

Electrical Engineering Approved Technical Electives

Requirement:

Students must complete 4 electives (12 hours). Two electives must be from an approved track.

Rules & Restrictions:

- 2-Track Electives must be chosen from a single technical area.
- 2-Approved Electives: Choose any two additional courses from this list. CPE 212 may also be used.
- EE 410 can be taken more than once if the topics are different.
- No ET (Engineering Technology) courses may be used to satisfy requirements.

Approved Tracks & Course Codes, Titles, and Prerequisites:

Communications/Radar Track

- EE414 - Analog & Digital Filter Design: Prerequisite(s) EE 315, EE 383
- EE421 - Antenna Design & Analysis: Prerequisite(s) EE 308
- EE424 - Intro Data Communication Networks: Prerequisite(s) EE 383, EE 385
- EE422 – Quantum Communications: Prerequisite(s) EE 383, EE 385
- EE426 - Communication Theory: Prerequisite(s) EE 382
- EE410 - ST: Fundamentals of Radar Systems: Prerequisite(s) EE 382
- EE454 - Optical Fiber Communications: Prerequisite(s) EE 307, CPE 381 or EE 382

Controls & robotics Track

- EE418 - Nonlinear Dynamics & Chaos: Prerequisite(s) EE 315, EE 382
- EE486 - Intro Modern Control Systems: Prerequisite(s) EE 386
- EE410 - ST: Fundamentals of Robotics: Prerequisite(s) Advisor Approval
- EE410 - ST: Introduction to Sensors & Actuators: Prerequisite(s) Advisor Approval

Digital Hardware Design Track

- CPE322/324 - Digital Hardware Design Fundamentals: Prerequisite(s) CPE 221, Pre w/ Con EE 315
- CPE427/427L - VLSI Design I: Prerequisite(s) EE 202, EE 315
- CPE431 - Intro Computer Architecture: Prerequisite(s) CPE 322, CPE 323

Networks/Cybersecurity Track

- CPE348 - Intro to Computer Networks: Prerequisite(s) CPE 221
- CPE449 - Intro to Cybersecurity Engineering: Prerequisite(s) CPE 348

Electronics Track

- EE414 - Analog & Digital Filter Design: Prerequisite(s) EE 315, EE 383
- EE416 - Electronics II: Prerequisite(s) EE 315
- EE417 - Photovoltaic Fundamentals: Prerequisite(s) EE 310
- EE418 - Nonlinear Dynamics & Chaos: Prerequisite(s) EE 315, EE 382
- EE436 - Digital Electronics: Prerequisite(s) EE 202, EE 315
- EE451 - Optoelectronics: Prerequisite(s) EE 307, EE 315

Optics Track

- EE451 - Optoelectronics: Prerequisite(s) EE 307, EE 315
- EE453 - Laser Systems: Prerequisite(s) EE 307
- EE454 - Optical Fiber Communications: Prerequisite(s) EE 307, EE 382

Energy & Power Systems Track

- EE410 - ST: Power Systems Insulators: Prerequisite(s) Advisor Approval
- EE411 - Electric Power System: Prerequisite(s) EE 382
- EE417 - Photovoltaic Fundamentals: Prerequisite(s) EE 310

Artificial Intelligence Track

- CPE486 - Machine Learning for Engineering Applications: Prerequisite(s) MA 244, EE 385 or ISE 390
- CPE487 - Deep Learning for Engr Applications: Prerequisite(s) CPE 486