

# EST 202 Industrial Process Control Lecture

Spring 2009 Syllabus

T, TH: 09:35 - 10:50, Room 204A

**Instructor:** Martin Hebel  
**Office:** ASA 211A  
**Phone:** 453-8806  
**Email:** [mhebel@siu.edu](mailto:mhebel@siu.edu)  
Please include EST 202 in the subject line along with other information.  
**Office Hours** T, Th: 11:00 - 12:00, 1:00- 3:00  
**Web Site:** [www.siu.edu/~mhebel](http://www.siu.edu/~mhebel)

**Textbook:** Killian, C. T., 2006. Modern Control Technology: Components and Systems, 3rd Edition.

**Course Description:** This course introduces the principles of acquisition, transmission and application of measurements and data in industrial and commercial systems. The course also introduces the theory and application of solid-state and electro-mechanical devices used in industrial control. The principles of the operation of the digital and analog process control are introduced.

<b>Grade Distribution:</b>		<b>Grading Scale:</b>	
Assignments	40%	90% and above:	A
Quizzes	10%	80% to < 90%	B
Exams	40%	70% to < 80%	C
Paper & Presentation	10%	60% to <70%	D
		Below 60%	F

## Attendance:

Students are given 3% extra credit for perfect attendance. Each missed day will reduce the extra credit by 1%. Verifiable emergencies will not count as a missed day.

## Assignments:

Late work will be reduced by 50% if not submitted by the end of class and must be submitted by next lecture class period.

## Quizzes and Exams:

Missed quizzes cannot be made up. Quizzes are typically unannounced. Three exams and comprehensive final are planned during the course of the semester. Missed exams can only be made-up by notifying me BEFORE missing the exam lacking an emergency.

## Paper & Presentation:

Students will research, report and present on an approved topic. More information will be provided at a later date.

## Materials:

Calculator

## Course Objectives:

- The student will be able to identify and analyze linear devices commonly found in electronic measurement and industrial communications systems.

- The student will be able to apply theory to analyze and troubleshoot common signal conditioning systems.
- Students will apply theory to analyze and troubleshoot basic analog and digital control systems.
- Students will be able to describe the operation and calculate the circuit values for discrete electronic power control devices.
- Students will be able to identify, select and apply the appropriate sensors and transducers for acquiring data in industrial and commercial applications.
- The student will be able to describe and compare the functional blocks of digital and analog process control.

### **Expectations:**

As in any organization, certain expectations exist as to responsibilities and performance. The classroom is no different and meeting these goals will aid in learning, course progress, and the instructor/student relationship. Listed are expectations for the students and instructor.

### Students:

- Be in attendance for each class.
- Have required materials ready for class.
- Be alert for class and participate.
- Perform reading assignments and complete reading homework.
- Follow the homework policy
- Ask questions when clarification is needed
- Be respectful to instructor and other students

### Instructor:

- Provide specific reading assignments
- Provide in-class review of current material
- Provide exam review materials
- Maintain assignments on-line up to date
- Keep students informed of current grade- typically after exam.
- Be open and positive to questions
- Maintain office hours, be open for visits & questions

### **Emergency Procedures**

Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. Because some health and safety circumstances are beyond our control, we ask that you become familiar with the SIUC Emergency Response Plan and Building Emergency Response Team (BERT) program. Emergency response information is available on posters in buildings on campus, available on the BERT website at [www.bert.siu.edu](http://www.bert.siu.edu), Department of Public Safety's website at [www.dps.siu.edu](http://www.dps.siu.edu) (disaster drop down) and in Emergency Response Guidelines pamphlet. Know how to respond to each type of emergency. Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting your location. **It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency.** The Building Emergency Response Team will provide assistance to your instructor in evacuating the building or sheltering within the facility.