E T 101. Introduction to Engineering Technology and Geomatics  
3 Credits  
An introduction to geomatics and the various engineering technology  
disciplines, the engineering approach to problem solving, and the design  
process. Projects emphasize the importance of teamwork, written & oral  
communication skills, as well as ethical responsibilities. S/U Grading (S/  
U, Audit).

E T 104. Soldering Techniques  
1 Credit  
Fundamentals of soldering, desoldering, and quality inspection of printed  
circuit boards.

E T 106. Drafting Concepts/Computer Drafting Fundamentals I  
4 Credits (2+4P)  
Basic drafting skills, terminology, and visualization. Introduction to  
principles and fundamentals of computer-aided drafting. Community  
Colleges only. Same as DRFT 112.  
Prerequisite: OECS 125, OECS 207, or consent of instructor.

E T 109. Computer Drafting Fundamentals  
3 Credits (3+2P)  
Crosslisted with: DRFT 109, C E 109 and SUR 109

E T 110. Introduction to 3-D Modeling (Solid Works)  
3 Credits (2+3P)  
Introduction to SolidWorks, a 3-D modeling software. The foundation for  
designing mechanical parts and assemblies.

E T 120. Computation Software  
2-3 Credits (2-3)  
The use of spreadsheet software in the field of engineering technology.

E T 125. Introduction to Renewable Energy  
3 Credits  
Renewable energy systems, including topics in thermal-solar  
photovoltaic, wind, geothermal systems, and other current topics.  
Theory, practical applications, safety considerations and the economics  
of alternative renewable energy systems compared to conventional  
systems.

E T 153. Introduction to Computer Networks  
3 Credits  
Introduction to basic computer network fundamentals including  
International Open Systems Interconnect (OSI), the seven-layer model,  
and various networking hardware devices. Community Colleges only.

E T 154. Construction Methods and Communications  
3 Credits  
Blueprint reading, specifications, and introduction to materials used in  
construction.

E T 155. Network Operating Systems I  
3 Credits (3+1P)  
Introduction to a computer network operating system. May not be  
used as part of an E T degree program on main campus. Restricted to:  
Community Colleges only.  
Prerequisite(s): E T 120 or E T 122.

E T 156. Introduction to Information Security  
2 Credits  
This course introduces information security terminology, historical  
evolution of digital security, types of PC and network system  
vulnerabilities and types of information loss. In addition, methods of  
information protection and integrity, intrusion detection, and recovery of  
data are introduced.  
Prerequisite(s)/Corequisite(s): E T 120. Restricted to Community  
Colleges campuses only.

E T 160. Windows Fundamentals for IET  
3 Credits  
Fundamental review of the Windows operating system including  
installation and upgrades as well as managing applications, files, folders,  
devices and maintenance.

E T 182. Digital Logic  
3 Credits  
The use of truth tables, Boolean equations, and diagrams to define,  
simplify, and implement logic-valued functions.

E T 183. Applied DC Circuits  
3 Credits (2+2P)  
Application of Ohm's law, Kirchhoff's laws, Thevenin's, and Norton's  
thereoms to the analysis of DC passive circuits. Embedded Lab.  
Prerequisite(s)/Corequisite(s): MATH 121G.

E T 183 L. Applied DC Circuits Lab  
1 Credit  
DC applied circuits lab.  
Corequisite(s): E T 183.

E T 184. Applied AC Circuits  
3 Credits (2+2P)  
Application of circuit laws and theorems to analysis of AC passive  
circuits. Resonant circuit, polyphase circuit and magnetic circuit topics  
are introduced. Embedded Lab.  
Prerequisite(s)/Corequisite(s): MATH 190G. Prerequisite(s): E T 183.

E T 184 L. Applied AC Circuits Lab  
1 Credit  
AC applied circuits lab  
Corequisite(s): E T 184.

E T 190. Applied Circuits  
4 Credits (3+2P)  
Application of Ohm's law, Kirchhoff's laws, and Thevenin's theorems to  
the analysis of AC and DC passive circuits. Electronic circuit topics are  
introduced. Embedded lab.  
Prerequisite(s)/Corequisite(s): MATH 190G.

E T 191. Applied Circuits Laboratory  
1 Credit  
Applied Circuits Lab

E T 200. Special Topics  
1-3 Credits  
Directed study or project. May be repeated for a maximum of 6 credits.  
Prerequisite: consent of department head.

E T 203. Computational Foundations  
3 Credits  
Fundamental concepts of various proof techniques. These concepts will  
be applied to the use of computer algorithms, programming languages  
and other engineering and technology applications.  
Prerequisite(s): MATH 190G and E T 262.
E T 210. Intermediate 3-D Modeling (Solid Works)
3 Credits (2+2P)
Intermediate 3-D modeling. Applied modeling of techniques to prepare for SolidWorks certification (CSWA).
Prerequisite(s): E T 110.

E T 217. Manufacturing Processes
3 Credits
Introduction to manufacturing and processing, including: casting, forming, and machining. Emphasis on creating products with the appropriate techniques. Crosslisted with: I E 217.
Prerequisite(s)/Corequisite(s): E T 217L. Prerequisite(s): E T 110 and MATH 121G.

E T 217 L. Manufacturing Processes Lab
1 Credit
Hands-on laboratory in machine shop to apply topics from E T 217, including: casting, forming, and machining.
Prerequisite(s)/Corequisite(s): E T 217.

E T 220. Internship
1-6 Credits
Internship requiring an approved number of hours of varied and progressive experience in the field of study. The scope and other requirements of the internship are stated in an individualized syllabus and through a memorandum of understanding between the faculty mentor and the industry partner. May be repeated up to 6 credits. Consent of Instructor required.
Prerequisite(s): E T 283.

E T 230. Introduction to Servo Systems
1 Credit
Introduction to Servo Systems. Topics include uses of servos in the industry, servo types, loop gains and frequency response, software control systems, damping, feedback, encoders, synchros and resolvers. Restricted to Community Colleges campuses only.
Prerequisite(s): E T 246.

E T 240. Applied Statics
3 Credits
Fundamental topics of applied statics, including force system analysis, equilibrium, free body diagrams, methods of joints and sections, distributed loads, friction, centroids, area moments, and shear and moment diagrams.
Prerequisite(s)/Corequisite(s): MATH 235G or MATH 191G. Prerequisite(s): PHYS 211G or PHYS 215G.

E T 241. Applied Dynamics
3 Credits
The foundation for understanding particles and bodies in motion and the forces involved, including: projectile motion, Newton’s Laws of Motion, conservation of energy, and impulse and momentum.
Prerequisite(s)/Corequisite(s): (MATH 236 or MATH 192G). Prerequisite(s): E T 240.

E T 245. Computer Hardware Fundamentals
3 Credits (2+2P)
Computer hardware fundamentals including architecture, interfacing, peripherals, troubleshooting, system upgrades, and maintenance. Restricted to Las Cruces campus only.

E T 246. Electronic Devices I
4 Credits (3+3P)
Solid-state devices including diodes, bipolar-transistors, and field effect transistors. Use of these devices in rectifier circuits, small signal and power amplifiers.
Prerequisite(s): E T 190 or E T 184.

E T 253. Networking Operating Systems II
3 Credits (3+1P)
Introduction to a computer network operating system. May not be used as part of an E T degree program on main campus. Restricted to Community Colleges campuses only.
Prerequisite(s): E T 155.

E T 254. Concrete Technology
3 Credits
Fundamentals of aggregates, Portland cement, and asphalt used in design and construction.

E T 255. Linux System Administration
3 Credits
A system administration view of the Linux operating system covering various distributions with a focus on managing the operating system and enterprise applications that run on Linux.

E T 256. Networking Operating Systems III
3 Credits (3+1P)
Introduction to a computer network operating system. May not be used as part of an E T degree program on main campus. Restricted to Community Colleges campuses only.
Prerequisite(s): E T 253.

E T 262. Software Technology I
3 Credits (2+2P)
An introduction to computer programming concepts as applied to engineering technology. Includes basic logic design, algorithm development, debugging and documentation. History and use of computers and their impact on society.
Prerequisite(s)/Corequisite(s): E T 182 or MATH 190G.

E T 272. Electronic Devices II
4 Credits (3+3P)
Operational amplifiers, positive and negative feedback, computer aided circuit analysis. In addition circuits include integrator, differentiators and phase shift networks.
Prerequisite(s)/Corequisite(s): MATH 235G or MATH 191G. Prerequisite(s): E T 246.

E T 273. Fundamentals of Networking Communications I
4 Credits (2+4P)
Introduction to networking basics, including computer hardware and software, electricity, networking terminology, protocols, LANs, WANs, OSI model, IP addressing, and design and documentation of basic network and structure cabling. Community Colleges only. May be repeated up to 4 credits. Restricted to Community Colleges campuses only.
Prerequisite(s): E T 153.

E T 276. Electronic Communications
3 Credits (2+2P)
Antennas, transmission devices, A-M and F-M transmission and detection, pulse systems, microwave systems.
Prerequisite(s): E T 246.
ET 277. Computer Networking I for IET
3 Credits (2+2P)
Computer network design and applications for LAN, TCP/IP networks, routing and switching technologies, VLANs, and the OSI layers from physical to transport.
Prerequisite(s): E T 182.

ET 280. Multimedia Tools and Support
3 Credits
Introduction to video, audio and other digital presentation methods. Addresses the latest multimedia technology advances and how they apply to the information and communication technology fields. Sample tools like ffmpeg, and Audacity are covered.

ET 282. Digital Electronics
4 Credits (3+3P)
Applications of digital integrated circuits, multiplexers, counters, arithmetic circuits, and microprocessors.
Prerequisite(s)/Corequisite(s): (E T 190 or E T 184). Prerequisite(s): E T 182.

ET 283. Hardware PC Maintenance
3 Credits (3+1P)
Installing, configuring, troubleshooting, and maintaining personal computer hardware components.
Prerequisite(s): E T 120 or E T 122.

ET 284. Software PC Maintenance
3 Credits (3+1P)
Installing, configuring, troubleshooting, and maintaining personal computer operating systems.
Prerequisite(s): E T 120 or E T 122.

ET 285. Advanced Information Security
3 Credits
The course covers detailed analysis of network security, including security operations and policy adherence; internal and external vulnerabilities; methods of identifying, controlling and managing system access, and the protection of system information.
Prerequisite(s)/Corequisite(s): E T 283. Prerequisite(s): E T 156.

ET 286. Information Security Certification Preparation
4 Credits
The course covers the examination objectives and detailed preparation for a certification in information security.
Prerequisite(s): E T 285.

ET 287. PC Disaster and Data Recovery
3 Credits
This course provides an overview of the various causes of personal computer data failure and methods to mitigate the loss of your personal computer data. The focus is on restoring your personal computer to full PC functionality and recovering lost and damaged files after one of these unforeseen problems. In addition, the course provides a means to lessen the impact of these inevitable events with the preparation of a disaster recovery plan.
Prerequisite(s): E T 120 or E T 122.

ET 290. Networking Wireless Communication
3 Credits (3+1P)
This course provides an introduction to wireless networking and communications. Some of the topics covered are protocols, transmission methods, and IEEE 802.11 standards. Wireless LAN (WLAN) fundamentals, devices, and security, cellular telephony, broadband, and satellite communications.
Prerequisite: E T 273.

ET 291. PC Forensics and Investigation
3 Credits
Introduction to computer forensics and investigative fundamentals. Topics include understanding computer forensic and investigation law and requirements, processing crime and incident scenes, and the extraction, preservation, analysis and presentation of computer-related evidence.
Prerequisite(s): E T 120 or E T 122.

ET 300. Special Topics
1-3 Credits
Directed study or project. May be repeated for a maximum of 6 credits. Prerequisite: consent of department head.

ET 305. Introduction to Product Design
3 Credits (2+3P)
The process of designing an innovative product for a real customer. Working through ideas, prototypes, 3-D models, concept validation, and entrepreneurship.
Prerequisite(s)/Corequisite(s): E T 210, E T 217, and (COMM 265G or COMM 253G or AXED 201G or HON 265G) or consent of instructor for non-MET majors.

ET 306. Fundamental and Applied Thermodynamics
3 Credits
First and second laws, properties of substances, thermodynamic cycles including power generation and refrigeration.
Prerequisite(s): CHEM 110G and E T 240 and (MATH 235G or MATH 191G) and (( PHYS 212G or PHYS 216G)and (PHYS 212GL or PHYS 216GL)).

ET 306 L. Thermodynamics Lab
1 Credit
Applications of thermodynamic theory to lab devices. Practice in testing, instrumentation, and data collection.
Prerequisite(s)/Corequisite(s): E T 306 and (E T 184 or E T 190).

ET 308. Fluid Technology
3 Credits
Application of basic principles of fluid mechanics to practical applied problems.
Prerequisite(s): (MATH 235G or MATH 191G) and E T 240.

ET 308 L. Fluid Technology Lab
1 Credit
Measurements in fluid statics, dynamics, and hydraulic systems.
Prerequisite(s)/Corequisite(s): E T 308. Prerequisite(s): (MATH 235 or MATH 191G), E T 240.

ET 309V. Manufacturing: History and Technology
3 Credits
The history of manufacturing, the technology on which it is based, and its impact on society.

ET 310. Applied Strength of Materials
3 Credits
Application of principles of strength of materials to practical design and analysis problems.
Prerequisite(s)/Corequisite(s): MATH 236 or MATH 192G. Prerequisite(s): (MATH 235G or MATH 191G) and E T 240.

ET 310 L. Applied Strength of Materials Lab
1 Credit
Testing and analyzing the physical properties of materials. Cursory review of Excel, PowerPoint, FEA, Instron machine, and testing standards.
Prerequisite(s)/Corequisite(s): E T 310.
E T 314. Communications Systems I
3 Credits (3+2P)
Circuits and devices used for transmission, reception, and processing of
RF signals.
Prerequisite(s): E T 246 & MATH 190G.
E T 317. Advanced Manufacturing and Design
3 Credits
Advanced 3-D modeling with current engineering design practices.
Students will use SolidWorks add-ins such as CAMWorks, Product Data
Management (PDM), and Model-Based Definition in conjunction with
Geometric Dimensioning and Tolerancing (GD&T) practices. Students
will have the opportunity to take the Certification SolidWorks Profesional
Exam (CSWP).
Prerequisite(s): E T 210 and E T 217.
E T 324. Signal Processing and Filtering
4 Credits (3+3P)
Application of digital and analog signal conversion models. Discrete time
signals and systems. Time and frequency domain concepts. Presentation
of Fourier and Z transforms. Application of analog and digital signal
filtering with and without feedback.
Prerequisite(s)/Corequisite(s): (MATH 236G or MATH 191G) and
((PHYS 212G or PHYS 216G) and (PHYS 212GL or PHYS 216GL)).
Prerequisite(s): E T 272.
E T 328. Kinematics of Machines
3 Credits (2+3P)
Kinematic analysis of machine elements using linkages, cams, and gears.
Applied design of mechanical systems using SolidWorks simulation and
Excel modeling.
Prerequisite(s): E T 210 and E T 241.
E T 332. Applied Design of Structures I
4 Credits (3+3P)
An introduction to structural analysis and design. Use of various building
codes for development of allowable and factored loads on structures.
Allowable stress and strength design concepts for structural components
using concrete and steel. Required use of computer software such as
spreadsheets, databases, and self-developed programs and design aids.
Prerequisite(s): E T 310 and (MATH 236 or MATH 192G).
E T 339. Introduction to Digital Forensics and Incident Response
3 Credits (2+3P)
Introduction to the skills required to perform digital forensics and
incident response on Windows operating systems. Topics include: live
response, evidence acquisition, Windows operating system artifacts,
documentation and reporting.
Prerequisite(s): E T 255 and E T 160.
E T 344. Microcomputer Systems
3 Credits (2+3P)
Microcomputer and/or microcontroller systems applications and
architectures with a software emphasis using programming languages.
Prerequisite(s)/Corequisite(s): E T 362. Prerequisite(s): E T 182 and
MATH 190.
E T 354. Soil and Foundation Technology
4 Credits (3+3P)
Fundamentals of investigation of soil properties and their importance
in design, construction, and testing as related to buildings, roads, dams,
and other structures. Design of foundations considering slope stability,
bearing capacity and settlement.
Prerequisite(s)/Corequisite(s): E T 310. Prerequisite(s): E T 254.
Restricted to: ET U, ET E, ET M, C E, ET C majors.
E T 355. Site/Land Development and Layout
3 Credits
Techniques, methods, and takeoffs for infrastructure layout, site plan
design, grading, earthwork, utilities, road construction.
Prerequisite(s)/Corequisite(s): DRFT 143 or DRFT 153.
E T 360V. Technology in Business and Society
3 Credits (2+2P)
Examination of how technology affects business and society with
specific attention to understanding the role of technical personnel and
their interaction with nontechnical personnel.
E T 362. Software Technology II
3 Credits
A continuation of topics from E T 262 that are directed toward more
advanced software development. Topics include problem analysis, object
oriented, structured logic, and development concepts.
Prerequisite(s): E T 262 and MATH 190G.
E T 365. Building Utilities
3 Credits (2+3P)
Basic design and code applications in plumbing and electrical systems
for buildings.
Prerequisite(s): senior standing in E T.
E T 377. Computer Networking I
3 Credits (2+2P)
Computer network design and applications for LAN, TCP/IP networks,
routing and switching technologies, VLANs, and the OSI layers from
physical to transport.
Prerequisite(s): E T 182 and MATH 190G.
E T 381. Renewable Energy Technologies
3 Credits
Renewable energy systems, including topics in thermal-solar,
photovoltaic, wind, geothermal systems, and other current topics.
Theory, practical applications, safety considerations and the economics
of alternative renewable energy systems compared to conventional
systems.
Prerequisite(s): MATH 121.
E T 382. Solar Energy Technologies
3 Credits (2+3P)
Solar energy technologies, including topics in passive, solar thermal,
and photovoltaic systems. Theory, practical applications, safety
considerations and the economics of solar renewable energy systems
compared to conventional systems.
Prerequisite(s): MATH 121.
E T 384. Wind and Water Energy Technologies
3 Credits
Wind and Water energy technologies, including topics in small and large
scale systems. Theory, practical applications, safety considerations and
the economics of wind and water renewable energy systems compared to
conventional systems.
Prerequisite(s): MATH 121.
E T 386. Sustainable Construction and Green Building Design
3 Credits
Sustainable Building materials, methods, and techniques including green
architecture and design, codes, standards and specifications.
Prerequisite(s): MATH 121.


ET 396. Heat Transfer and Applications
3 Credits (2+3P)
Fundamentals of conduction, convection, and radiation heat transfer. Application of heat transfer, thermodynamics, and fluid mechanics principles to thermal system analysis and design.
Prerequisite(s): ET 306 and ET 308 and PHYS 212G.

ET 398. Digital Systems
3 Credits (2+3P)
Advanced analysis and design of digital systems using state machine logic, programming of logic devices, implementation and testing. Pre/Prerequisite(s): ET 282 and MATH 190G.
Corequisite(s): ET 362.

ET 400. Special Topics
1-3 Credits
Directed study or project. May be repeated for a maximum of 6 credits.
Prerequisite: consent of department head.

ET 401. Heating and Air-Conditioning Systems
3 Credits
HVAC system design including heating and cooling load calculations, psychrometrics, piping, duct layout, and system control. Same as ME 401.
Prerequisite: ET 306.
Corequisite: ET 396.

ET 402. Instrumentation
3 Credits (2+3P)
Sensors/transducers, signal conditioning and transmission for measurement and control systems. Student project in an area of instrumentation and/or control is required.
Prerequisite(s)/Corequisite(s): ET 396 or ET 398.

ET 410. Senior Seminar
1 Credit
Transition from academics to business and industry. Graded S/U.
Prerequisite: senior standing in ET.

ET 412. Highway Technology
3 Credits
Road-vehicle performance, geometric alignment, traffic analysis, highway materials, pavement design, and plan and profile development.
Prerequisite(s): ET 354.

ET 415. Manufacturing Management and Productivity
3 Credits
Projects incorporating concurrent engineering, total quality management, design for manufacturability/assembly, and other contemporary topics in manufacturing.
Prerequisites: senior standing in ET.

ET 418. Applied Hydraulics
3 Credits
Introduction to hydrology, hydraulic equations, hydraulic cross-sections, control structures, and collection and distribution of water, wastewater, and storm runoff using closed conduit and open channel flow.
Prerequisite(s): ET 308.

ET 420. Senior Internship
1-6 Credits
Internship requiring an approved number of hours of varied and progressive experience in the field of study. The scope and other requirements of the internship are stated in an individualized syllabus and through a memorandum of understanding between the faculty mentor and the industry partner. Taken in the senior year of program.
Prerequisites: Senior standing in ET.

ET 421. Senior Project
3 Credits
Project in an area of civil engineering technology conducted under the direction of civil engineering technology faculty member. Project must be one that can be completed within a semester and of sufficient complexity for 3 credits. Taken last semester of program.

ET 426. Analysis and Design of Machine Elements
3 Credits (2+3P)
Analysis and design of power transmission components, including: gears, sprockets, belts, chains, bearings, and shafts. Experiential design project using SolidWorks and Excel modeling.
Prerequisite(s): ET 210, ET 241, and ET 310.

ET 432. Applied Design of Structures II
4 Credits (3+3P)
Continuation of ET 332. Design of structural systems and study of their responses. Wood and masonry systems included.
Prerequisite(s): ET 332.

ET 435. Senior Project
3 Credits (2+3P)
Capstone course. Practical application of student’s cumulative knowledge to an assigned design projects. Design principles, teamwork, and project management skills are stressed. Demonstration of written and oral communication skills via project documentation and presentation of results. Must be graduating senior. Consent of instructor required.

ET 439. Advanced Digital Forensics and Incident Response
3 Credits
Advanced topics in digital forensics and incident response on Windows, Linux and Mac OS X and mobile devices. Topics include: Memory analysis, registry analysis, timeline analysis, malware analysis, Linux artifacts, network analysis and advanced cyber security concepts.
Prerequisite(s): ET 339 and ET 377.

ET 440. Senior Design
2 Credits (1+2P)
Team design of a system, mechanism, or model that will be fabricated or simulated during the following semester in ET 441. Pre/Prerequisite(s)/Corequisite(s): ET 440 and ET 402. Restricted to: ET C, ET E, ET M, ET U majors.

ET 441. Senior Project
2 Credits (1+2P)
Team fabrication or simulation, testing, and debugging of a system, mechanism or model designed in ET 440.
Prerequisite(s): ET 440.

ET 444. Hardware and Software Senior Design
3 Credits (2+3P)
The design, development, implementation, documentation and formal demonstration of a microprocessor-based application to solve an engineering problem. Emphasis on microprocessor architectural concepts and software interfacing. A student project is required.
Prerequisite(s): ET 344 and ET 398.

ET 454. Advanced Construction Technology
3 Credits
Contractor design and construction methods concerning formwork, special foundations, shoring, excavations, pilings, steel erection, and various material handling components.
Prerequisite: ET 354 and ET 355.
ET 455. Cost Estimating and Scheduling
3 Credits
Methods and techniques in construction estimating including final bid preparation, construction planning and scheduling using various network methods and other techniques.
Prerequisite: junior or senior standing in E T.

ET 456. Applied Power Technologies
4 Credits (3+3P)
Basic elements of modern power systems, energy sources, substation configuration, load cycles, and three-phase circuits. Students will gain experience in power factor correction, transmission line configurations and impedance, voltage regulation of transformers, and the per-unit system. Study of load flow, fault analysis, and economic operations is included.
Prerequisite(s): (MATH 235 or MATH 191G) and E T 272 and ((PHYS 212G or PHYS 216G) and (PHYS 212GL or PHYS 216GL)).

ET 458. Web Development and Database Applications
3 Credits
Design, planning, and building of interactive and dynamic web applications which are customizable and contain real-time information. Topics include relational databases, object oriented programming, secure-coding practices and web security, user authentication and personalization, as well as front-end and back-end technology integration.
Prerequisite(s): E T 362 and E T 160.

ET 460. Web Technologies and Multimedia
3 Credits
Introduction to web technologies and multimedia.
Prerequisite(s): E T 160.

ET 463. Advanced Linux and Python Scripting
3 Credits
Advanced Linux includes installation and maintenance of Unix/Linux/Windows versions of Python. Use of Python to solve numerous engineering problems using Python scripting as infrastructure.
Prerequisite(s): E T 255 and E T 362.

ET 464. Windows Enterprise Administration
3 Credits
Installation, configuration, and maintenance of Windows Enterprise services which includes Active Directory, distributed file systems, SQL Server, Web Server, Authentication Procedures, and enterprise elasticity. Topics covered include: Server Maintenance and Troubleshooting Methodologies.
Prerequisite(s)/Corequisite(s): E T 339. Prerequisite(s): E T 362.

ET 472. Intelligent Transportation Systems (ITS)
3 Credits
Traffic flow theory, telecommunication and information technology application in transportation, system architecture and standards, transportation management, incident and emergency management, corridor management, dynamic route guidance, in-vehicle systems, and traffic signal timing. Consent of instructor required.

ET 477. Computer Networking II
3 Credits (2+2P)
Advanced concepts in computer network design and applications including managing the campus network infrastructure (LANs and virtual LANs), network services (DNS and DHCP), network security and firewall, network monitoring and forensics, wireless networks, high-speed optical networks and Internet.
Prerequisite(s): E T 277 or E T 377.

ET 480. Innovation and Product Development
3 Credits
Experiential product design and development. Students will learn about different types of innovation, business models, and methods for developing products. Students will apply the scientific method to develop a product idea of their own. Students will propose ideas, develop hypotheses, test hypotheses, and iterate until they have validated their product idea or identified a need to pivot.
Prerequisite(s)/Corequisite(s): (COMM 265G or COMM 253G or AXED 201G or HON 265G).

ET 482. Manufacturing Technology
3 Credits (2+2P)
Fundamentals of computer aided manufacturing (CAM) and computer numerical control (CNC) machining. Students will learn how to program several variants of CNC machines, using both G/M code programming and computer aided manufacturing software. Emphasis will be on the effective design of parts to be made on CNC machines along with a hands on lab to give students experience on CNC machines. Students will individually design, manufacture, and keep items such as keychains, bottle openers, LED clocks, ergonomic handles, and license plates.
Prerequisite(s): E T 210 and E T 217.

ET 490. Selected Topics
1-3 Credits
Selected topics in engineering technology and related areas.
Prerequisite: consent of instructor.

ET 505. Special Topics in Information Technology
3 Credits
Contemporary topics in Information Technology Restricted to: M-IT majors.

ET 539. Advanced Enterprise Security
3 Credits
Advanced enterprise security design and analysis. Identification and minimization of cyber threats. Restricted to: M-IT majors.

ET 551. Enterprise Architecture I
3 Credits
A study of current enterprise architecture methodologies, tools, and techniques. Restricted to: M-IT majors.

ET 552. ENTERPRISE ARCHITECTURE II
3 Credits
Advanced topics in enterprise architecture including availability, access, and architecture map development. Restricted to: M-IT majors.
Prerequisite(s): E T 551.

ET 555. Virtualization
3 Credits
An analysis and review of system and IT virtualization techniques. Restricted to: M-IT majors.

ET 562. Development and Operations
3 Credits
Software development including Python scripting. Operations programming. Restricted to: M-IT majors.

ET 577. Advanced Computer Networking
3 Credits
Advanced networking design and analysis. Modernization of infrastructures. Restricted to: M-IT majors.
E T 583. Mobile App Programming and Development
3 Credits
Planning and creation of mobile device applications. Programming tools and technical design considerations. Entrepreneurship and App development. Restricted to: M-IT majors.

E T 585. White Hat System Testing
3 Credits
System penetration testing and repair. Review of methods utilized to gain access to unprotected systems. Testing system repairs and fixes for future prevention. Test documentation. Restricted to: M-IT majors.

E T 595. Capstone Projects in Information Technology
3 Credits
Capstone course. Practical application of student’s cumulative Information Technology knowledge to an assigned design projects. Project management skills. May be repeated up to 6 credits. Consent of Instructor required. Restricted to: M-IT majors.