Electrical & Computer Engineering Major

Computer Engineering Track

The Electrical Engineering program (ABET-accredited) is designed to prepare students for a wide range of engineering careers in industry and covers topics in analog circuits, digital systems and computer science. Students are given a broad education in engineering topics along with foundational math and sciences while experiencing engineering analysis and design through open-ended and hands-on projects. Students in their junior and senior years pursue more specific interests, specializing in either Electrical or Computer Engineering, and complete a two-course sequence of capstone design.

BS: Electrical & Computer Engineering 2023 – 2024 (Computer Engineering track & Applied Math minor included)

Catalog Expires in August 2023

Name: _____   L#

ACT/SAT:_____ EPS/MPT: _____ Honors: _____ DE/AP/IB: _____

Total Hours:133

Term							
FR Fall 18 hrs	BI 1093 The Story of Israel	LU 1203 Lipscomb Experience	*MA 1314 (C) Calculus I [SAT ≥ 620, ACT ≥ 26, or MPT ≥ 30]	ENGR 1113 Intro to Engineering (with lab) [Co-req MA 1113 or equivalent]	EECE 1423 (C) Digital Logic [Co-req MA 1123 or MA 1135 or MA 1314]	PE 2012 Lifetime Wellness	ENGR 0110 Networking/PD
FR Spring 17 hrs	EN 1313 University Writing [EN 1113]	MA 2103 (C) Discrete Math [Math SAT=550, ACT=23 or MA 1113]	MA 2314 (C) Calculus II [MA 1314 or AP Calculus AB 3]	CS 1213 (C) Intro to Programing [MA 1030 or higher]	PH 2414 General Physics I [MA 1314]		ENGR 0120 Networking/PD
SO Fall 17 hrs	EN 3143 Technical Writing [EN 1313]	MA 2324 Calculus III [MA 2314]	EECE 2213 (C) Circuits I [ENGR 1113 w/ EECE Lab section, MA 1314, PH 2414]	CS 2233 (C) Data Structures & Algorithms [CS 1213]	PH 2424 (C) General Physics II [PH 2414, MA 2314]		ENGR 0210 Networking/PD
SO Spring 14 hrs	BI 1073 The Story of Jesus	MA 3133 Differential Equations [MA 2314]	EECE 2223 (C) Circuits II [EECE 2213, PH 2424, co-req EECE 2221]	EECE 2221 (C) Circuits Lab [EECE 2213, co-req EECE 2223, EN 3134]	EECE 2423 (C) Principles of Computer System Design [EECE 1423, co-req EECE 2421] · LUHP 2xn3 Great Ideas [EN 1313]	EECE 2421 (C) Digital Hardware Lab [EN 1313]	ENGR 0220 Networking/PD
JR Fall 17 hrs	BI 1083 The Story of the Church	CS 3623 (C) Design and Analysis of Algorithms [CS 2233]	EECE 3833 (C) Signals and Systems [MA 3133, EECE 2223]	EECE 3234 Semiconductor Electronics I [EECE 2223, EECE 2221]	EECE 3624 (C) Microprocessors: Principles and Applications [EECE 2423, EN 3143]		ENGR 0310 Networking/PD
JR Spring 16 hrs	ENGR 3943 Engr Economy & Planning [JR standing]	CS 3523 Operating Systems [CS 2233, EECE 3624]	EECE 3843 Digital Signal Processing [EECE 3833, CS 2233, co-req EECE 3842]	EECE 3841 Signals Lab [EECE 3833, EN 3143, co-req EECE 3843]	EECE 4263 Embedded Systems [EECE 3624]	TECH ELECTIVE	ENGR 0320 Networking/PD
SR Fall 18 hrs	ENGR 4943 Cap. Des. I [ENGR 3943, co-req EECE 4823]	ENGR 3303 Applied Engineering Mathematics [MA 3133]	LUEG 3xn3 Engagements Multidisciplinary [60 hours credit]	EECE 4823 Digital Processor Design [EECE 2423]		TECH ELECTIVE	ENGR 0410 Networking/PD
SR Spring 15 hrs	ENGR 4953 Cap. Des. II [ENGR 4943]		Bible Elective [completed stories]	BI 3123 Engineering Ethics [completed stories]	LULT 2xn3 Integrated Literature [EN 1313]	TECH ELECTIVE	ENGR 0420 Networking/PD

For a four year degree plan students must be able to enroll in MA 1314 Calculus I during fall of freshman year. Students starting their program in MA 1135 Precalculus, or MA 1123 Trigonometry may be able to complete the program in four years by taking MA 2314 Calculus 2 and PH 2414 General Physics 1 during the summer between freshman and sophomore year. Students starting in MA 1113 College Algebra may will have a five year degree plan.

In addition to the above courses, students must also complete the Fundamentals of Engineering (FE) Exam prior to graduation. Completing the FE Exam provides a path toward licensure as a Professional Engineering (PE).

Prerequisites (and co-requisited) required prior to (or concurrently).   (C) Indicates a course that requires a minimum grade of C in order to progress in the program

This is a suggested guide to course scheduling and does not replace the university catalog as the official listing of program requirements.

Degree plans are available with a sophomore year study abroad option for semester-long programs. The engineering program also offers a Maymester study abroad opportunity to Germany which is recommended after sophomore or junior year. During the four-week Maymester, students complete two required engineering courses with opportunities to visit well-known engineering companies in Germany.

LIPSCOMB ENGINEERING

https://www.lipscomb.edu/academics/programs/electrical-and-computer-engineering

Electrical & Computer Engineering Major

Computer Engineering Track

Required Courses

General Education Requirements

		Credit	Semester
EN 3143	Technical Writing *(satisfies Communication course)*	3	F, SP
BI 3123	Engineering Ethics	3	SP

Related Math and Science Courses

MA 2103	Discrete Math	2	F, SP, SU
MA 1314	Calculus I	4	F, SP, SU
MA 2314	Calculus II	4	F, SP, SU
MA 2324	Calculus III	4	F, SP, SU
MA 3133	Differential Equations	3	F, SP
PH 2414	General Physics I	4	SP, SU
PH 2424	General Physics II	4	F
CS 1213	Intro Programming	3	F, SP
CS 2233	Data Structures & Algorithms	3	SP
CS 3623	Design and Analysis of Algorithms	3	F, SP
CS 3523	Operating Systems	3	SP

Engineering Courses

ENGR 0xy0	Networking and Professional Development	0	F, SP
ENGR 1113	Introduction to Engineering (with lab)	3	F
ENGR 3303	Applied Mathematics	3	F
ENGR 3943	Engineering Economy & Planning	3	SP
ENGR 4943	Capstone Design I	3	F
ENGR 4953	Capstone Design II	3	SP
EECE 2213	Circuits I	3	F, SP
EECE 2223	Circuits II	3	SP
EECE 2221	Circuits Lab	1	SP
EECE 3234	Semiconductor Electronics I	4	F
EECE 1423	Digital Logic	3	F
EECE 2423	Principles of Computer Sys. Design	3	SP
EECE 2421	Digital Hardware Lab	1	SP
EECE 3833	Signals and Systems	3	F
EECE 3624	Microprocessors: Principles & Applications	4	F
EECE 3843	Digital Signal Processing	3	SP
EECE 3841	Signals Lab	1	SP
EECE 4263	Embedded Systems	3	SP
EECE 4823	Digital Processor Design	3	F
EECE 395v*	Technical Elective	3	F, SP

*Choose 1 of the approved course (3 credit hours) for the EECE 395v general elective and 2 (6 credit hours) approved courses for the EECE 395v technical elective.

2023-24 Academic Year   **TOTAL:98**