

COMPUTER ENGINEERING (B.S.) - RESIDENT

Important: This degree plan is effective for those starting this degree program in fall 2025 through summer 2026. This degree plan will remain in effect for students who do not break enrollment or who do not change degree programs, concentrations, or cognates.

General Education/Foundational Skills Requirements

Code	Title	Hours
Communication & Information Literacy ¹		
ENGL 101	Composition and Rhetoric	3
	Communications Elective	3
	Information Literacy Elective	3
	Information Literacy Elective	3
Technological Solutions & Quantitative Reasoning ¹		
UNIV 101	Foundational Skills	1
	Math Elective MATH 114 or higher	4
	Technology Competency ²	0-3
Critical Thinking ¹		
RLGN 105	Introduction to Biblical Worldview ³	2
	Critical Thinking Elective	3
Civic & Global Engagement ¹		
EVAN 101	Evangelism and the Christian Life ³	2
	Cultural Studies Elective	3
Social & Scientific Inquiry ¹		
	Natural Science Elective	4
	Social Science Elective	3
Christianity & Contexts ¹		
BIBL 105	Old Testament Survey	2
BIBL 110	New Testament Survey	2
THEO 201	Theology Survey I ³	2
THEO 202	Theology Survey II ³	2
Total Hours		42-45

¹ Refer to the list of approved general education electives before enrolling in foundational skill requirements

² All students must pass the Computer Assessment OR complete applicable INFT course

³ Students transferring in 45 or more UG credit hours will have the requirements of RLGN 105 & EVAN 101 waived; Students transferring in 60 or more UG credit hours will also have the requirements of THEO 201 & THEO 202 waived

Major Requirements

Code	Title	Hours
Major Foundational Courses		
CSCN 111	Programming In C++ Beginner ^{1,2}	3
ENGR 270	Technical Communication ^{1,2}	3
MATH 131	Calculus and Analytic Geometry I ^{1,2}	4
MATH 132	Calculus and Analytic Geometry II ^{1,2}	4

Code	Title	Hours
PHYS 231	University Physics I ^{1,2,3}	4
Total Hours		18

¹ Course may fulfill select general education requirements.

² Minimum grade of "C" required.

³ Lab sciences courses required a lab.

Code	Title	Hours
Major Courses		
ENG 301	Introduction to Embedded Systems ¹	3
ENG 361	Computer Architecture ¹	3
ENG 371	Embedded and Real-Time Systems Design ¹	3
ENG 401	Advanced Embedded Systems Design ¹	3
ENG 465	Introduction to Computer Networks ¹	3
ENG 201	Introduction to Logic Design ¹	3
ENG 211	Introduction to Electrical and Electronic Circuits ¹	4
ENG 212	AC Circuit Analysis ¹	4
ENG 311	Signals and Systems ¹	3
ENG 321	Electronics ¹	4
ENG 341	Communications Systems ¹	3
ENG 220	Engineering Economy ¹	3
ENGR 110	Introduction to Engineering Fundamentals ¹	3
ENGR 481	Engineering Design I ¹	3
ENGR 482	Engineering Design II ¹	3
	Computer Engineering Elective ^{1,2}	3-6
Technical Electives		
	Technical Elective ^{1,4,5,6}	3
	Technical Elective ^{1,4,5,6}	3
Quantitative Studies Courses		
ENGR 210	Probability and Statistical Methods for Engineering ¹	3
MATH 221	Applied Linear Algebra ¹	3
MATH 231	Calculus and Analytical Geometry III ¹	4
MATH 234	Introductory Differential Equations ¹	3
	or MATH 334 Differential Equations	
MATH 250	Introduction to Discrete Mathematics ¹	3
PHYS 232	University Physics II ^{1,4}	4
Total Hours		77-80

¹ Minimum grade of "C" is required.

² Choose one of the following options: CSCN 112 and CSCN 215 or ENG 227³.

³ ENG 227 will not satisfy the Computer Science Minor if chosen.

⁴ Lab sciences courses require a lab.

⁵ Select from the list of Approved Engineering Technical Elective Courses.

⁶ ENGR 495 is strongly recommended.

All applicable prerequisites must be met

Graduation Requirements

- **123** Total hours
- **2.0** Overall grade point average

- **30.75** Hours must be upper-level courses (300-400 level)
- **Grade of 'C'** Minimum required for **all** courses in the major, quantitative studies, and technical electives
- **25%** Of major, including technical electives and quantitative studies, taken through Liberty University
- **30.75** Hours must be completed through Liberty University
- **Grad App** Submission of Degree Completion Application must be completed within the last semester of a student's anticipated graduation date
- **CSER** All requirements must be satisfied before a degree will be awarded

Course Sequence

Course	Title	Hours
Freshman Year		
First Semester		
ENGL 101	Composition and Rhetoric	3
MATH 131	Calculus and Analytic Geometry I ¹	4
RLGN 105	Introduction to Biblical Worldview	2
UNIV 101	Foundational Skills	1
Technology Competency ²		0-3
ENGR 102	Introduction to Engineering	1
ENGR 110	Introduction to Engineering Fundamentals	3
ENGR 133	Calculus with MATLAB	1
CSER		0
Hours		15-18
Second Semester		
BIBL 105	Old Testament Survey	2
INQR 101	Inquiry	1
Communications Elective	ENGR 270 ³	3
Mathematics Elective ³	MATH 1321 1,3	4
Natural Science Elective	PHYS 231 1,3	4
ENGI 220	Engineering Economy	3
CSER		
Hours		17
Sophomore Year		
First Semester		
RSCH 201	Research	3
CSIS 111	Introduction to Programming Using C++	3
ENGE 211	Introduction to Electrical and Electronic Circuits	4
MATH 231	Calculus and Analytical Geometry III	4
MATH 250	Introduction to Discrete Mathematics	3
CSER		
Hours		17
Second Semester		
CSIS 112	Advanced Programming Using C++	3
ENGE 201	Introduction to Logic Design	3
ENGE 212	AC Circuit Analysis	4
MATH 221	Applied Linear Algebra	3
PHYS 232	University Physics II	4
CSER		
Hours		17

Course	Title	Hours
Junior Year		
First Semester		
EVAN 101	Evangelism and the Christian Life	2
ENGC 301	Introduction to Embedded Systems	3
ENGE 311	Signals and Systems	3
ENGE 321	Electronics	4
ENGR 210	Probability and Statistical Methods for Engineering	3
MATH 334	Differential Equations	3
CSER		
Hours		18
Second Semester		
THEO 201	Theology Survey I	2
Information Literacy Elective ³		3
CSIS 215	Algorithms and Data Structures	3
ENGC 371	Embedded and Real-Time Systems Design	3
ENGE 341	Communications Systems	3
Technical Elective ⁴		3
CSER		
Hours		17
Senior Year		
First Semester		
THEO 202	Theology Survey II	2
Critical Thinking Elective ³		3
ENGC 361	Computer Architecture	3
ENGC 465	Introduction to Computer Networks	3
ENGR 481	Engineering Design I	3
Technical Elective ^{4,5}		3
CSER		
Hours		17
Second Semester		
BIBL 110	New Testament Survey	2
Cultural Studies Elective ³		3
Information Literacy Elective ³		3
Social Science Elective ³		3
ENGC 401	Advanced Embedded Systems Design	3
ENGR 482	Engineering Design II	3
CSER		
Hours		17
Total Hours		135-138

¹ Minimum grade of "C" is required

² All students must pass the Computer Assessment OR complete applicable INFT course; refer to www.liberty.edu/computerassessment for more information

³ Refer to the list of approved general education electives at General Education Courses before enrolling in foundational skills requirement

⁴ Select from the list of Approved Engineering Technical Elective Courses

⁵ ENGR 495 Directed Research is strongly recommended