B.S. in Electrical and Computer Engineering Technology

(120 credits minimum)

First Year

1st Semester		Credits
MATH 138	General Calculus I	3
PHYS 102	General Physics I	3
PHYS 102A	General Physics I Lab	1
ENGL 101	English Composition: Introduction to Academic Writing	3
SDET 101 or CS 106	Fundamentals of Software and Data Technologies or Introduction to Computing	3
MET 103	Introduction to Engineering Technology Design	2
ET 101	Introduction to Engineering Technology	0
FYS SEM	First-Year Student Seminar	0
	Term Credits	**15**

2nd Semester		
MATH 238	General Calculus II	3
PHYS 103	General Physics II	3
PHYS 103A	General Physics II Lab	1
ECET 201	Circuit Analysis DC and AC	3
ECET 215	Introduction to Digital Electronics	3
ENGL 102	English Composition: Introduction to Writing for Research	3
	Term Credits	**16**

Second Year

1st Semester		
ECET 205	Fundamentals of Analog Electronics	3
ECET 211	Computer Architecture and Embedded Systems	3
Social Science Literacy GER (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/social-science-ger/)		3
History and Humanities GER 200 level (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-200-level/)		3
Free Elective		2
	Term Credits	**14**

2nd Semester		
ECET 214	Introduction to Communications	3
ECET 230	Electronics Design for Manufacturing and Production	3
Technical Elective		3
Free Elective		3
	Term Credits	**12**

Third Year

1st Semester		
MATH 309	Mathematical Analysis for Technology	4
ECET 303	Circuit Measurements	2
ECET 311	Embedded Systems I	3
ECET 365	Digital Logic and Circuit Design	3
COM 313	Technical Writing	3
	Term Credits	**15**

2nd Semester		
MATH 322	Differential Equations for Applications	3

ECET 411	Embedded Systems II	3
ECET 300	Circuit Analysis: Transform Methods	3
ECET 305	Integrated Circuit Applications	3
ECET 344	Numerical Computing for Engineering Technology	3
Free Elective (300 level or higher)		3
	Term Credits	**18**
Fourth Year		
1st Semester		
MNET 414	Industrial Cost Analysis	3

MATH 305
    or MNET 315
	Statistics for Technology
	    or Industrial Statistics
		3

PHIL 334	Engineering Ethics and Technological Practice: Philosophical Perspectives on Engineering	3
ECET Technical Elective		3
Technical Elective (300 level or higher)		3
	Term Credits	**15**
2nd Semester		
ECET 400	Senior Project	3
CHEM 301	Chemical Technology	3
Humanities and Social Science Senior Seminar GER (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/hss-capstone/)		3
Technical Elective (300 level or higher)		3
Technical Elective (300 level or higher)		3
	Term Credits	**15**
	Total Credits	**120**

Approved ECET Technical Electives

Code	Title	Credits
ECET 350	Computerized Industrial Controls	3
ECET 412	Power Generation and Distribution	3
ECET 414	Solar Photovoltaic Site Planning and System Installation	3
ECET 415	Fundamentals of Telecommunications	3
ECET 416	Networking Applications	3
ECET 418	Transmission Systems	3
ECET 419	Design of Internet Based Embedded Systems	3
ECET 444	Technology Applications of Object-Oriented Programming	3

Approved Technical Electives

Technical electives can be satisfied only by courses with a technical subject matter. MATH 107/108/110 cannot be used to satisfy any technical electives.

Code	Title	Credits
BMET 320	Applied Biomedical Data Acquisition	3
BMET 415	Biomedical Mechatronics	3
BMET 440	Biomedical Experiential Learning	3
CET 314	Principles of Building Construction	3
CET 317	Construction Computing	3
CET 322	Construction Codes and Regulations	3
CMT 452	Mechanical and Electrical Systems for Construction	3
ECET 395	Co-op Work Experience I	3
ENGR 301	Engineering Applications of Data Science	3
ENGR 320	Prototyping Essentials	3
ENGR 350	Intellectual Property for Engineers	3
ENGR 360	Geometric Dimensioning and Tolerancing and Applied Metrology	3

ENGR 423	Drone Science Fundamentals	3
ENGR 424	Robotics Science Fundamentals	3
ENGR 430	Engineering for Quality and Reliability	3
IET 416	Applied Operations and Project Management	3
MET 105	Applied Computer Aided Design	2
MNET 215	Materials and Processes for Technology	3
MNET 300	Concepts In Machining	3
MNET 420	Quality Systems	3
SDET 102	Applications of Software Engineering Technology	3
SDET 201	Data Engineering	3
SDET 335	Networks Applications for Software and Data Engineering Technology I	3
SDET 435	Networks Applications for Software and Data Engineering Technology II	3

Suggested Free Electives

Free electives may be satisfied by any course offered at the university that is not prohibited by the degree program. MATH 107/108/110 cannot be used to satisfy any free electives.

Code	Title	Credits
ENGR 211	Professional Skills for Engineers I	1
ENGR 220	Introduction to Manual Machining	2
ENGR 221	Intro to CNC Machining	2
ENGR 222	Introduction to Wood Working	1
ENGR 223	Introduction to CNC Routing	1
ENGR 224	Introduction to Welding	1
ENGR 225	Introduction to Physical Metrology	1
ENGR 312	Professional Skills for Engineers II	1
ENTR 320	Financing New Venture	3
ENTR 440	Lean Startup Accelerator	3
IE 447	Legal Aspects of Engineering	3
MGMT 390	Principles of Business	3

Co-op Work Experience (Internship)

Co-op Work Experience is not required as part of the ECET program, although it is highly recommended. Students can participate in a sixteen-week paid internship at a variety of local companies.

To apply for Co-op students must first visit the Career Development Services office at NJIT and fill out a Co-op application.

Students taking a full-time Co-op may only register for a maximum of 9 credits including Co-op. Students taking a part-time Co-op may only register for a maximum of 15 credits including Co-op.

This curriculum represents the maximum number of credits per semester for which a student is advised to register. A full-time credit load is 12 credits. First-year students are placed in a curriculum that positions them for success which may result in additional time needed to complete curriculum requirements. Continuing students should consult with their academic advisor to determine the appropriate credit load.