Computer Engineering – Class of 2026 (133 credits)

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

1. One unit Philosophical Inquiry & Life’s Meanings (PLM)
2. One unit Aesthetic Exploration (AEX)
3. One unit Historical Consciousness (HCO)
4. One unit Social Inquiry (SO1 or SO2)
5. One unit Individual & Community (IIC)
6. First unit Global Citizenship & Intercultural Literacy (GCI)
7. Second unit Global Citizenship & Intercultural Literacy (GCI)
8. One unit Ethical Reasoning (ETR)

Total of at least 16 credits

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

Computer Engineering (CE) majors are required to complete a minimum of 133 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 CE 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). Search for courses that fulfill specific combinations of Hub units at: https://www.bu.edu/phbin/course-search/

CORE ELECTIVE

CE majors complete two Core Electives (8 credits) from the following list:

ENG EC 401 Signals and Systems
ENG EC 410 Introduction to Electronics
ENG EC 440 Introduction to Operating Systems
ENG EC 441 Introduction to Computer Networking

COMPUTER ENGINEERING ELECTIVE

CE majors complete two Computer Eng Elective courses (8 credits) from the following list:

ENG EC 440 Introduction to Operating Systems
ENG EC 441 Introduction to Computer Networking
ENG EC 444 Smart & Connected Systems
ENG EC 447 Software Design
ENG EC 504 Advanced Data Structures
ENG EC 512 Entrep Client-Server Softwr Sys Des
ENG EC 513 Computer Architecture
ENG EC 521 CyberSecurity
ENG EC 526 Parallel Prog for High Perf & Big Data
ENG EC 528 Cloud Computing
ENG EC 530 Software Engineering Principles
ENG EC 532 Intro to Programming Languages
ENG EC 535 Introduction to Embedded Systems
ENG EC 541 Computer Communications Networks
ENG EC 544 Network Physical World
ENG EC 545 Cyber Physical Systems
ENG EC 551 Adv Digital Design w/ Verilog & FPGA
ENG EC 552 Computational Synthetic Biology
ENG EC 557 Digital VLSI Circuit Design
CAS CS 320 Concepts of Programming Languages
CAS CS 552 Operating Systems
CAS CS 558 Computer Network Security
CAS CS 562 Database Applications
CAS CS 565 Data Mining
CAS CS 568 Applied Cryptography

EE BREADTH ELECTIVE

CE majors complete one EE Breadth Elective course (4 credits) from the following list:

ENG EC 401 Signals and Systems
ENG EC 402 Control Systems
ENG EC 410 Intro to Electronics
ENG EC 412 Analog Electronics
ENG EC 414 Machine Learning
ENG EC 415 Software Radios
ENG EC 417 Electric Energy Systems
ENG EC 455 Electromagnetic Systems I
ENG EC 456 Electromagnetic Systems II
ENG EC 471 Physics of Semiconductor Devices
ENG EC 501 Dynamic System Theory
ENG EC 503 Introduction to Learning from Data
ENG EC 504 Advanced Data Structures
ENG EC 505 Stochastic Processes
ENG EC 508 Wireless Communication
ENG EC 515 Digital Communication
ENG EC 516 Digital Signals Processing
ENG EC 517 Intro to Information Theory
ENG EC 519 Speech Processing
ENG EC 520 Digital Image Processing
ENG EC 522 Computational Optical Imaging
ENG EC 523 Deep Learning
ENG EC 524 Optimization Theory and Methods
ENG EC 525 Introduction to Biomedical Optics
ENG EC 526 Parallel Prog for High Perf & Big Data
ENG EC 528 Cloud Computing
ENG EC 530 Software Engineering Principles
ENG EC 535 Introduction to Embedded Systems
ENG EC 538 Electromagnetic Fundamentals
ENG EC 540 Intro to Operating Systems
ENG EC 541 Optimization Theory and Methods
ENG EC 542 Computational Optical Imaging
ENG EC 543 Sustainable Power Systems
ENG EC 544 Introduction to Biomedical Optics
ENG EC 545 Intro to Computer Graphics
ENG EC 546 Optical Spectroscopic Imaging
ENG EC 547 Physics of Semiconductor Devices
ENG EC 548 Optimization Theory and Methods
ENG EC 549 Intro to Operating Systems
ENG EC 550 Dynamic System Theory
ENG EC 551 Adv Digital Design w/ Verilog & FPGA
ENG EC 552 Computational Synthetic Biology
ENG EC 553 Intro to Biomedical Optics
ENG EC 554 Optical Spectroscopic Imaging
ENG EC 555 Intro to Biomedical Optics
ENG EC 556 Optical Spectroscopic Imaging
ENG EC 557 Digital VLSI Circuit Design
ENG EC 558 Optical Spectroscopic Imaging
ENG EC 559 Intro to Photonics
ENG EC 560 Intro to Photonics
ENG EC 562 Engineering Optics
ENG EC 563 Intro to Photonics
ENG EC 564 Electromagnetic Fundamentals
ENG EC 565 Optical Spectroscopic Imaging
ENG EC 566 Intro to Photonics
ENG EC 567 Lasers and Applications
ENG EC 568 Applied Cryptography
ENG EC 569 Intro to Subsurface Imaging
ENG EC 570 Lasers and Applications
ENG EC 571 Intro to Information Theory
ENG EC 572 Computational Methods in Mtls Sci
ENG EC 573 Solar Energy Systems
ENG EC 574 Semicondor Devices
ENG EC 575 Semicondor Devices
ENG EC 576 Applied Cryptography
ENG EC 577 Electr Optical & Mag Prop of Materials
ENG EC 578 Fab Technology for Integrated Circuits
ENG EC 579 Nano/Micr-Elec-Dto Tech
ENG EC 580 Analog VLSI Circuit Design
ENG EC 581 Software Engineering
ENG EC 582 RF/Analog IC design Fundamentals
ENG EC 583 Power Electronics for Energy Systems
ENG EC 584 Integrated Circuits
ENG EC 585 Integrated Circuits
ENG EC 586 Applied Cryptography
ENG EC 587 Digital VLSI Circuit Design
ENG EC 588 Analog VLSI Circuit Design
ENG EC 589 Intro to Operating Systems
ENG EC 590 Intro to Operating Systems
ENG EC 591 Photonics Lab I
ENG EC 592 Photonics Lab I
ENG EC 593 Optical Fibers and Wave Guides
ENG EC 594 Optical Fibers and Wave Guides
ENG EC 595 Optical Fibers and Wave Guides
ENG EC 596 Optical Fibers and Wave Guides
ENG EC 597 Optical Fibers and Wave Guides
ENG EC 598 Optical Fibers and Wave Guides
ENG EC 599 Optical Fibers and Wave Guides

TECHNICAL ELECTIVES

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 Introduction to Computer Graphics
CAS CS 585 Image and Video Computing
CAS CS 511 Introduction to Analysis
CAS MA 528 Introduction to Modern Geometry
CAS MA 531 Computability and Logic
CAS MA 541 Modern Algebra I
CAS MA 583 Introduction to Stochastic Processes
CAS MA 584 Introduction to Modern Geometry

Hub Unit Legend:

Q1 = Quantitative Reasoning 1
Q2 = Quantitative Reasoning 2
S1 = Scientific Reasoning 1
S2 = 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
CRI = Creativity/Innovation
RRL = Research and Information Literacy
TWC = Teamwork/Collaboration
CRT = Critical Thinking

Notes:

a) Any requirement satisfied via AP/IB can earn a maximum of one Hub unit and may require students to replace the Hub units missed.
b) Any requirement satisfied via transfer earns zero Hub units and may require students to replace the Hub units missed.
c) 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 EC 402, ENG BE 404
(2) ENG ME 303, ENG BE 436
(3) ENG ME 306, ENG BE 425
(4) ENG EK 103, CAS MA 142, CAS MA 242
(5) ENG BE 403, ENG EC 401
(6) ENG EK 381, CAS MA 381, CAS MA 581