

ENGINEERING EDUCATION 6-12 (B.ED.) - RESIDENT

Important: This degree plan is effective for those starting this degree program in fall 2024 through summer 2025. 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		
COMS 101	Speech Communication	3
ENGL 101	Composition and Rhetoric	3
HIUS 221	Survey of American History I	3
	Information Literacy Elective	3
Technological Solutions & Quantitative Reasoning ¹		
UNIV 101	Foundational Skills	1
MATH Elective	3	
Technology Competency	0-3	
Critical Thinking		
ENGL 201	American Literature I	3
RLGN 105	Introduction to Biblical Worldview	2
Civic & Global Engagement		
CSTU 101	Western Culture	3
EVAN 101	Evangelism and the Christian Life	2
Social & Scientific Inquiry ¹		
PSYC 210	Developmental Psychology	3
	Natural Science Elective	3
Christianity & Contexts		
BIBL 105	Old Testament Survey	2
BIBL 110	New Testament Survey	2
THEO 201	Theology Survey I	2
THEO 202	Theology Survey II	2
Total Hours		40-43

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

² MATH 131 is strongly recommended, as a prerequisite to ENGR 133, ENGR 210, and ENGI 220.

³ All students must pass the Computer Assessment OR complete applicable INFT course refer to www.liberty.edu/computerassessment for more information

⁴ Students transferring in 45 or more UG credit hours will have the requirements of RLGN 105 and EVAN 101 waived; Students transferring in 60 or more UG credit hours will also have the requirements of THEO 201 and THEO 202 waived

⁵ CHEM 121 is strongly recommended, as a prerequisite to ENGM 310.

As a requirement for completion of this program, including student teaching and passing required licensure tests, the graduate of this program, regardless of state residency, must obtain a VA state teaching

license. The VA teaching license may then be used for reciprocity in another state according to the regulations of that state.

Major Requirements

Code	Title	Hours
Major Foundational Courses		
CHEM 121	General Chemistry I	4
ENGL 102	Composition and Literature	3
MATH 131	Calculus and Analytic Geometry I	4
MATH 132	Calculus and Analytic Geometry II	4
PHYS 231	University Physics I	4
PHYS 232	University Physics II	4
Total Hours		23

¹ Course may fulfill select general education requirements

Code	Title	Hours
Major Core		
<i>Education Courses</i>		
EDUC 201	Introduction to Education and Classroom Technology	3
EDUC 221	Content Area Reading and Differentiated Teaching and Learning	3
EDUC 230	Foundations of Reading and Literacy	3
EDUC 235	Content Instructional Design	3
EDUC 350	Behavior and Individual Differences	3
EDUC 360	Foundations of Education	3
EDUC 425	Content Measurement and Evaluation	3
EDUC 435	Content Curriculum Fundamentals	3
MATH 419	Teaching Mathematics in Secondary Schools	3
<i>Practicum and Gate Courses</i>		
EDGT 177	School of Education Gate 1 – UG Initial Licensure – Local	0
EDGT 277	School of Education Gate 2 – UG Initial Licensure – Local	0
EDGT 377	School of Education Gate 3 – UG Initial Licensure – Local	0
EDUC 189	Practicum in Education I: Local	0
EDUC 289	Practicum in Education II: Local	0
EDUC 389	Practicum in Education III: Local	0
<i>Secondary Courses</i>		
ENGE 211	Introduction to Electrical and Electronic Circuits	4
ENGI 220	Engineering Economy	3
ENGM 310	Materials Engineering	3
ENGR 102	Introduction to Engineering	1
ENGR 110	Introduction to Engineering Fundamentals	3
ENGR 125	Visualization for Engineers	1
ENGR 133	Calculus with MATLAB	1
ENGR 210	Probability and Statistical Methods for Engineering	3
ENGR 235	Statics	3
ENGR 240	Dynamics	3
ENGR 315	Fluid Dynamics	3
ENGR 381	Introduction to Optimum Design	3

Code	Title	Hours
MATH 221	Applied Linear Algebra	3
MATH 231	Calculus and Analytical Geometry III	4
MATH 334	Differential Equations	3
PHYS 320	Thermodynamics	3
<i>Student Teaching</i>		
EDST 475	The Reflective Educator: Resource Seminar	3
<i>Choose one of the following:</i> ^{1,2}		9
EDST 460	Student Teaching - One Placement – Distance	
EDST 461	Student Teaching - One Placement – Local	
EDST 464	Student Teaching - Own Classroom – Distance	
EDST 465	Student Teaching - Own Classroom – Local	
EDST 466	Student Teaching - Multiple Endorsement - One Placement – Distance	
EDST 467	Student Teaching - Multiple Endorsement - One Placement – Local	
Total Hours		83

¹ Liberty University School of Education Background check is required for all practicums and student teaching.

² This course should be taken in the final semester.

Note:

- All practicum courses should be completed before student teaching, and candidate should not plan to take those courses in summer terms.

All applicable prerequisites must be met

Graduation Requirements

- 135 total hours
- 3.0 Overall grade point average
- 33.75 Hours must be upper-level courses (300-400 level)
- **Grade of 'C'** Minimum required for all courses in the major
- 25% Of major taken through Liberty University
- 33.75 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
First Year		
First Semester		
ENGL 101	Composition and Rhetoric	3
MATH 131	Calculus and Analytic Geometry I	4
UNIV 101	Foundational Skills	1
EDGT 177	School of Education Gate 1 – UG Initial Licensure – Local	0
EDUC 201	Introduction to Education and Classroom Technology	3
ENGR 102	Introduction to Engineering	1
ENGR 110	Introduction to Engineering Fundamentals	3

Course	Title	Hours
ENGR 133	Calculus with MATLAB	1
CSER		0
		Hours
		16
Second Semester		
ENGR 270	Technical Communication	3
Math Elective (MATH 132) ¹		4
Natural Science Elective (PHYS 231) ¹		4
Technology Competency ²		0-3
EDGT 277	School of Education Gate 2 – UG Initial Licensure – Local	0
EDUC 221	Content Area Reading and Differentiated Teaching and Learning	3
CSER		0
		Hours
		14-17

Second Year

First Semester

MATH 231	Calculus and Analytical Geometry III	4
PHYS 232	University Physics II	4
EDUC 189	Practicum in Education I: Local ³	0
EDUC 235	Content Instructional Design	3
ENGE 211	Introduction to Electrical and Electronic Circuits	4
ENGI 220	Engineering Economy	3
CSER		0

Hours

18

Second Semester

EDUC 230	Foundations of Reading and Literacy	3
ENGR 125	Visualization for Engineers	1
ENGR 210	Probability and Statistical Methods for Engineering	3
MATH 221	Applied Linear Algebra	3
MATH 334	Differential Equations	3
PHYS 320	Thermodynamics	3
CSER		0

Hours

16

Third Semester

BIBL 105	Old Testament Survey	2
ENGL 201	American Literature I	3
EVAN 101	Evangelism and the Christian Life	2
RLGN 105	Introduction to Biblical Worldview	2
Information Literacy Elective (ENGL 102) ¹		3

Hours

12

Third Year

First Semester

BIBL 110	New Testament Survey	2
CHEM 121	General Chemistry I	4
PSYC 210	Developmental Psychology	3
THEO 201	Theology Survey I	2
EDUC 289	Practicum in Education II: Local ³	0
EDUC 350	Behavior and Individual Differences	3
ENGR 235	Statics	3

Course	Title	Hours
CSER		0
Hours		17
Second Semester		
CSTU 101	Western Culture	3
EDUC 360	Foundations of Education	3
EDUC 425	Content Measurement and Evaluation	3
ENGM 310	Materials Engineering	3
ENGR 240	Dynamics	3
ENGR 381	Introduction to Optimum Design	3
CSER		0
Hours		18
Fourth Year		
First Semester		
HIUS 221	Survey of American History I	3
THEO 202	Theology Survey II	2
EDGT 377	School of Education Gate 3 – UG Initial Licensure – Local	0
EDUC 389	Practicum in Education III: Local ³	0
EDUC 435	Content Curriculum Fundamentals	3
ENGR 315	Fluid Dynamics	3
MATH 419	Teaching Mathematics in Secondary Schools	3
CSER		0
Hours		14
Second Semester		
EDST 475	The Reflective Educator: Resource Seminar	3
Student Teaching Elective ^{3,4}		9
CSER		0
Hours		12
Total Hours		137-140

¹ All students must pass the Computer Assessment OR complete applicable INFT course; refer to www.liberty.edu/computerassessment for more information

² Refer to the list of approved general education electives at www.liberty.edu/gened before enrolling in foundational skills requirements

³ Liberty University School of Education Background check is required for all practicums and student teaching

⁴ Choose one of the following Student Teaching options: EDST 460, 461, 464, 465, 466, or 467