Electrical Engineering – 2023 (131 credits)

**Hub Electives:** must include all Hub areas below to fulfill degree requirements

- 1. One unit Philosophical Inquiry & Life’s Meanings
- 2. One unit Aesthetic Exploration
- 3. One unit Historical Consciousness
- 4. One unit Social Inquiry
- 5. One unit Individual & Community
- 6. First unit Global Citizenship & Intercultural Literacy
- 7. Second unit Global Citizenship & Intercultural Literacy
- 8. One unit Ethical Reasoning

- Total of at least 16 credits

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**Notes**

- Grey box = either semester
- = prerequisite; = corequisite
- Students planning to study abroad sophomore 2 should take EK 301 in sophomore 1.
- Students must complete 48 credits of upper-division program coursework (not including Hub or writing).
- See back for Hub Unit Legend
REQUIREMENTS
Electrical Engineering majors are required to complete a minimum of 131 credits as detailed on the Program Planning Sheet on the other side of this page.

HUB ELECTIVES
All students are required to complete a total of 26 Hub units. Eighteen of these Hub units are included in courses required for the EE BS degree. The remaining eight Hub units must be satisfied through four (or more) Hub Electives that incorporate the following seven Hub areas: Philosophical Inquiry; Aesthetic Exploration; Historical Consciousness; Social Inquiry; Individual in Community; Ethical Reasoning; Global Citizenship & Intercultural Literacy (2X). Lists of courses that fulfill combinations of these Hub units are at: www.bu.edu/eng/current-students/ugrad/requirements/hub-electives/

SYSTEMS ELECTIVES
Electrical Engineering majors complete one Systems Elective from the following list:
- ENG EC 402 Control Systems
- ENG EC 414 Machine Learning
- ENG EC 415 Communication Systems
- ENG EC 516 Digital Signals Processing
- ENG EC 416 Intro Digital Signal Processing*

COMPUTER ELECTIVES
Electrical Engineering majors complete one Computer Elective from the following list:
- ENG EC 327 Intro Software Engineering
- ENG EC 413 Computer Organization
- ENG EC 441 Introduction to Computer Networking

ELECTRONICS ELECTIVES
Electrical Engineering majors complete one Electronics Elective course from the following list:
- ENG EC 412 Analog Electronics
- ENG EC 417 Electric Energy Systems
- ENG EC 450 Microprocessors*
- ENG EC 456 Electromagnetic Systems I
- ENG EC 471 Physics of Semiconductor Devices
- ENG EC 562 Engineering Optics
- ENG EC 583 Power Electronics for Energy Systems

ELECTROPHYSICS ELECTIVES
Electrical Engineering majors complete one Electrophysics Elective course from the following list:
- ENG EC 417 Electric Energy Systems
- ENG EC 456 Electromagnetic Systems II
- ENG EC 471 Physics of Semiconductor Devices
- ENG EC 562 Engineering Optics
- ENG EC 583 Power Electronics for Energy Systems

TECHNICAL ELECTIVES
Electrical Engineering majors complete three Technical Elective courses (12 credits) from the following list:
Acceptable courses include all EC courses and ENG BE 209.
Additionally, all ENG BE, EK and ME courses at the 300-level and above, except for 600-level courses, are acceptable as Technical Electives.

Pre-Approved Courses Outside Engineering that fulfill a Technical Elective:
- CAS AS 414 Solar and Space Physics
- CAS CS 440 Intro to Artificial Intelligence
- CAS CS 480 Introduction to Computer Graphics
- CAS CS 585 Image and Video Computing
- CAS MA 511 Introduction to Analysis
- CAS MA 528 Introduction to Modern Geometry
- CAS MA 531 Computability and Logic
- CAS MA 541 Modern Algebra 1
- CAS MA 583 Introduction to Stochastic Processes
- CAS PY 451 Quantum Physics 1
- CAS PY 452 Quantum Physics 2
- QST SI 480 The Business of Technology Innovation
- QST SI 482 Technology and its Commercialization

Hub Unit Legend:
- QR1 = Quantitative Reasoning 1
- QR2 = Quantitative Reasoning 2
- SI1 = Scientific Reasoning 1
- SI2 = Scientific Reasoning 2
- FYW = First-Year Writing Seminar
- WRI = Writing, Research & Inquiry
- WIN = Writing-Intensive Course
- OSC = Oral and/or Signed Communication
- DME = Digital/Multimedia Expression
- CRT = Critical Thinking
- RIL = Research and Information Literacy
- TWC = Teamwork/Collaboration
- CRI = Creativity/Innovation

Notes:
For each of the following sets of courses, only one course can be taken for credit in each set due to the overlap of material:
1. ENG ME 403, ENG ME 404, ENG BE 402*, ENG EC 402, ENG BE 404
2. ENG ME 303, ENG BE 436
3. ENG EE 102*, ENG EE 103, CAS MA 142, CAS MA 242
4. ENG BE 401*, ENG BE 403, ENG EC 401
5. ENG EE 366, ENG EC 381*, ENG EE 381, ENG BE 200*
6. ENG ME 460, ENG ME 560
7. ENG EE 156*, ENG ME 358
8. ENG ME 537, ENG ME 359*

*indicates course no longer offered.