

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 transmission into the workplace, regardless of your career choice.



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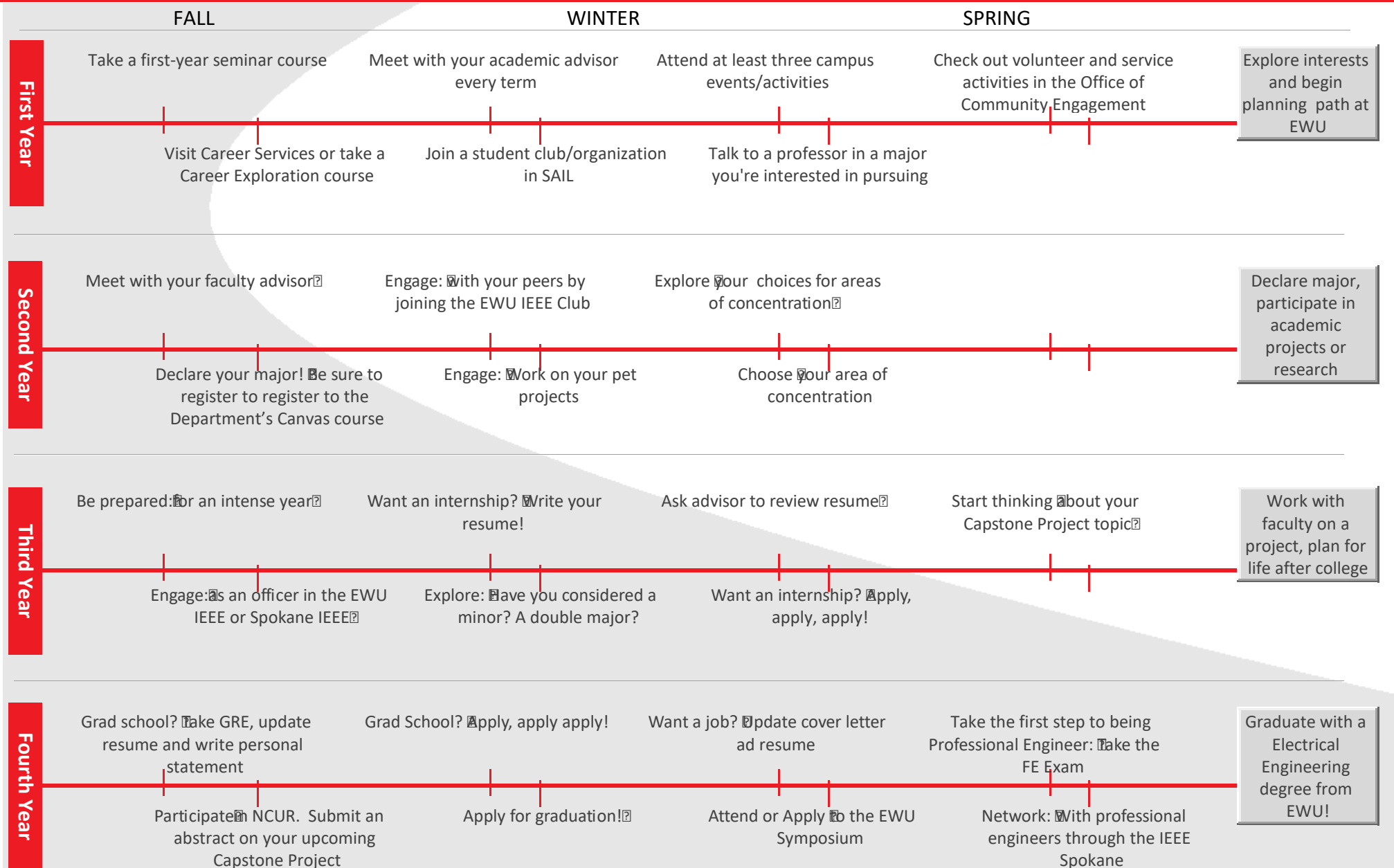
<http://www.ewu.edu/cstem>

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
 2018-2019 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.	Satisfies: university competencies, writing.	F17, W18, Sp18, Su18
Q1 MATH 161 CALCULUS I (5 cr.) Prerequisites: MATH 142.	Satisfies: completion of this course with a grade \geq C satisfies the university proficiencies in mathematics. Note: for the university proficiencies, this course may be substituted for MATH 107.	F17, W18, Sp18, Su18
Q1 PHYS 151 GENERAL PHYSICS I (4 cr.) Prerequisites: Concurrent enrollment in MATH 161. Concurrent enrollment in PHYS 161 is recommended.	Note: the completion of PHYS 151, PHYS 161 satisfies the BACR for natural sciences, physics; counts as one course.	F17, W18
Q1 PHYS 161 MECHANICS LABORATORY (1 cr.) Prerequisite: MATH 142.		F17, W18
Q2 CHEM 151 GENERAL CHEMISTRY (5 cr.) Prerequisites: \geq C in MATH 141 or concurrent enrollment; \geq C in CHEM 100 or \geq C in CHEM 161 or one year of high school chemistry.	Satisfies: a BACR for natural sciences. Note: quantitative and qualitative laboratory work is included.	F17, W18, Sp18
Q2 MATH 162 CALCULUS II (5 cr.) Prerequisite: MATH 161.		F17, W18, Sp18, Su18
Q2 PHYS 152 GENERAL PHYSICS II (4 cr.) Prerequisites: PHYS 151 and concurrent enrollment in MATH 162.	Note: the completion of PHYS 151, PHYS 152, PHYS 161, plus any one of the following: PHYS 162, PHYS 163, PHYS 263 satisfies the BACR for natural sciences, counts as two courses.	W18, Sp18
Q2 PHYS 162 HEAT & OPTICS LABORATORY (1 cr.) Prerequisite: MATH 142.		W18, Sp18
Q3 EENG 160 DIGITAL CIRCUITS (4 cr.) Prerequisite: MTHD 104 or equivalent.		F17, W18, Sp18
Q3 MATH 163 CALCULUS III (5 cr.) Prerequisite: MATH 162.		F17, W18, Sp18, Su18

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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Q3

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

F17, Sp18

Q3

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

Sp18

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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.	F17, W18, Sp18
Q5 ENGL 201 COLL COMP: ANALYSIS/RES/DOCMNT (5 cr.) Prerequisite: ENGL 101, Writing Placement Test or general advising.	Satisfies: university proficiencies, writing.	F17, W18, Sp18, Su18
Q5 MATH 241 CALCULUS IV (5 cr.) Prerequisite: MATH 163.	Note: this course should be taken immediately after MATH 163, when possible.	F17, W18, Sp18, Su18
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.		W18, Su18
Q6 MATH 231 LINEAR ALGEBRA (5 cr.) Prerequisite: MATH 142.		F17, W18, Sp18, Su18
Q7 BACR (5 cr.)		
Q7 EENG 209 CIRCUIT THEORY I (5 cr.) Prerequisites: PHYS 153 or permission of the instructor.		F17, Sp18, Su18
Q7 EENG 260 MICROCONTROLLER SYSTEMS (4 cr.) Prerequisite: CSCD 255 and EENG 160, both with a minimum grade ≥C.		F17, Sp18
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.	F17, W18, Sp18, Su18

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Third year courses and prerequisites	Notes	Previously offered **
<div style="border: 1px solid black; padding: 2px; display: inline-block;">Q9</div> EENG 210 CIRCUIT THEORY II (5 cr.) <i>Prerequisites: EENG 209 with a minimum grade \geqC.</i>		F17, W18
<div style="border: 1px solid black; padding: 2px; display: inline-block;">Q9</div> 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 \geqC.</i>		F17, W18
<div style="border: 1px solid black; padding: 2px; display: inline-block;">Q9</div> EENG 360 HARDWARE DESCRIPTION LANGUAGES (5 cr.) <i>Prerequisite: CSCD 255 and EENG 160, both with a minimum grade \geqC.</i>		F17, Sp18
<div style="border: 1px solid black; padding: 2px; display: inline-block;">Q10</div> TCOM 205 or MENG 300 (5 cr.)		
<div style="border: 1px solid black; padding: 2px; display: inline-block;">Q10</div> EENG 321 SIGNALS AND SYSTEMS II (5 cr.) <i>Prerequisite: EENG 320 and MATH 163, both with a minimum grade \geqC.</i>		W18, Sp18
<div style="border: 1px solid black; padding: 2px; display: inline-block;">Q10</div> EENG 330 MICROELECTRONICS I (5 cr.) <i>Prerequisites: CHEM 151; EENG 209 and MATH 163, both with a minimum grade \geqC and concurrent enrollment in EENG 210.</i>		F17, W18
<div style="border: 1px solid black; padding: 2px; display: inline-block;">Q11</div> Diversity (5 cr.)		
<div style="border: 1px solid black; padding: 2px; display: inline-block;">Q11</div> EENG 331 MICROELECTRONICS II (5 cr.) <i>Prerequisite: EENG 330 and MATH 163, both with a minimum grade \geqC.</i>		W18, Sp18
<div style="border: 1px solid black; padding: 2px; display: inline-block;">Q11</div> EENG 350 ENERGY SYSTEMS (5 cr.) <i>Prerequisites: EENG 210 and MATH 163, both with a minimum grade \geqC.</i>		F17, Sp18

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Fourth year courses and prerequisites	Notes	Previously offered **
Q13 Major Elective (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.		F17, W18
Q13 EENG 388 STOCHASTIC PROCESSES LAB (1 cr.) Prerequisite: MATH 163 or permission of the instructor and must be taken concurrently with EENG 383.		F17, W18
Q13 EENG 401 ENGINEERING APPLIED EM (5 cr.) Prerequisite: EENG 210, MATH 241.		F17, W18
Q14 BACR (5 cr.)		
Q14 Major Elective (5 cr.)		
Q14 Major Elective (5 cr.)		
Q14 EENG 490A SR CAPSTONE: DESIGN LAB I (2 cr.) Prerequisites: senior standing.	Satisfies: senior capstone university graduation requirement.	W18
Q15 EENG 490B SR CAPSTONE: DESIGN LAB II (3 cr.) Prerequisites: EENG 490A.	Satisfies: a university graduation requirement'senior capstone.	Sp18
Q15 TECH 393 TECHNOLOGY WORLD CIVILIZATION (4 cr.) Prerequisite: ENGL 101.	Satisfies: a university graduation requiremen global studies.	F17, W18, Sp18, Su18

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Fifth year courses and prerequisites

Notes

Previously offered **

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* 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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