowerPoint presentation and student interaction. Participation in lab work is required

Course Objectives

An introduction to programmable logic controllers used in industrial environments including basic concepts, programming, applications, troubleshooting of ladder logic, and interfacing of equipment. This course is necessary for completing the wind energy course of study.

Grading Policies:

The final semester grades will be figured as set in the current catalog:

90 to 100 = A

80 to 89 = B

70 to 79 = C

60 to 69 = D

Below 59 = F

Comment: Quizzes will comprise 30% of the total course grade. A comprehensive final exam will comprise 50% of the student's grade and the final 20% will be class/Lab participation.

A student's final grade will be made available through Campus Connect at Clarendon College's website.

Classroom Policies:

Classroom Conduct

Failure to comply with lawful direction of a classroom instructor is a disruption for all students enrolled in the class. Cheating violations include, but are not limited to: (1) obtaining an examination, classroom activity, or laboratory exercise by stealing or collusion; (2) discovering the content of an examination, classroom activity, laboratory exercise, or homework assignment before it is given; (3) using an unauthorized source of information during an examination, classroom activity, laboratory exercise, or homework assignment; (4) entering an office or building to obtain unfair advantage; (5) taking an examination for another person; (6) completing a classroom activity, laboratory exercise, homework assignment, or research paper for another person; (7) altering grade records; (8) using any unauthorized form of electronic communication device during an examination, classroom activity, or laboratory exercise; (9) Plagiarism. Plagiarism is the using, stating, offering, or reporting as one's own, an idea, expression, or production of another person without proper credit.

Disciplinary actions for cheating in a course are at the discretion of the individual instructor. The instructor of that course will file a report with the Dean of Students when a student is caught cheating in the course, whether it be a workforce or academic course. The report shall include the course, instructor, student's name, and the type of cheating involved.

Students who are reported as cheating to the Dean of Students more than once shall be disciplined by the Dean. The Dean will notify all involved parties within fourteen days of any action taken.

American with Disabilities Act Statement:

Clarendon College provides reasonable accommodations for persons with temporary or permanent disabilities. Should you require special accommodations, notify the Office of Student Services (806-874-3571 or 800-687-9737). We will work with you to make whatever accommodations we need to make.

Dropping a Course:

A student who is enrolled in a developmental course for TSI purposes may not drop his/her only developmental course unless the student completely withdraws from the college. A student may drop any other course with a grade of "W" any time after the census date for the semester and on or before the end of the 12th week of a long semester, or on or before the last day to drop a class of a term as designated in the college calendar. The request for permission to drop a course is initiated by the student by procuring a drop form from the Office of Student Services. (Refer to other policies concerning this issue in the current college catalog online.)

Withdrawal from College:

When a student finds it necessary to withdraw from school before the end of the semester, he or she should obtain a withdrawal form from the Office of Student Services. Students may also withdraw from the college by sending a written request for such action to the Registrar's Office. The request must include the student's signature, the student's current address, social security number and course information details. Students who withdraw after the census date for the semester and on or before the end of the 12th week of a long semester, or on or before the last day to drop a class of a term as designated in the college calendar will be assigned a grade of "W."

Classroom requirements:

The operation of cell phones, MP3 type devices, personal computers, or any other such devices is strictly prohibited during class sessions. The result of such use will result in a zero grade for the event (quiz/test) for that day including final exam day. Cheating, plagiarism or other dishonest acts shall be dealt with to the extent of dismissal from the class permanently on a case by case basis. Under no circumstance will an individual be exonerated after a second incidence, but will be immediately dropped.

Any missed quizzes or exams must be taken within 1 week of the date missed. It is the student's full responsibility to make arrangements to make up a quiz or exam at a time agreeable to the instructor. The Final exam will be taken on the prescribed day or arranged day prior to the final exam. No exceptions.

Week 1: Chapter 1 – Welcome to the world of Programmable Logic Controllers and Chapter 2 Micro Programmable Logic Controllers Lab First look at Programming software
Week 2: Chapter 3 Programming a Programmable Logic Controller Lab Establishing communications and basic I/O
Week 3: Chapter 4 Number Systems and Chapter 5 Introduction to Digital and Analog PLC Interface Lab. I/O
Week 4: Quiz 1 (Ch 1-5) Chapter 6 Introduction to Logic Lab Creating a program basics
Week 5: Chapter 7 Input Modules and Chapter 8 Output Modules
Week 6: Chapter 9 Putting Together a Modular PLC Lab Identifying the configuration files in the PLC
Week 7: Chapter 10 PLC Processors Lab PLC modes
Week 8: Quiz 2 (Ch 6-10) Chapter 12 Processor Data Organization and Chapter 13 The Basic Relay Instruction Lab programming inputs and outputs
Week 9: Chapter 14 Understanding Relay instructions and the PLC Input Modules and Chapter 15 Documenting Your PLC System Lab Inputting documentation into the PLC
Week 10: Chapter 16 Timer and Counter Instructions and Chapter 17 Comparison and Data Handling Instructions Lab Programming timers and counters
Week 11: Chapter 18 Sequencer Instructions and Chapter 19 Program Flow Instructions Lab Review basic programming Instructions
Week 12: Quiz 3 (Ch 12-19) Lab Class project on the PLC
Week 13: Lab Class project on the PLC
Week 14: Lab Class project on the PLC
Week 15: Course Review and Final Exam Prep
Final exam on date/time as posted on Final Exam Schedule on the Clarendon College website