Electrical Engineering – 2022 (131 credits)

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

1. One unit Philosophical Interpretation
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
7. Second unit Global Citizenship
8. One unit Ethical Reasoning

Total of at least 16 credits

Notes
- Students planning to study abroad sophomore 2 should take EK 301 in sophomore 1.
- Grey box = either semester
- Students must complete 48 credits of upper-division program coursework (not including Hub or writing).
REQUIREMENTS
Students majoring in Electrical Engineering are required to complete a minimum of 130 credits as detailed on the Program Planning Sheet on the other side of this form.

GENERAL EDUCATION COURSES
For a list of specific courses that satisfy the Social Science, Humanities, and the General Education Elective, please go to the College of Engineering Undergraduate Requirements website at: http://www.bu.edu/eng/current-students/ugrad/requirements/.

SYSTEMS ELECTIVES Electrical Engineering majors complete 1 Systems Elective from the following list:

- ENG EC 402 Control Systems
- ENG EC 416 Intro to Signal Processing
- ENG EC 414 Intro to Machine Learning
- ENG EC 415 Communication Systems

COMPUTER ELECTIVES Electrical Engineering majors complete 1 Computer Elective from the following list:

- ENG EC 327 Intro to Software Engineering
- ENG EC 413 Computer Organization
- ENG EC 441 Introduction to Computer Networking

ELECTRONICS ELECTIVES

- ENG EC 412 Analog Electronics
- ENG EC 417 Electric Energy Systems
- ENG EC 450 Microprocessors

ENG EC 402 Control Systems  ENG EC 416 Intro to Signal Processing
ENG EC 414 Intro to Machine Learning  ENG EC 516 Digital Signal Processing
ENG EC 415 Communication Systems

ENG EC 417 Electric Energy Systems  ENG EC 571 Digital VLSI Circuit Design
ENG EC 450 Microprocessors  ENG EC 580 Analog VLSI Circuit Design
ENG EC 456 Electromagnetic Systems II  ENG EC 562 Engineering Optics
ENG EC 471 Physics of Semiconductor Devices  ENG EC 565 Electromagnetic Energy Transmission
ENG EC 450 Microprocessors  ENG EC 582 RF/Analag IC Design
ENG EC 456 Electromagnetic Systems II  ENG EC 583 Power Electronics for Energy Systems

ELECTROPHYSICS ELECTIVES

- ENG EC 417 Electric Energy Systems
- ENG EC 471 Physics of Semiconductor Devices

ENG EC 417 Electric Energy Systems  ENG EC 500 F1 Electrophysics*
ENG EC 471 Physics of Semiconductor Devices  ENG EC 565 Electromagnetic Energy Transmission
ENG EC 516 Digital Signal Processing  ENG EC 568 Optical Fibers & Wave Guides
ENG EC 570 Lasers & Applications  ENG EC 583 Power Electronics for Energy Systems
ENG EC 591 Photonics Laboratory I
ENG EC 500 F1 Electrophysics*  ENG EC 570 Lasers & Applications
ENG EC 565 Electromagnetic Energy Transmission  ENG EC 583 Power Electronics for Energy Systems
ENG EC 591 Photonics Laboratory I
ENG EC 568 Optical Fibers & Wave Guides  ENG EC 583 Power Electronics for Energy Systems

TECHNICAL ELECTIVES (see Notes below)
Electrical Engineering majors complete 3 Technical Elective courses.
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 AS 440 Intro to Artificial Intelligence
- CAS CS 480 Intro to Computer Graphics
- CAS CS 585 Image and Video Computing
- CAS MA 511 Introduction to Analysis I

- CAS MA 528 Intro to Modern Geometry
- CAS MA 531 Computability and Logic
- CAS MA 541 Modern Algebra 1
- CAS MA 583 Intro to Stochastic Processes
- CAS MA 588 Image and Video Computing
- CAS MA 588 Image and Video Computing

- CAS MA 588 Image and Video Computing
- QST SI 480 Business of Technology Innovation
- QST SI 482 Technology Commercialization
- QST SI 485 Technology Commercialization

Notes:
For the following sets of courses, only 1 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
2. ENG ME 303, ENG BE 436
3. ENG ME 441, ENG ME 515
4. ENG ME 501, ENG EC 501
5. ENG EK 102, ENG EK 103, CAS MA 142, CAS MA 242
6. ENG BE 401, ENG EC 401
7. ENG ME 366, ENG EC 381, ENG EK 381, ENG BE 200
8. ENG ME 460, ENG ME 560

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