

ELECTRONICS ENGR TECHNOLOGY (ELET)

ELET 111 DC Circuits Lab (1 Credits)

Lab: 2

Direct Current Circuits Laboratory (1) Laboratory activities on electronic circuits, Ohm's law, voltage, current, resistance, and basic test instruments. Two hours of laboratory per week. Corequisite: ELET 131.

Prerequisite(s): (ELET 131)

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

ELET 112 Electronics I Lab (1 Credits)

Lab: 2

Electronics I Laboratory (1) Laboratory experiments on the application, analysis, and measurement of semiconductor devices in basic amplifier circuits. Two hours of laboratory per week. Prerequisite: ELET 133.

Corequisite: ELET 132.

Prerequisite(s): ELET 133

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

ELET 113 AC Circuits Lab (1 Credits)

Lab: 2

Alternating Current Circuits Laboratory (1) Practical experiences in the measurement and analysis of alternating current with voltage, impedance, and phasor experiments. Two hours of laboratory per week. Corequisite: ELET 133.

Prerequisite(s): (ELET 133 (may be taken concurrently))

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

ELET 114 Electronics I Laboratory (1 Credits)

Lab: 1

Electronics I Laboratory (1) Laboratory experiments on the application, analysis, and measurement of semiconductor devices in basic amplifier circuits. Two hours of laboratory per week. Prerequisite: ELET 133. Co-requisite: ELET 134.

Prerequisite(s): (ELET 133 and ELET 134 (may be taken concurrently))

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

ELET 130 Intro to Stru Prog with C++ (3 Credits)

Lecture: 2, Lab: 2

Introduction to Structured Programming with C++ (3) Structured methods of developing complex technology computer programs using a high level programming in a networked environment. Use of the C++ language as a problem-solving tool is emphasized. Two hours of lecture and two hours of laboratory per week.

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

ELET 131 DC Circuits (3 Credits)

Lecture: 3

Direct Current Circuits (3) Direct current topics covered: current, voltage, resistance, power, energy, series and parallel circuits, combination circuits, Ohm's law, Kirchhoff's rules, inductance, capacitance, and magnetism. Three hours of lecture per week. Corequisite: ELET 111.

Prerequisite(s): (ELET 111 (may be taken concurrently))

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

ELET 132 Electronics I (3 Credits)

Lecture: 3

Electronics I (3) Study of the operation and characteristics of semiconductor devices such as bipolar-junction transistors, diodes, field-effect transistors, and other devices. Three hours of lecture per week.

Prerequisite: ELET 133. **Corequisite:** ELET 112.

Prerequisite(s): (ELET 133)

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

ELET 133 AC Circuits (3 Credits)

Lecture: 3

Alternating Current Circuits (3) Continuation of ELET 131 with studies of alternating current circuits, impedance concepts, network theorems, transformers, passive filters, and response curves. Three hours of lecture per week. Prerequisite: ELET 131. Corequisites: ELET 113 and MATH 134.

Prerequisite(s): (ELET 131 and MATH 134 (may be taken concurrently) and ELET 113 (may be taken concurrently))

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

ELET 134 Electronics I (3 Credits)

Lecture: 3

Electronics I (3) Study of the operation and characteristics of semiconductor devices such as bipolar-junction transistors, diodes, field-effect transistors, and other devices. Three hours of lecture per week.

Prerequisite: ELET 133. **Co-requisite:** ELET 114.

Prerequisite(s): (ELET 133) and ELET 114 (may be taken concurrently)

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

ELET 211 Computer Circuit Analysis Lab (1 Credits)

Lab: 2

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

ELET 212 Electronics II Lab (1 Credits)

Lab: 2

Electronics II Laboratory (1) Application, design, and evaluate operational amplifiers with feedback configurations, linear and nonlinear circuitry, oscillators, and active filters. Two hours of laboratory per week.

Prerequisite: ELET 132. **Corequisite:** ELET 232.

Prerequisite(s): (ELET 134) and ELET 232 (may be taken concurrently)

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

ELET 214 Digital Logic Circuits Lab (1 Credits)

Lab: 2

Digital Logic Circuits Laboratory (1) Exercises on logic circuits, combinational and sequential logic devices, and flip-flops. Two hours of laboratory per week. Corequisite: ELET 241.

Prerequisite(s): ELET 241 (may be taken concurrently)

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

ELET 215 Digital Systems Lab (1 Credits)

Lab: 2

Digital Systems Laboratory (1) Exercises on logic circuits, combinational and sequential logic devices, and flip-flops. Experiments in digital hardware design. Two hours of laboratory per week. Co-requisite: ELET 235.

Prerequisite(s): (ELET 235 (may be taken concurrently))

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

ELET 223 Electric Machines (3 Credits)

Lecture: 2

Electric Machines (3) Study of polyphase circuits, transformers, DC machines, induction machines, and small AC motors. Two hours of lecture and two hours of laboratory per week. Prerequisite: ELET 133.

Prerequisite(s): ELET 133

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

ELET 231 Computer Circuit Analysis (3 Credits)

Lecture: 3

Prerequisite(s): (ELET 130 and ELET 133)

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

ELET 232 Electronics II (3 Credits)

Lecture: 2, **Lab:** 2

Electronics II (3) Design and evaluating of the operational amplifier circuitry with feedback, linear and nonlinear circuitry, oscillators, and active filters. Three hours of lecture per week. Prerequisite: ELET 132. Corequisite: ELET 212.

Prerequisite(s): (ELET 134) and ELET 212 (may be taken concurrently)

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

ELET 235 Digital Systems (3 Credits)

Lecture: 3

Digital Systems (3) Introduction to digital technology, Boolean algebra, number systems, codes, truth tables, combinational and sequential logic, and logic devices. Study of digital hardware with emphasis on digital circuits such as memory circuits, A/D and D/A converters. Three hours of lecture per week. Prerequisite: ELET 133. Co-requisite: ELET 215.

Prerequisite(s): (ELET 133 and ELET 215 (may be taken concurrently))

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

ELET 241 Digital Logic Circuits (3 Credits)

Lecture: 3

Digital Logic Circuits (3) Introduction to digital technology, Boolean algebra, number systems, codes, truth tables, combinational and sequential logic, and logic devices. Three hours of lecture per week. Prerequisite: ELET 133. Corequisite: ELET 214.

Prerequisite(s): ELET 133

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

ELET 243 Digital Hardware Design (3 Credits)

Lecture: 3

Digital Hardware Design (3) Study of digital hardware with emphasis on digital circuits such as memory circuits, A/D and D/A converters. Three hours of lecture per week. Prerequisite: ELET 241. Corequisite: ELET 213.

Prerequisite(s): (ELET 241)

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

ELET 311 Communications Systems Lab (1 Credits)

Lab: 2

Communications Systems Laboratory (1) Experiments on oscillators, transmitters, receivers, filters, and transmission lines as related to modern electronic communications techniques. Two hours of laboratory per week. Prerequisite: ELET 232. Corequisite: ELET 331.

Prerequisite(s): (ELET 331 (may be taken concurrently))

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

ELET 312 Control Systems Lab (1 Credits)

Lecture: 0, **Lab:** 2

Control Systems Laboratory (1) Laboratory experiments on final control elements and closed loop control systems. Two hours of laboratory per week. Prerequisite: ELET 212. Corequisite: ELET 332.

Prerequisite(s): (ELET 332 (may be taken concurrently))

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

ELET 313 Microprocessor Arch Lab (1 Credits)

Lab: 2

Microprocessor Architecture Laboratory (1) Experiments to explore the relationship between hardware and software in microprocessors, input/output operations, and assembly language techniques. Two hours of laboratory per week. Corequisite: ELET 333.

Prerequisite(s): (ELET 333 (may be taken concurrently))

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

ELET 322 Integrated Circuits (3 Credits)

Lecture: 2, **Lab:** 2

Integrated Circuits (3) Study of the design and application of digital and linear integrated circuits. Two hours of lecture and two hours of laboratory per week. Prerequisites: ELET 243.

Prerequisite(s): ELET 243

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

ELET 323 Digital Signal Processing (3 Credits)

Lecture: 3

Digital Signal Processing

Prerequisite(s): (MATH 242 and ELET 243)

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

ELET 331 Communications Systems (3 Credits)

Lecture: 3

Communications Systems (3) Study of basic communications systems with emphasis on the applications of Fourier series, Fourier transforms, modulation techniques, and transmission lines. Three hours of lecture per week. Prerequisites: MATH 242 and ELET 232. Corequisite: ELET 311.

Prerequisite(s): (ELET 232 and MATH 242 and ELET 311 (may be taken concurrently))

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

ELET 332 Control Systems (3 Credits)

Lecture: 3, **Lab:** 0

Control Systems (3) Study of feedback control systems, Laplace transforms, and control modes and methods of implementation by analog and digital means. Three hours of lecture per week. Prerequisite: ELET 232. Corequisites: ELET 312 and MATH 345.

Prerequisite(s): (ELET 232 and ELET 312 (may be taken concurrently) and MATH 345 (may be taken concurrently))

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

ELET 333 Microprocessor Architecture (3 Credits)

Lecture: 3

Prerequisite(s): (ELET 235 and ELET 313 (may be taken concurrently))

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

ELET 343 Microprocessor Architecture (3 Credits)**Lecture:** 3

Microprocessor Architecture (3) Introduction to microprocessor hardware and software, including: microprocessor principles, organization, machine language programming, and input/output functions. Three hours of lecture per week. Prerequisite: ELET 243. Corequisite: ELET 313.

Prerequisite(s): (ELET 243)**College/School:** Col of Science, Engr & Tech**Department:** Department of Engineering**ELET 353 Microprocessors Software Appl (3 Credits)****Lecture:** 2, **Lab:** 2

Microprocessor Software Applications (3) Study of programming microprocessors and microcomputers using assembly language techniques with emphasis on writing industrial application programs for engineering technology. Two hours of lecture and two hours of laboratory per week. Prerequisites: ELET 130.

Prerequisite(s): ELET 130**College/School:** Col of Science, Engr & Tech**Department:** Department of Engineering**ELET 410 Computer Control Sys Lab (1 Credits)****Lecture:** 0, **Lab:** 2

Computer Control Systems Laboratory (3) Experiments on computer control systems with emphasis on the practical aspects of control principles. Two hours of laboratory per week Prerequisite: ELET 343 and ELET 332. Corequisite: ELET 430.

Prerequisite(s): (ELET 430 (may be taken concurrently))**College/School:** Col of Science, Engr & Tech**Department:** Department of Engineering**ELET 411 Microcomputer Networks Lab (1 Credits)****Lab:** 2

Microcomputer Networks Laboratory (1) Experiments and written reports where students construct, test, and debug hardware and software components for computer networks. Two hours of laboratory per week. Corequisite: ELET 434.

Prerequisite(s): (ELET 434 (may be taken concurrently))**College/School:** Col of Science, Engr & Tech**Department:** Department of Engineering**ELET 412 Senior Project Proposal (1 Credits)****Lecture:** 1

Senior Project Proposal (1) Students will submit a written proposal along with functional specifications and timetable of a project for approval by members of faculty. One hour of class per week. Prerequisite: Senior status

College/School: Col of Science, Engr & Tech**Department:** Department of Engineering**ELET 413 Microprocessor Interfacing Lab (1 Credits)****Lab:** 2

Microprocessor Interfacing Laboratory (1) Experiments on interfacing microprocessors with emphasis on input/output operations, bus systems, peripheral hardware and software applications. Two hours of laboratory per week. Corequisite: ELET 431.

Prerequisite(s): (ELET 431 (may be taken concurrently))**College/School:** Col of Science, Engr & Tech**Department:** Department of Engineering**ELET 422 Advanced Struc Prog with C++ (3 Credits)****Lecture:** 2, **Lab:** 2

Advanced Structured Programming with C++ (3) Study of object oriented programming in C++ on workstations with Microsoft C/C++. Prerequisites: Three hours of lecture per week. Prerequisite ELET 130.

Prerequisite(s): ELET 130**College/School:** Col of Science, Engr & Tech**Department:** Department of Engineering**ELET 430 Computer Control System (3 Credits)****Lecture:** 3

Computer Control Systems (3) Analysis and design of control systems with emphasis on control software, programmable controllers, and data acquisitions. Three hours of lecture per week. Prerequisites: ELET 235. Corequisite: ELET 410.

Prerequisite(s): ELET 235 and ELET 332 and (ELET 410 (may be taken concurrently))**College/School:** Col of Science, Engr & Tech**Department:** Department of Engineering**ELET 431 Microprocessor Interfacing (3 Credits)****Lecture:** 3

Microprocessor Interfacing (3) Study of interfacing with topics on bus timing, input/output timing, serial and parallel input/output methods, subroutine and control signals. Three hours of lecture per week.

Prerequisites: ELET 333. Corequisite: ELET 413.

Prerequisite(s): ELET 333 and (ELET 413 (may be taken concurrently))**College/School:** Col of Science, Engr & Tech**Department:** Department of Engineering**ELET 434 Microcomputer Networks (3 Credits)****Lecture:** 3

Microcomputer Networks (3) Study of networking components and techniques for a microcomputer network, including the study of standards, protocols, LANs, and WANs. Three hours of lecture per week. Prerequisite: ELET 235. Corequisite: ELET 411.

Prerequisite(s): (ELET 235 and ELET 411 (may be taken concurrently))**College/School:** Col of Science, Engr & Tech**Department:** Department of Engineering**ELET 440 Senior Electronics Project (4 Credits)**

Senior Electronics Project (4) Opportunity for seniors to engage in a team project in applied electronics where integration of knowledge obtained throughout the program is possible. Prerequisites: Senior standing and consent of the Faculty Chair.

College/School: Col of Science, Engr & Tech**Department:** Department of Engineering**ELET 441 Electronics Senior Comps (0 Credits)****Lecture:** 1

Electronics Senior Comprehensive (0) Senior Comprehensive examinations for graduating seniors majoring in Electronics Engineering Technology. Students who do not score "Satisfactory" may be required to register in ELET 442 in order to complete the requirements for the course. Prerequisite: Consent of the Faculty Chair.

College/School: Col of Science, Engr & Tech**Department:** Department of Engineering**ELET 442 Special Topics (3 Credits)****Lecture:** 2, **Lab:** 2

Special Topics (3) Direct study, independent study or internship designed to give the student an opportunity to study a particular aspect of the discipline in some depth. Consent of the faculty chair required.

College/School: Col of Science, Engr & Tech**Department:** Department of Engineering