Education: Teaching English to Speakers of Other Languages (EDTE)

EDTE 540 Theories and Research in Second Language Acquisition (3)
This course provides an overview and critical examination of the theories and research in second language acquisition (SLA) and explores relationships between this work and second language teaching and learning. Major theories examined will include those from cognitive, psycholinguistic, sociolinguistic, and sociocultural perspectives. Prerequisite: admission to the SOE M.A. Program.

EDTE 541 Advanced Pedagogical Grammar (3)
In this course you will gain an understanding of the grammar of English and how to use this understanding in teaching English as a second or foreign language. We will explore a variety of current perspectives and approaches to describing and teaching grammar. Prerequisites: admission to SOE M.A. Program, EDTE 544.

EDTE 542 Teaching Multilingual Writers (3)
This course investigates the theory and practice of learning to write in a second language from an applied linguistics perspective. Topics will include the theoretical developments in L1 and L2 composition, current research issues, and pedagogical concerns, among others. Prerequisite: Admission to the SOE M.A. Program, EDTE 544.

EDTE 543 Practicum in Teaching ESL (3)
The practicum is designed to provide students with an opportunity to ovserve an ESL teacher(s) and to have a supervised experience in teaching English learners. A seminar accompanies the field experience. Prerequisites: admission to the SOE M.A. Program, EDTE 544.

EDTE 544 Advanced Methods of Teaching English as a Second/Foreign Language (3)
This course is designed to provide an in-depth study of methods for teaching English to non-native speakers at various levels. Students will link theory to practice through the study of current methods for teaching and developing speaking, listening, reading, and writing processes in English. Prerequisite: admission to the SOE M.A. Program.

EDTE 545 Special Topics in Teaching ESL/EFL (3)
Special Topics in the fields of applied and sociolinguistics related to teaching English as a second or foreign language will be offered on a rotating basis. Prerequisite: admission to the SOE M.A. Program.

Electrical Engineering (EE)

EE 110 Introduction to Engineering and Laboratory Experience (1)
Laboratory, 3 hours. This course is designed to introduce principles of engineering to the students and expose them to the electronics and computer lab environment. The students are given opportunity to design and build some simple analog and digital circuits and make measurements using various types of lab equipment. Prerequisite: Must be eligible to enroll in MATH 45 or MATH 161. Instructor's consent required for co-enrollment with EE 112.

EE 112 Fundamentals of Digital Logic Design (1)
Laboratory, 3 hours. Review of set theory and binary system, digital logic, Venn diagram, logic gates, minimization techniques, combinatorial logic and design of simple combinatorial logic circuits such as 1-bit adder; concept of coders, decoders, and integrated circuits.Prerequisites: EE 110 and Must be eligible to enroll in MATH 45 or MATH 161. Instructor's consent is required for co-enrollment in EE 110.

EE 220 Electric Circuits (3)
Lecture, 3 hours. Review of Kirchhoff's laws, circuit design, node and mesh analysis, etc.; Thevenin's theorem, Norton's theorem, steady state and transient analysis, transfer function. AC power and three-phase circuits, Y-Delta equivalents. Multi-port networks, two-port networks with energy storage, ideal transformers. Amplifiers and frequency response, filters.Prerequisites: EE 110, and CS 115, and MATH 211; Co-requisite: EE 221 and PHYS 214; or consent of instructor.

EE 221 Electric Circuits Laboratory (1)
Laboratory, 3 hours. Laboratory work on material treated in EE 220 emphasizing elementary design principles. Prerequisites: EE 110, and CS 115, and MATH 211; Co-requisite: EE 220 and PHYS 214; or consent of instructor.

EE 230 Electronics I (3)
Lecture, 3 hours. Theory, characteristics, and operation of diodes, bipolar junction transistors, and MOSFET transistors; analog and digital electronic circuits; design and analysis of analog electronic circuits such as filters, operational amplifiers, and single and multistage amplifiers; modeling and simulation using spice/multisim software. Prerequisites: Prerequisites: EE 220 and EE 221, MATH 211, and CS 115.

EE 231 Electronics I Laboratory (1)
Laboratory, 3 hours. Laboratory work to accompany EE 230. Computer-assisted design of electronic circuits involving devices such as diodes and transistors. Design, building, and testing of electronic circuits such as filters, oscillator, amplifiers, etc. Prerequisites: EE 220 and EE 221, MATH 211, and CS 115.

EE 310 Microprocessors and System Design (3)
Hardware architecture of a general-purpose microprocessor and a micro-controller, memory hierarchy and supporting peripherals in micro controllers, comparison of various micro-controller architectures and capabilities, embedded system design using a micro-controller,data transfer protocols supported by a micro-controller, process of code writing, compiling, and executing programs using an IDE and a simulator. Prerequisites: EE 210 and EE 230,co-requisite EE 310L, or consent of instructor

EE 310L Microprocessors & System Design Lab (1)
Laboratory work includes building and programming a microcontroller-based system and interfacing it to various external peripherals. Prerequisites: EE 210 and EE 230. Co-requisite: EE 310, or consent of instructor

EE 314 Advanced Programming, Modeling, and Simulation (4)
Lecture, 4 hours. Pointers and dynamic allocation of storage, linked lists, an introduction to the object oriented programming (OOP) paradigm, classes and objects, encapsulation, member variables and member functions. Static arrays, dynamic arrays, stacks and queues, linked lists, trees, binary search trees, balanced trees (AVL, red-black, B-trees), heaps, hashing, and graphs. System modeling techniques and applications such as generation of noise (random numbers) and correlated signal with different pdfs, measurement of statistical parameters like moments, queuing systems, and system simulation. Prerequisite: CS 115 and EE 220, or consent of instructor.