

CEET 2170 Industrial Controls
Course Syllabus Fall 2011

Instructor: Julie McCulley

Office: WSU Building 4 Room 421-G

Phone: 626-7267 Email: jmcculley@weber.edu

Office Hours: As per posted schedule, or by appointment. (Linda 626-6898)

Lecture: Tuesday and Thursday 10:30 AM – 12:30 PM Room B4-412

Text and Materials

Textbook: Bishop, R. (2007) LabVIEW 2009 Student Edition
Prentice Hall. ISBN-10: 0132141299 ISBN-13: 9780132141291

Course Description

The focus of this course is on Industrial Control Systems and Software. Lecture with Lab incorporated.

Prerequisites: CEET 2120.

Course Goals

The students will demonstrate:

1. Knowledge of National Instruments LabVIEW.
2. Knowledge of programmable logic controllers, HMI, and motor controllers and the ability to configure and program these devices for a real world application.
3. Knowledge to use LabVIEW or PLCs for automated applications.
4. Ability to use LabVIEW for data acquisition and communications with instrumentation.
5. Ability to construct an automated system integrating a PLC, HMI, and motor controller.

Class Preparation

Each week students are required to read the assigned textbook pages prior to lecture and complete homework and labs as assigned.

CEET 2170 Schedule

Week	Date	Module	Topic
1		1	The LabVIEW environment
2		2	Virtual Instrumentation
3		3	Editing and Debugging, Mathscript
4		4	Sub VIs, Structures
5		5	Arrays and Clusters, Charts and Graphs
6		6	Strings and File I/O
7		7	Data Acquisition, Instrument Control (Appendix A), and Communications
8		8	PLC Installation, setup and configuration, maintenance, and troubleshooting skills
9		9	PLC Ladder Logic/Block Programming Internal I/O,

			External I/O, Boolean Logic
10		10	Subroutines, timers, counters, shift registers
11		11	Serial Communications, HMI, Motor Controller, Robotics
12		12	Designing Systems System Integration
13		13	Final Project Program
14		14	Final Project Program
15		15	Final Project Program

Assessment

Attendance is extremely important. If you must miss class, please make sure to inform me ahead of time so we can arrange for printed lecture notes.

Grading

The following areas will be used to calculate your final grade:

1. Homework Assignments 20%
2. Exams 30%
3. Labs 50%

Homework, Labs, and Exams

Excused absences involving missed assignments, labs or exams may be made up only if I am notified in advance. Late work will be accepted with a 10% penalty up to one week.

Grades

A	94 – 100	A-	90 - 93		
B+	86 - 89	B	82 – 85	B-	78 – 81
C+	74 – 77	C	70 – 73	C-	66 – 69

Course Assessment

1. Student reviews
2. CEET Department Chair and Faculty review
3. CEET Advisory Committee review
4. Individual student performance and test scores

Policies

If you require accommodations or services due to a disability, you must contact Services for Students with Disabilities (SSD) in room 181 of the Student Service Center at the beginning of the semester.