SPRINGFIELD TECHNICAL COMMUNITY COLLEGE

ACADEMIC AFFAIRS

Course Number: ELEC 320 Department: Electrical Engineering Tech.

Course Title: Industrial Electronics I Semester: Spring Year: 1999

Objectives/Competencies

Course Objective	Competencies
1. To safely gain a basic working knowledge of solid-state semiconductors and devices used in industrial control systems (i.e., transistor switches and amplifiers).	1. Through lecture, demonstration and associated labs, the student will conduct mental and physical exercises under close observation and proper laboratory safety precautions, to solve problems and utilize test equipment to analyze, troubleshoot and repair control systems and circuits to standardized tests and the instructor's satisfaction.
2. To understand the fundamental operation of Power Supplies and Regulators, generators and related control systems and test equipment.	1. Through the use of exams, exercises and lab assignments, the student will work to solve, both mathematically and functionally, the problems presented by the course's lectures and texts.
3. To gain an understanding of the operation of digital electronic devices, circuitry and gates including flip-flops, registers and counters.	1. Through the use of exams, exercises and lab assignments, the student will work to solve, both mathematically and functionally, the problems presented the course lectures and examinations to the instructor's satisfaction.
4. To gain a basic knowledge of the operation and	

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construction of power control circuits including Thyristors and other special purpose devices.	1. Through lab experiments, the student will practice various circuit construction and assembly techniques to the instructor's satisfaction. 2. The student will answer related questions on each lab experiment thoroughly and correctly.
5. To provide the student with information to enable him/her to service and repair various electrical control systems and related circuits.	1. The student will further demonstrate to the instructor's satisfaction, in the lab and on exams, the ability to discover the system faults and repair them to operate correctly.