

College of Science, Technology, Engineering, and Mathematics

Electrical Engineering BS

(152-153 credits)

Why study Electrical Engineering?

Electrical Engineering is both one of the country's highest paid occupations and one with the lowest unemployment rates. The current economy thrives on innovation, and electrical engineers are at the forefront of it, constantly developing not only new and exciting products, but also technologies that improve society and the world. Be part of the future! Besides the traditional roles electrical engineers play in the design and implementation of systems such as integrated circuits, power plants, control systems, etc., the recent growth in fields like wireless communications, alternative energy, biomedical engineering, robotics, etc., provide electrical engineers with innumerable choices of rewarding jobs.

Other Degree Options

Minors in Applied Technology, Construction Management, Manufacturing, and Mechanical Engineering

Career Opportunities

Our graduates currently are employed in a wide range of geographically diverse companies in positions that vary from design engineers to upper management. EWU's laboratory intensive Electrical Engineering program will prepare you to have a seamless transm



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<http://www.ewu.edu/cstem>

This is an example of a four year class schedule. Academic Advisors are there to help create individualized plans.

First Year

Fall 1

ENGL 101 (5 cr.)
MATH 161 (5 cr.)
PHYS 151 (4 cr.)
PHYS 161 (1 cr.)

Q2

CHEM 171 (4 cr.)
CHEM 171L (1 cr.)
MATH 162 (5 cr.)
PHYS 152 (4 cr.)
PHYS 162 (1 cr.)

Q3

EENG 160 (4 cr.)
MATH 163 (5 cr.)
PHYS 153 (4 cr.)
PHYS 163 (1 cr.)

Second Year

Q5

BACR (5 cr.)
EENG 250 (2 cr.)
ENGL 201 (5 cr.)
MATH 241 (5 cr.)

Q6

BACR (5 cr.)
CSCD 255 (5 cr.)
MATH 231 (5 cr.)

Q7

BACR (5 cr.)
EENG 209 (5 cr.)
EENG 260 (4 cr.)
MATH 347 (4 cr.)

Third Year

Q9

EENG 210 (5 cr.)
EENG 320 (5 cr.)
EENG 360 (5 cr.)

Q10

Major Elective in one concen
EENG 321 (5 cr.)
EENG 330 (5 cr.)

Q11

Diversity (5 cr.)
EENG 331 (5 cr.)
EENG 350 (5 cr.)

Fourth Year

Q13

Major Elective in one concen
EENG 383 (4 cr.)
EENG 388 (1 cr.)
EENG 401 (5 cr.)

Q14

BACR (5 cr.)
Major Elective in one concen
Major Elective in one concen
EENG 490A (2 cr.)

Q15

Major Elective (5 cr.)
EENG 490B (3 cr.)
TECH 393 (4 cr.)

Listed is a Sample Four Year Plan. Individual plans will vary based on placement test scores and course availability.

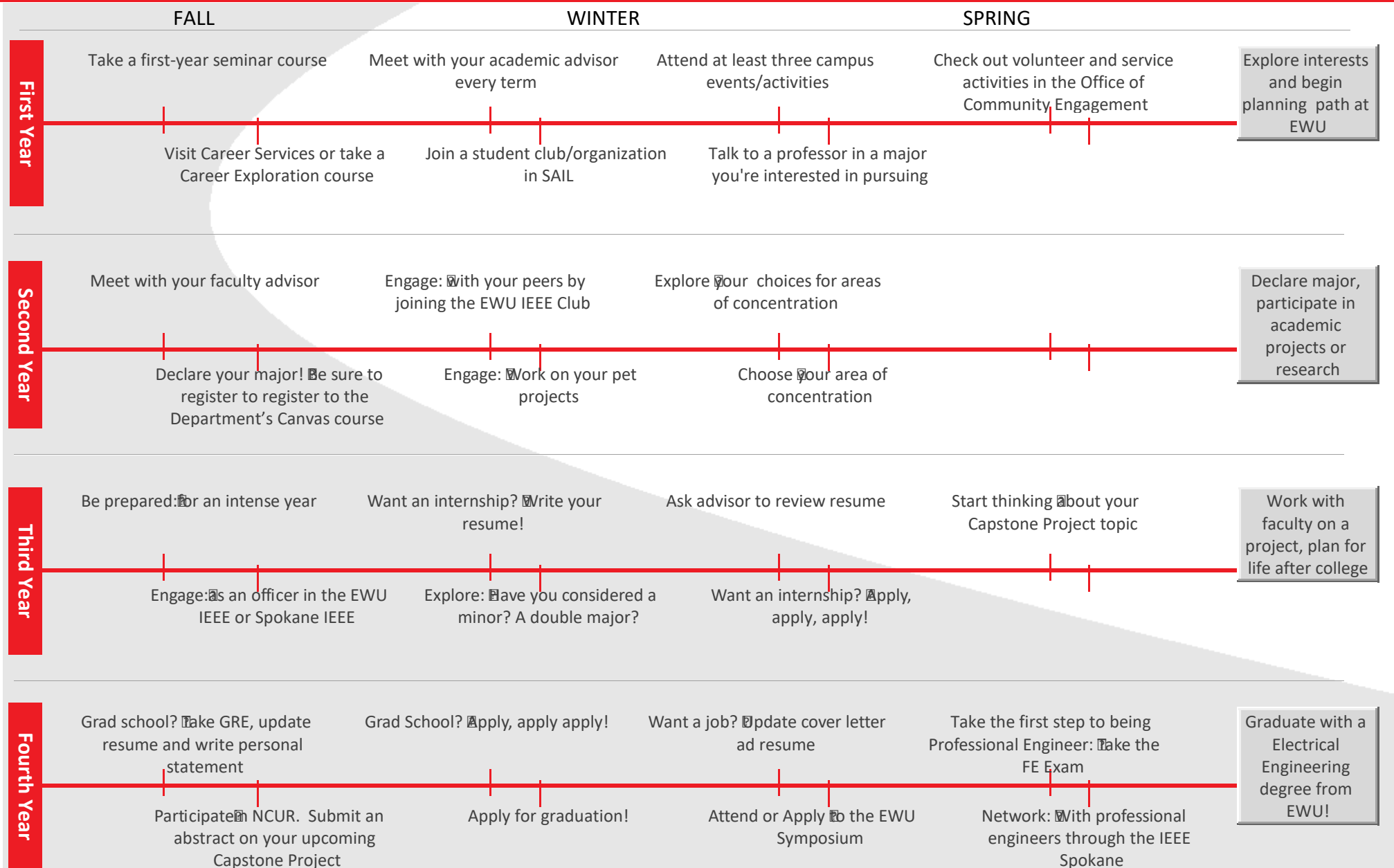


Flight Plan to Success

The following milestones will help you succeed and improve your experience at EWU.

Electrical Engineering, BS

College of Science, Technology, Engineering, and Mathematics
Engineering & Design



All recommended activities can occur at any time during a student's time at EWU



Student's name: _____ EWU ID: _____

College of Science, Technology, Engineering, and Mathematics
 SOAR Department: Engr & Des | SOAR Major: ELEC ENGR
 Major Declaration Form: Electrical Engineering, BS-ELECENG
 Math proficiency needed: MATH 161

Bachelor of Science in Electrical Engineering
 2019-2020 Catalog Year

First year courses and prerequisites	Notes	Previously offered **
Q1 ENGL 101 COLL COMP: EXPOSITN & ARGUMNT (5 cr.) Prerequisite: Writing Placement Test or General Advising. □		F18, W19, S19
Q1 MATH 161 CALCULUS I (5 cr.) Prerequisite: MATH 142.	Note: for the university proficiencies, this course may be substituted for MATH 107. □ □	F18, W19, S19
Q1 PHYS 151 GENERAL PHYSICS I (4 cr.) Prerequisite: MATH 161 or concurrent enrollment.	Note: concurrent enrollment in PHYS 161 is recommended. □	F18, W19
Q1 PHYS 161 MECHANICS LABORATORY (1 cr.) Prerequisite: MATH 142.		F18, W19
Q2 CHEM 171 GENERAL CHEMISTRY I (4 cr.) Prerequisites: ?C in MATH 141 or concurrent enrollment; ?C in CHEM 100 or ?C in CHEM 161 or one year of high school chemistry.		
Q2 CHEM 171L GENERAL CHEM LABORATORY I (1 cr.) Prerequisite: CHEM 171 or taken concurrently.		
Q2 MATH 162 CALCULUS II (5 cr.) Prerequisite: MATH 161.		F18, W19, S19
Q2 PHYS 152 GENERAL PHYSICS II (4 cr.) Prerequisite: PHYS 151 and concurrent enrollment in MATH 162.	Note: concurrent enrollment in PHYS 162 is recommended. □	W19, S19
Q2 PHYS 162 HEAT & OPTICS LABORATORY (1 cr.) Prerequisite: MATH 142.		W19, S19
Q3 EENG 160 DIGITAL CIRCUITS (4 cr.) Prerequisite: MTHD 104 or equivalent.		F18, W19, S19
Q3 MATH 163 CALCULUS III (5 cr.) Prerequisite: MATH 162.		F18, W19, S19

I have discussed this academic plan with the student listed above. Advisor name: _____ Advisor signature: _____

* See the catalog for prerequisites and other details.

** Future course offerings may differ from the past. Check the course schedule for future courses.

To follow this MAP, you should place into MATH 161. If you place lower, your custom MAP may change.

This list of courses is for information purposes only. All students are required to follow the catalog requirements for the year they declared a major.

Q3

PHYS 153 GENERAL PHYSICS III (4 cr.)
Prerequisites: PHYS 152, MATH 162, concurrent enrollment in MATH 163 recommended.

F18, S19

Q3

PHYS 163 ELECTRONICS LAB I (1 cr.)
Prerequisite: MATH 142.

S19

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Second year courses and prerequisites	Notes	Previously offered **
Q5 BACR (5 cr.)		
Q5 EENG 250 DIGITAL HARDWARE (2 cr.) Prerequisite: EENG 160 with a minimum grade ?C.	Note: a continuation of EENG 160.□□	F18, W19, S19
Q5 ENGL 201 COLL COMP: ANALYSIS/RES/DOCMNT (5 cr.) Prerequisite: ENGL 101, Writing Placement Test or general advising.		F18, W19, S19
Q5 MATH 241 CALCULUS IV (5 cr.) Prerequisite: MATH 163.	Note: this course should be taken immediately after MATH 163, when possible.□□	F18, W19, S19
Q6 BACR (5 cr.)		
Q6 CSCD 255 C PROGRAMMING FOR ENGINEERS (5 cr.) Prerequisite: PHYS 131 or PHYS 151. A grade ?C is required for each prerequisite.		W19
Q6 MATH 231 LINEAR ALGEBRA (5 cr.) Prerequisite: MATH 142.		F18, W19, S19
Q7 BACR (5 cr.)		
Q7 EENG 209 CIRCUIT THEORY I (5 cr.) Prerequisites: PHYS 153 or permission of the instructor.		F18, S19
Q7 EENG 260 MICROCONTROLLER SYSTEMS (4 cr.) Prerequisite: CSCD 255 and EENG 160, both with a minimum grade ?C.		F18, S19
Q7 MATH 347 INTRO DIFFERENTIAL EQUATIONS (4 cr.) Prerequisite: MATH 163.	Note: concurrent enrollment in MATH 307 for students including MATH 347 in a major in mathematics or secondary education in mathematics.□□	F18, W19, S19

I have discussed this academic plan with the student listed above. Advisor name: _____ Advisor signature: _____

* See the catalog for prerequisites and other details.

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Third year courses and prerequisites	Notes	Previously offered **
Q9 EENG 210 CIRCUIT THEORY II (5 cr.) <i>Prerequisites: EENG 209 with a minimum grade ?C.</i>		F18, W19
Q9 EENG 320 SIGNALS AND SYSTEMS I (5 cr.) <i>Prerequisite: EENG 210 or concurrent enrollment or permission of the instructor; MATH 163 with a minimum grade ?C.</i>		F18, W19
Q9 EENG 360 HARDWARE DESCRIPTION LANGUAGES (5 cr.) <i>Prerequisite: CSCD 255 and EENG 160, both with a minimum grade ?C.</i>		F18, S19
Q10 Major Elective in one concentration area in EE (5 cr.)		
Q10 EENG 321 SIGNALS AND SYSTEMS II (5 cr.) <i>Prerequisite: EENG 320 and MATH 163, both with a minimum grade ?C.</i>		W19, S19
Q10 EENG 330 MICROELECTRONICS I (5 cr.) <i>Prerequisites: CHEM 171 and CHEM 171L; EENG 209 and MATH 163, both with a minimum grade ?C and concurrent enrollment in EENG 210.</i>		F18, W19
Q11 Diversity (5 cr.)		
Q11 EENG 331 MICROELECTRONICS II (5 cr.) <i>Prerequisite: EENG 330 and MATH 163, both with a minimum grade ?C.</i>		W19, S19
Q11 EENG 350 ENERGY SYSTEMS (5 cr.) <i>Prerequisites: EENG 210 and MATH 163, both with a minimum grade ?C.</i>		F18, S19

I have discussed this academic plan with the student listed above. Advisor name: _____

Advisor signature: _____

* See the catalog for prerequisites and other details.

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Fourth year courses and prerequisites

Notes

Previously offered **

Q13	Major Elective in one concentration area in EE (5 cr.)	
Q13	EENG 383 APPLIED STOCHASTIC PROCESSES (4 cr.) Prerequisite: MATH 163 or permission of the instructor and must be taken concurrently with EENG 388.	F18, W19
Q13	EENG 388 STOCHASTIC PROCESSES LAB (1 cr.) Prerequisite: MATH 163 or permission of the instructor and must be taken concurrently with EENG 383.	F18, W19
Q13	EENG 401 ENGINEERING APPLIED EM (5 cr.) Prerequisite: MATH 241, MATH 347; EENG 210 and EENG 320 both with a minimum grade ?C.	F18, W19
Q14	BACR (5 cr.)	
Q14	Major Elective in one concentration area in EE (5 cr.)	
Q14	Major Elective in one concentration area in EE (5 cr.)	
Q14	EENG 490A SR CAPSTONE: DESIGN LAB I (2 cr.) Prerequisites: EENG 210, EENG 260, EENG 320, EENG 330 and EENG 350, each with a minimum grade ?C.	W19
Q15	Major Elective (5 cr.)	
Q15	EENG 490B SR CAPSTONE: DESIGN LAB II (3 cr.) Prerequisites: EENG 490A.	S19
Q15	TECH 393 TECHNOLOGY WORLD CIVILIZATION (4 cr.) Prerequisite: ENGL 201 ?C.	F18, W19, S19

I have discussed this academic plan with the student listed above. Advisor name: _____

Advisor signature: _____

* See the catalog for prerequisites and other details.

** Future course offerings may differ from the past. Check the course schedule for future courses.

To follow this MAP, you should place into MATH 161. If you place lower, your custom MAP may change.

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