Electrical Engineering Technology (EET) graduates have much of the “know-why” of the engineer and much of the “know-how” of the technician. The EET curriculum combines theory and applications and is designed to prepare graduates for satisfying and meaningful employment in the electrical and electronics industry. The sound theoretical grounding has allowed graduates to earn master's degrees at local universities. The practical curriculum makes the transition to industrial employment very smooth. The EET degree is a true four-year engineering related degree, rather than a technician level degree. EET graduates starting salaries are comparable to those of engineering.

What Courses Will I Take?

<table>
<thead>
<tr>
<th>Engineering Science</th>
<th>Analysis and Design</th>
<th>Communication Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circuit Theory</td>
<td>Microcontrollers</td>
<td>English Composition</td>
</tr>
<tr>
<td>Analog and Digital</td>
<td>Instrumentation</td>
<td>Effective Speaking</td>
</tr>
<tr>
<td>Electronics</td>
<td>Computer Networks</td>
<td>Technical Writing</td>
</tr>
<tr>
<td>Computer Programing</td>
<td>Communications Systems</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control Feedback</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Power Distribution</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Microwave</td>
<td></td>
</tr>
<tr>
<td>Natural Science</td>
<td>Mathematics</td>
<td></td>
</tr>
<tr>
<td>Chemistry</td>
<td>Pre-calculus</td>
<td></td>
</tr>
<tr>
<td>Physics</td>
<td>Calculus</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Faculty – The faculty in the EET program give top priority to teaching, and emphasize high levels of faculty-student interaction as a critical part of each student’s education. The faculty have many years of industrial experience and bring a wealth of expertise, relevancy, and currency to the classes.

Students – The faculty provide each student with individualized academic counseling and assistance in meeting graduation requirements. Many EET students work part-time or full-time. The department offers many courses during evening hours for the working student. The students may participate in campus clubs. The Institute of Electronics and Electrical Engineers, Inc. (IEEE) has a student branch. The Instrument Society of America (ISA) is a strong supporter of the college, and students are forming a local chapter. These clubs are active in promoting professional development, academic scholarships, and interaction with industry. They invite guest speakers to meetings, arrange field trips, host social functions, participate in inter-university design contests, and provide community service. Students are encouraged to enroll in the college’s Cooperative Education Program gaining valuable work experience.

Graduates – Virtually all EET graduates have been able to find industrial jobs, even during soft economic times. Employment opportunities exist in both the private and public sector.

Accreditation – The Electrical Engineering Technology Bachelor of Science degree program is accredited by the Engineering Technology Accreditation Commission (ETAC) of ABET, 415 North Charles Street, Baltimore, MD 21201, Telephone: (410) 347-7700, www.abet.org.
### ELECTRICAL ENGINEERING TECHNOLOGY

#### Department of Engineering Technology

Electrical Engineering Technology (EET) graduates have much of the “know-why” of the engineer and the “know-how” of the technician. The EET curriculum combines theory and applications and is designed to prepare graduates for satisfying and meaningful employment in the electrical and electronics industry. The sound theoretical grounding has allowed graduates to earn master’s degrees at local universities. The practical curriculum makes the transition to industrial employment very smooth. The EET degree is a true four-year engineering related degree, rather than a technician level degree.

<table>
<thead>
<tr>
<th>Required Technical Studies – 67 hours</th>
<th>Prerequisites</th>
<th>Semester</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EET 1001</strong> Electronics: An Introduction</td>
<td>High School Algebra</td>
<td>F, S</td>
<td>3</td>
</tr>
<tr>
<td>OR <strong>EET 1040</strong> Introduction to Engineering (coming soon)</td>
<td>(none)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>EET 1140</strong> Circuits I</td>
<td>Intermediate Algebra</td>
<td>F, S</td>
<td>4</td>
</tr>
<tr>
<td><strong>EET 1150</strong> Circuits II</td>
<td>EET 1140, MTH 1120 or 1400</td>
<td>F, S</td>
<td>4</td>
</tr>
<tr>
<td><strong>EET 2145</strong> Electronics</td>
<td>EET 1150 or 2000, CHE 1100 or 1800</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>EET 2165</strong> Electronics Lab</td>
<td>CoReg: EET 2145</td>
<td>F, S</td>
<td>1</td>
</tr>
<tr>
<td><strong>EET 2310</strong> Digital Circuits I</td>
<td>(none)</td>
<td>F, S</td>
<td>2</td>
</tr>
<tr>
<td><strong>EET 2340</strong> Technical Programming Applications</td>
<td>MTH 1400</td>
<td>F, S</td>
<td>3</td>
</tr>
<tr>
<td><strong>EET 2350</strong> Advanced Technical Programming</td>
<td>MTH 1400</td>
<td>F, S</td>
<td>3</td>
</tr>
<tr>
<td><strong>EET 3110</strong> Transform Methods in Circuit Analysis</td>
<td>EET 1150, MTH 2410</td>
<td>F, S</td>
<td>4</td>
</tr>
<tr>
<td><strong>EET 3120</strong> Advance Analog Electronics</td>
<td>EET 2145, EET 3110, MTH 2410</td>
<td>F, S</td>
<td>4</td>
</tr>
<tr>
<td><strong>EET 3330</strong> Digital Circuits II</td>
<td>EET 2310</td>
<td>F, S</td>
<td>3</td>
</tr>
<tr>
<td><strong>EET 3410</strong> Electric Machines</td>
<td>MTH 2410, EET 2145 or 3010</td>
<td>F</td>
<td>3</td>
</tr>
<tr>
<td><strong>EET 3620</strong> Analog and Digital Communications</td>
<td>MTH 2410, EET 2145 or 3010</td>
<td>F, S</td>
<td>3</td>
</tr>
<tr>
<td><strong>EET 3630</strong> Electromagnetic Fields</td>
<td>EET 3110, EET 3620, MTH 2410</td>
<td>F, S</td>
<td>3</td>
</tr>
<tr>
<td><strong>EET 3715</strong> Control Systems Analysis</td>
<td>EET 3110, EET 3120, MTH 2410</td>
<td>F, S</td>
<td>4</td>
</tr>
<tr>
<td><strong>EET 3730</strong> Process Control Systems</td>
<td>EET 1150 or EET 2000</td>
<td>F, S</td>
<td>2</td>
</tr>
<tr>
<td><strong>EET 3740</strong> Programmable Logic Controllers</td>
<td>EET 1150 or EET 2000</td>
<td>F, S</td>
<td>2</td>
</tr>
<tr>
<td><strong>EET 4100</strong> Senior Project I</td>
<td>COM 2610, EET 3120, EET 4370, Senior</td>
<td>F, S</td>
<td>1</td>
</tr>
<tr>
<td><strong>EET 4110</strong> Senior Project II</td>
<td>SPE 1010, EET 4100, EET 4340</td>
<td>F, S</td>
<td>2</td>
</tr>
<tr>
<td><strong>EET 4340</strong> Interface Techniques</td>
<td>EET 3330, EET 4370</td>
<td>F, S</td>
<td>3</td>
</tr>
<tr>
<td><strong>EET 4370</strong> Microcontrollers</td>
<td>EET 2350, EET 3330</td>
<td>F, S</td>
<td>3</td>
</tr>
<tr>
<td><strong>COM 2610</strong> Intro to Technical Writing</td>
<td>ENG 1010</td>
<td>F, S, Su</td>
<td>3</td>
</tr>
<tr>
<td><strong>PHI 1030</strong> Introduction to Ethics</td>
<td>(none)</td>
<td>see dept.</td>
<td>3</td>
</tr>
<tr>
<td>OR <strong>PHI 3360</strong> Business Ethics</td>
<td>Junior standing</td>
<td>see dept.</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Communications Concentration – 18 hours

| **EET 3670** Measurements for Communications Systems | EET 2340, EET 3620, MTH 2410 | F | 3 |
| **EET 4020** Dig. Circuits III: Hardware Description Language | EET 2350 or CSS 2227, EET 3330 | S | 3 |
| **EET 4320** Digital Filters | EET 2340, EET 3110 | S | 3 |
| **EET 4620** Advanced Communications Systems | EET 3620 | F | 3 |
| 6 credit hours from: CET 2150 (3); CET 3120 (3); EET 4330 (3); EET 4730 (3); MET 3110 (3); MET 3125 (3) | | | 6 |

#### Computer Engineering Technology Concentration – 18 hours

| **CS 1050** Computer Science I | permission of dept. | F, S, Su | 4 |
| **CS 2050** Computer Science II | CS 1050, MTH 1110 | F | 4 |
| **EET 4020** Dig. Circuits III: Hardware Description Language | EET 2350 or CSS 2227, EET 3330 | S | 3 |
| **EET 4330** Data Communications | EET 2310 | F | 3 |
| Approved CS elective (consult an advisor) | | | 4 |

#### Power & Control Systems Concentration – 18 hours

| **EET 3420** Electric Power Distribution | MTH 2410, EET 2145 or 3010 | S | 3 |
| **EET 3430** Power Generation Using Renewable Energies | MTH 2410, EET 2145 or 3010 | F | 3 |
| **EET 4710** Digital Control Systems Design | EET 3715 | S | 4 |
| 8 credit hours from: CET 2150 (3); CET 3120 (3); EET 4320 (3); EET 4330 (3); EET 4730 (3); MET 3110 (3); MET 3125 (3) | | | 8 |

#### Physics, Chemistry & Math Requirements – 22 hours

| **CHE 1100** Principles of Chemistry | MTH 1110 or MTH 1210 | F, S, Su | 4 |
| **CHE 1150** Principles of Chemistry Lab | CoReg: CHE 1100 | F, S, Su | 1 |
| **MTH 1400** Precalculus Mathematics | (May substitute MTH 1110 & 1120) | F, S, Su | 4 |
| **MTH 1410** Calculus I | MTH 1110 & MTH 1120, or MTH 1400 | F, S, Su | 4 |
| **MTH 2410** Calculus II | MTH 1410 or MTH 1450 or HON 2100 | F, S, Su | 4 |
| **PHY 2311** General Physics I | MTH 1410 | F, S, Su | 4 |
| **PHY 2321** General Physics I Lab | concurrent with PHY 2311 | F, S, Su | 1 |
Additional Course Requirements (General Studies) – 21 hours
___ Written Communication: ENG 1010 – Composing Arguments 3
___ Written Communication: ENG 1020 – Freshman Composition: Analysis, Research, and Documentation 3
___ Quantitative Literacy (satisfied by Math requirements) 3
___ Oral Communication: SPE 1010 – Public Speaking 3
___ Arts and Humanities 3
___ Historical (Recommended: choose one: HIS 1920, 3090, or 3590 – meets Multicultural Requirement) 3
___ Natural and Physical Sciences (satisfied by Physics and Chemistry requirements) 6
___ Social and Behavioral Sciences I & II (Recommended: IND 2810 – meets Global Diversity Requirement)

Global Diversity Requirement:
___ Global Diversity Course (see Catalog for all options or above for department recommendation) 3

Multicultural Requirement:
___ Multicultural Course (see Catalog for all options or above for department recommendation) 3

Senior Experience Graduation Requirement:
___ Satisfied by EET 4100 and EET 4110 (Senior Project I & II)

Total hours for Electrical Engineering Technology Major 128

---

Electrical Engineering Technology Minor and Certificate Requirements – 19 hours

**Prerequisites:**
___ MTH 1400 Precalculus Mathematics  (may substitute MTH 1410 or MTH 1110 & 1120)
___ PHY 2311 General Physics I  (may substitute Algebra-based Physics: PHY 2010)
___ PHY 2321 General Physics I Lab  (may substitute Algebra-based Physics Lab: PHY 2030)
___ PHY 2331 General Physics II  (may substitute Algebra-based Physics: PHY 2020)
___ PHY 2341 General Physics II Lab  (may substitute Algebra-based Physics Lab: PHY 2040)

**Requirements:**
___ EET 2000 Electric Circuits & Machines  MTH 1120 or 1400, PHY 2020 or 2331  F, S 3
___ EET 2310 Digital Circuits I  (none)  F, S 3
___ EET 2350 Advanced Technical Programming  MTH 1400  F, S 3
___ EET 3010** Industrial Electronics  EET 1150 or EET 2000  S 4
OR ___ EET 2145*Electronics  EET 1150 or 2000, CHE 1100 or 1800  CoReq: EET 2165  F, S 3
___ EET 3330 Digital Circuits II  EET 2310  F, S 3
___ EET 4370 Microcontrollers  EET 2350, EET 3330  F, S 3

*If planning to pursue the EET major, EET 2145 is a required course.
**EET 3010 is the preferred course if only pursuing minor and/or certificate.
EET 1001 – Electronics: An Introduction
Credits: 3 (2 + 2)
Prerequisite(s): High school algebra
Description: This course introduces physical foundations of electricity, electronics, and computers, emphasizing hands-on application of theory. Engineering ethics, technology related careers and the effect of technological changes on modern society will also be discussed. Students will assemble specific electronic projects.
EET 1040 – Introduction to Engineering
Credits: 3 (2 + 2)
Prerequisite(s): Minimum performance standard score on math placement test
Description: This course is an introductory engineering course exposing students to a cross section of topics in contemporary civil, electrical and mechanical engineering disciplines to assist them with their education career choices. Students are taught to work in teams, introduced to the design process, utilize math and computer programs to analyze raw data and properly display their results in a presentation to their peers. The history of the engineering profession and its relation to current national, social, industrial, ethical, and international issues and problems will be discussed.
EET 1140 – Circuits I
Credits: 4 (3 + 2)
Prerequisite(s): An intermediate algebra course or one and one-half years of secondary school algebra or equivalent and appropriate score on the mathematics preassessment placement test or higher level math course, with a grade of “C” or better
Description: This course covers DC circuit analysis, including mesh analysis, nodal analysis, Thévenin conversion, Norton conversion, power, magnetism and magnetic circuits, capacitance, and inductance. An introduction to electrical laboratory procedures and the measurement of basic circuit parameters is also included.
EET 1150 – Circuits II
Credits: 4 (3 + 2)
Prerequisite(s): EET 1140 and (MTH 1120 or MTH 1400 or higher level math course), with grades of “C” or Better
Description: This course is a continuation of EET 1140, using trigonometry and complex algebra. Studies include single-time constant circuits, phasors, and the j operator, RLC circuits with sinusoidal, steady-state sources, impedance and admittance, AC formulation of classic network theorems, complex network equations, complex power, frequency response, transformers, and two-port network models.
EET 2000 – Electronic Circuits and Machines
Credits: 3 (2 + 2)
Prerequisite(s): MTH 1120 or MTH 1400, PHY 2020 or PHY 2331, with grades of “C” or better
Description: This course introduces electric circuits for non-EET majors. It covers DC and AC circuits, generators, motors, transformers, elementary electronic devices, and circuits.
EET 2145 – Electronics
Credits: 3 (3 + 0)
Prerequisite(s): EET 1150 or EET 2000, and CHE 1100 or CHE 1800, with a grade of “C” or better for all prerequisites
Corequisite(s): EET 2145
Description: Students in this course will study the theory, modeling and application of semiconductor based electronic circuits. Devices studied include: diodes, bipolar junctions transistors, MOST field effect transistors, thyristors and operational amplifiers. The student will learn to integrate electronic devices in applications such as filtering, amplification, and oscillation.
EET 2165 – Electronics Laboratory
Credits: 1 (0 + 2)
Prerequisite(s): EET 1150 or EET 2000, and CHE 1100 or CHE 1800, with a grade of “C” or better for all prerequisites
Corequisite(s): EET 2145
Description: The student will develop the laboratory skills necessary for integration of electronic devices in applications such as filtering, amplification, and oscillation. The student will integrate the lecture content of EET2145 in the practical, hands-on laboratory exercises developed in this course.
EET 2310 – Digital Circuits I
Credits: 3 (2 + 2)
Prerequisite(s): An intermediate algebra course or one-and-one-half years of secondary school algebra or equivalent and appropriate score on the mathematics preassessment placement test or higher level math course, with a grade of “C” or better
Description: This course covers the analysis and design of logic circuits using Boolean algebra and Karnaugh maps. Adders, comparators, decoders, encoders, multiplexers and other logic circuits are also studied. Flip-flops, memories, analog-to-digital (ADC) and digital-to-analog converters (DAC) are used to design simple digital circuits. Computer architecture is introduced.
EET 2340 – Technical Programming Applications
Credits: 3 (3 + 0)
Prerequisite(s): MTH 1400 or (MTH 1110 and MTH 1120) or higher level math course, with a grade of “C” or better
Description: This is a beginning-level course using Visual Basic and spreadsheets. Students will solve engineering applications problems from the various areas of civil, electrical, and mechanical engineering technology.
EET 2350 – Advanced technical Programming
Credits: 3 (3 + 0)
Prerequisite(s): MTH 1400 (or MTH 1110 and MTH 1120) (or a higher level math course) with a grade of “C” or better
Description: This is an advanced-level programming course using the C programming language and National Instruments Lab View virtual instrumentation software. Methods for solving circuit and electronics problems using the C programming language are studied. The use of Lab View for the creation of virtual instrumentation in simulations and data acquisition is introduced.
EET 3010 – Industrial Electronics
Credits: 4 (3 + 2)
Prerequisite(s): EET 1150 or EET 2000 with a grade of “C” or better
Description: This course covers the application of transistors, op amps, and other electronic devices, both analog and digital. This course is for Mechanical Engineering Technology majors, EET certificates, and EET minors. This course does not count towards a major in EET.
EET 3110 – Transform Methods in Circuit Analysis
Credits: 4 (4 + 0)
Prerequisite(s): EET 1150 and MTH 2410 with grades of “C” or better
Description: This is an advanced-level circuit analysis course introducing the use of classical ordinary differential equations combined with mathematical transforms to solve complex electronic networks. MATLAB, or equivalent, software is introduced and used as a tool for circuit analysis throughout the course.
EET 3120 – Advanced Analog Electronics
Credits: 4 (3 + 2)
Prerequisite(s): EET 2145, EET 3110, and MTH 2410 with grades of “C” or better
Description: This course is an advanced analog electronics course with emphasis on the operational amplifier and other advanced analog circuits. Advanced mathematical techniques and computer simulations are developed for circuit analysis.
EET 3330 – Digital Circuits II
Credits: 3 (2 + 2)
Prerequisite(s): EET 2310 with a grade of “C” or better
Description: This course is a continuation of EET 2310. It covers the analysis and design of sequential (counters and shift registers) logic circuits. Programmable Logic Devices (PLD) and associated Computer Aided Design (CAD) software are used to implement digital circuits using the schematic design entry method.
EET 3410 – Electric Machines
Credits: 3 (2 + 2)
Prerequisite(s): MTH 2410 and either EET 2145 or EET 3010 with grades of “C” or better
Description: This course studies motors and generators and their applications. Topics include: magnetism and magnetic circuits, voltage and torque generation, DC motors, DC generators, single and three phase transformers, and synchronous alternators.
EET 3420 – Electric Power Distribution
Credits: 3 (3 + 0)
Prerequisite(s): MTH 2410 and either EET 2145 or EET 3010 with grades of “C” or better
Description: This course studies techniques and equipment employed in electric power distribution and control.
EET 3430 – Power Generation Using Renewable Energies
Credits: 3 (3 + 0)
Prerequisite(s): MTH 2410 and either EET 2145 or EET 3010 with grades of “C” or better
Description: This is an introductory course in electrical power generation that examines various types of renewable energy sources. While examining many developing technologies, the course concentrates on the design and application of photovoltaic and wind electrical generation. It examines conventional synchronous and induction machines, as well as modern doubly-fed induction machines and their application in wind generation. It also provides an introduction to inverter technology and methods of interfacing renewable energy power plants with the electrical power grid.
EET 3620 – Analog and Digital Communications
Credits: 3 (3 + 0)
Prerequisite(s): MTH 2410 and either EET 2145 or EET 3010 with grades of “C” or better
Description: This course is an introduction to communication systems. Topics include: information theory, channel capacity, A/D and D/A techniques, modulation (AM, FM, and digital), noise sources, quantization, and transmission lines including Smith Charts.

EET 3630 – Electromagnetic Fields
Credits: 3 (3 + 0)
Prerequisite(s): EET 3110, EET 3620, and MTH 2410 with grades of “C” or better
Description: This course covers mathematical concepts of static and dynamic electromagnetic fields. Topics include: planewave propagation in lossless and lossy media, waveguide propagation, and radiation principles.

EET 3670 – Measurements for Communication Systems
Credits: 3 (1 + 4)
Prerequisite(s): EET 2340, EET 3620, and MTH 2410 with grades of “C” or better
Description: Students learn to perform measurements on communication circuits, including SNR, noise figure, impedance, admittance, phase, power, frequency, spectrum analysis, and fields at high frequencies.

EET 3690 – Fiber Optics
Credits: 3 (2 + 2)
Prerequisite(s): EET 2145 and MTH 2410 with grades of “C” or better
Description: Fiber optics is studied, including ray propagation, emitters, detectors, connectorization and systems, FDDI, and SONET.

EET 3715 – Control Systems Analysis
Credits: 4 (3 + 2)
Prerequisite(s): EET 3110, EET 3120, and MTH 2410 with grades of “C” or better
Description: This course analyzes classical, linear, continuous-time control systems. Topics include: Laplace transform, Bode plots, stability, transient response, steady-state response, and the design of PID, lag, and lead compensators. The laboratory portion of the course uses the classical approach to the analysis and design of control systems.

EET 3730 – Process Control Systems
Credits: 2 (1.5 + 1)
Prerequisite(s): EET 1150 or EET 2000 with a grade of “C” or better
Description: This course is an introduction to the applications of Proportional, Integral, & Derivative (PID) controllers in the process control industry. Topics include: structure of feedback, sensors, controllers, control valves, process dynamics, timing, piping and instrument drawing.

EET 3740 – Programmable Logic Controllers
Credits: 2 (1.5 + 1)
Prerequisite(s): EET 1150 or EET 2000 with a grade of “C” or better
Description: This course is an introduction to the applications of Programmable Logic Controllers (PLC) and their programming, using ladder diagrams. Topics include: PLC usage, types, advantages and disadvantages, system overview, ladder logic programming command language and applications, networking PLC systems, and installation and troubleshooting techniques.

EET 3980 – Internship in Electrical Engineering Technology
Credits: 1-15 (0 + 3-45)
Prerequisite(s): Major in Electrical Engineering Technology; junior or senior status; permission of instructor
Description: Supervised by a faculty member within the major department, internships provide practical, hands-on experience in a professional field related to the major. Internship placements must be established prior to enrollment in this course in consultation with the Applied Learning Center. To register with the Applied Learning Center, students must meet the following qualifications:

- Completed at least one semester at MSU Denver
- Sophomore, junior or senior status
- Declared major in an undergraduate program
- 2.5 minimum cumulative GPA at MSU Denver
- Currently enrolled and taking classes at MSU Denver

EET 4020 – Digital Circuits III: Hardware Description Language
Credits: 3 (2 + 2)
Prerequisite(s): EET 2350 or CSS 2227 or permission of instructor; and EET 3330 with grades of “C” or better
Description: This course covers a Hardware Description Language (HDL) which is used to design and simulate very large scale digital integrated circuits.

EET 4100 – Senior Project I
Credits: 1 (0 + 2)
Prerequisite(s): COM 2610, EET 3120, and EET 4370 all with grades of “C” or better; and senior standing
Description: This is a Senior Experience, capstone course designed to teach engineering design skills to students through project based learning. The course will focus on team project incorporating the application of fundamental engineering knowledge and skills. Projects require planning and design in consultation with faculty advisors and industry contacts. Through this course the students will learn the design process in a hands on way through conceptualization, construction, testing and presenting a deliverable project.

University Requirement(s): Senior Experience

EET 4110 – Senior Project II
Credits: 2 (0 + 4)
Prerequisite(s): SPE 1010, EET 4100, and EET 4340 with grades of “C” or better
Description: In this course, the student completes the project he or she started in EET 4100. The project is built, tested, and demonstrated. Written technical reports and oral presentations on the project are required. Part of this course involves the student working with a faculty member who acts as a consultant.

University Requirement(s): Senior Experience

EET 4320 – Digital Filters
Credits: 3 (2 + 2)
Prerequisite(s): EET 2340 and EET 3110, with grades of “C” or better
Description: This course teaches digital filters as applied in digital signal processing and sampled data control systems.

EET 4330 – Data Communications
Credits: 3 (2 + 2)
Prerequisite(s): EET 2310, with a grade of “C” or better
Description: This course covers methods of local and distant digital communications including: systems, standards, and hardware used for transmitting digital data either synchronously or asynchronously.

EET 4340 – Interface Techniques
Credits: 3 (2 + 2)
Prerequisite(s): EET 3330 and EET 4370 with grades of “C” or better
Description: This course covers interfacing techniques between computers, peripherals, and other digital circuits.

EET 4370 – Microcontrollers
Credits: 3 (2 + 2)
Prerequisite(s): EET 2350 and EET 3330 with grades of “C” or better
Description: This course teaches microcontroller design. Topics include: programming, monitor functions, hardware configurations, timing, analog-to-digital conversion, parallel I/O, and serial I/O.

EET 4620 – Advanced Communications Systems
Credits: 3 (3 + 0)
Prerequisite(s): EET 3620 with a grade of “C” or better
Description: This senior research course requires students to analyze HF, VHF, UHF, microwave, spread spectrum, optical, video, and satellite systems. Analog and digital cellular and personal communication services, including AMPS, GSM, CDMA, wireless LANs, microwave satellite communication systems, are also studied.

EET 4700 – Special Topics in Electrical Engineering Technology
Credits: 3 (3 + 0)
Prerequisite(s): EET 3120 with a grade of “C” or better
Description: This course identifies and researches current and emerging trends, topics, and developments in the field of electrical engineering to determine their impact on society and to identify changes in the society that could result from these new developments.

EET 4710 – Digital Control Systems Design
Credits: 4 (4 + 0)
Prerequisite(s): EET 3710 or EET 3715 with a grade of “C” or better
Description: Students in this course will learn the process and theory of the design of digital control systems, using classical and modern control theory. State variable feedback control laws and observers are designed.

EET 4730 – Robotics
Credits: 3 (3 + 0)
Prerequisite(s): MTH 2410, EET 3740, and EET 2145 or EET 3010 with grades of “C” or better
Description: This course covers the basics of design, analysis, modeling and control of robotics. The topics covered include: robot kinematics, inverse kinematics, kinetics, sensors, actuators, and the industrial applications of robotics.