ELECTRONICS TECHNOLOGY (ETR)

ETR 106. Programming Methods for Electrical/Electronic Calculations. (2 Credits)
Teaches the application of a high-level language to electrical and electronic problem solving and circuit analysis. Introduces an operating system. Lecture 1 hour per week. Laboratory 3 hours per week. Total 4 hours per week.

ETR 113. D.C. and A.C. Fundamentals I. (3 Credits)
Studies D.C. and A.C. circuits, basic electrical components, instruments, network theorems, and techniques used to predict, analyze and measure electrical quantities. Part I of II. Lecture 2 hours per week. Laboratory 3 hours per week. Total 5 hours per week.

ETR 114. D.C. and A.C. Fundamentals II. (3 Credits)
Studies D.C. and A.C. circuits, basic electrical components, instruments, network theorems, and techniques used to predict, analyze and measure electrical quantities. Part II of II. Lecture 2 hours per week. Laboratory 3 hours per week. Total 5 hours per week. Prerequisite: ETR 113.

ETR 123. Electronic Applications I. (2 Credits)
Provides laboratory and shop experience as applied to basic electronic devices, circuits and systems with emphasis on practical measurements. Lecture 1 hour per week. Laboratory 2 hours per week. Total 3 hours per week.

ETR 143. Devices and Applications I. (4 Credits)
Teaches theory of active devices and circuits such as diodes, power supplies, transistors (BJTs), amplifiers and their parameters, FETs, and operational amplifiers. May include UJTs, oscillators, RF amplifiers, thermionic devices and others. Corequisite: knowledge of D.C./A.C. theory or permission of instructor. Lecture 3 hours per week. Laboratory 3 hours per week. Total 6 hours per week. Prerequisites ETR 113.

ETR 177. Industrial Robotics and Robotics Programming. (3 Credits)
Prepares the student to safely operate and maintain a robot and develop and maintain basic robot programs. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week.

ETR 237. Industrial Electronics I. (3 Credits)
Studies linear integrated circuits for industrial applications, motors, industrial control devices, power control circuits, transducers, industrial process control, and sequential process control. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week. Prerequisites: ETR 113 or ELE 123.

ETR 241. Electronic Communications I. (4 Credits)
Studies noise, information and bandwidth, modulation and demodulation, transmitters and receivers, wave propagation, antennas and transmission lines. Includes broad band communication systems, microwave, both terrestrial and satellite, fiber optics, multiplexing and associated hardware. Lecture 3 hours per week. Laboratory 3 hours per week. Total 6 hours per week. Prerequisite: ETR 143.

ETR 273. Computer Electronics I. (4 Credits)
Teaches principles of digital electronics and microprocessors to familiarize the student with typical circuits and methods used to interface computer and/or controllers with various I/O devices. Includes exposure to high level programming as well as assembly language routines. Part I of II. Lecture 3 hours per week. Laboratory 3 hours per week. Total 6 hours per week. Prerequisite: ETR 113.

ETR 274. Computer Electronics II. (4 Credits)
Teaches principles of digital electronics and microprocessors to familiarize the student with typical circuits and methods used to interface computer and/or controllers with various I/O devices. Includes exposure to high level programming as well as assembly language routines. Part II of II. Lecture 3 hours per week. Laboratory 3 hours per week. Total 6 hours per week. Prerequisite: ETR 273.

ETR 286. Principles & Applications of Robotics. (3 Credits)
Provides an overview of terminology, principles, practices, and applications of robotics. Studies development, programming; hydraulic, pneumatic, electronic controls; sensors, and system troubleshooting. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week.

ETR 296. On Site Training. (2 Credits)
Specializes in career orientation and training program without pay in selected businesses and industry, supervised and coordinated by the college. Credit/work ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours per week.

ETR 298. Seminar and Project. (2 Credits)
Requires completion of a project or research report related to the student's occupational objectives and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Variable hours per week. Prerequisite: Instructor approval.