

# Electrical / Electronics Technology (EEC)

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Prerequisites for courses in this department are not automatically waived for College Guest students and students with a bachelor's degree or higher from a U.S. institution.

## EEC 1020 DC Fundamentals .....3 Credit Hours

**ESL Placement Level:** For English-as-a-Second-Language (ESL) students, placement into ESL 2510 or higher.

**Prerequisite:** MAT 1100 with a grade of 'C' or better within the last three years or placement into MAT 1150 within the last two years; or consent of instructor.

**Note:** Prerequisites for courses in this department are not automatically waived for College Guest students and students with a bachelor's degree or higher from a U.S. institution.

This course introduces the basic theories of electricity as they relate to Direct Current such as: the electron theory, Ohm's Law, conductors and insulators, series circuits, parallel circuits, series/parallel circuits, magnetism, electromagnetic devices, electrical nomenclature, units of measurement, resistors, graphic and electrical symbols. Practical laboratory exercises are integrated with the theory to acquaint the student with the basic processes of constructing functional circuits and the correct use of basic measuring instruments, such as analog and digital multimeters. Refer to the specific section using OCC's online system for software version(s). BILLABLE CONTACT HOURS: 4

## EEC 1040 AC Fundamentals .....3 Credit Hours

**ESL Placement Level:** For English-as-a-Second-Language (ESL) students, placement into ESL 2510 or higher.

**Prerequisite:** EEC 1020 MAT 1150 or higher (except MAT 1525) with a grade of 'C' or better in both classes or consent of instructor.

**Note:** Prerequisites for courses in this department are not automatically waived for College Guest students and students with a bachelor's degree or higher from a U.S. institution.

This course will introduce the student to the basic concepts of AC circuit analysis. Topics will include: Alternating current and voltage, capacitors, RC circuits, inductors, RL circuits, transformers, time-response of reactive circuits, and basic 3-phase circuits. The course will include simulation projects and physical labs. BILLABLE CONTACT HOURS: 4

## EEC 1060 Digital Electronics .....4 Credit Hours

**Equivalent:** ECT 1060

**ESL Placement Level:** For English-as-a-Second-Language (ESL) students, placement into ESL 2510 or higher.

**Prerequisite:** MAT 1150 or higher (except MAT 1525) with a grade of 'C' or better or consent of instructor.

**Note:** Prerequisites for courses in this department are not automatically waived for College Guest students and students with a bachelor's degree or higher from a U.S. institution.

This course will introduce the student to the basics of digital electronics as they relate to computer electronics. Topics include: number systems, binary codes, basic logic gates, other logic gates, simplifying logic circuits using Boolean algebra and Karnaugh Maps, code conversion, binary arithmetic and arithmetic circuits, flip-flops, counters, and shift registers. The course will include simulation projects. BILLABLE CONTACT HOURS: 4

## EEC 1080 Introduction to Microcontrollers ..... 4 Credit Hours

**Equivalent:** ECT 2080

**ESL Placement Level:** For English-as-a-Second-Language (ESL) students, placement into ESL 2510 or higher.

**Prerequisite:** MAT 1150 or higher (except MAT 1525) with a grade of 'C' or better or consent of instructor.

**Note:** Prerequisites for courses in this department are not automatically waived for College Guest students and students with a bachelor's degree or higher from a U.S. institution.

This course will introduce the student to the fundamentals of microcontrollers utilizing assembly level programming. Topics include: microcontroller hardware overview, overview of assembly level instruction set and programming. An industry standard microcontroller will be utilized. The course will include simulation projects. BILLABLE CONTACT HOURS: 4

## EEC 2000 Electronics I .....4 Credit Hours

**Equivalent:** EEC 1270 | ELT 1270

**ESL Placement Level:** For English-as-a-Second-Language (ESL) students, placement into ESL 2510 or higher.

**Prerequisite:** EEC 1040 or consent of instructor.

**Note:** Prerequisites for courses in this department are not automatically waived for College Guest students and students with a bachelor's degree or higher from a U.S. institution.

This course introduces the student to the analysis of basic electronic circuits. Topics include: diodes and applications, special-purpose diodes, bi-polar junction transistors (BJT), transistor bias circuits, BJT amplifiers, power amplifiers, field-effect transistors (FET), and FET amplifier and switching circuits. The course will include simulation projects. BILLABLE CONTACT HOURS: 4