Electrical Engineering Major, Bachelor of Science (86 credit hours) 2019-2020

Electrical Engineering students are exposed to the concepts of electricity, electronics, and electromagnetism and how they apply to the generation of power, designing complex electrical systems, and the design of electromechanical machines. Students will have the opportunity to see various applications of Electrical Engineering from electronics, power systems, telecommunications, control systems, and signal processing.

20 credit hours from the Common Engineering Core:
- CPSC 2320: C++ Programming OR CPSC 2500, 1 credit hour
- ENGR 2001: Introduction to Engineering, 1 credit hour
- ENGR 2002: Introduction to Mechanical Laboratory, 1 credit hour
- ENGR 2003: Introduction to Electrical and Computer Laboratory, 1 credit hour
- ENGR 2010: Statics, 2 credit hours
- ENGR 2030: Circuit Analysis, 3 credit hours
- ENGR 2090: Systems Engineering, 2 credit hours
- ENGR 2110: Dynamics, 2 credit hours
- ENGR 2310: Computational Problem Solving, 3 credit hours
- ENGR 4950: Senior Design I, 2 credit hours
- ENGR 4960: Senior Design II, 2 credit hours

31 credit hours of Mathematics and Basic Sciences:
- CHEM 2110, General Chemistry I, 4 credit hours
- MATH 2010, Calculus I, 4 credit hours
- MATH 2020, Calculus II, 4 credit hours
- MATH 3010: Linear Algebra with Differential Equations, 4 credit hours
- MATH 3020, Calculus III, 4 credit hours
- MATH 3100, Differential Equations, 3 credit hours
- PHYS 2240, General Physics I, 4 credit hours
- PHYS 2250, General Physics II, 4 credit hours

35 credit hours of major specific requirements:
- CPSC 2420, Computer Architecture, 2 credit hours
- ENGR 3030, Signals and Controls, 3 credit hours
- ENGR 3220, Electronics, 3 credit hours
- ENGR 3230, Analog Circuit Design, 3 credit hours
- ENGR 3240, Electromagnetic Fields, 3 credit hours
- ENGR 3250, Electromagnetic Waves, 3 credit hours
- ENGR 3270, Digital Logic, 3 credit hours
- ENGR 3280, Microcontrollers, 3 credit hours
- MATH 4010: Mathematical Statistics, 4 credit hours
- PHYS 3130, Modern Physics, 2 credit hours
- ENGR 4240, Communications Theory OR ENGR 4250, Digital Signal Processing, 3 credit hours

Questions? Please contact the School of Science and Engineering.
Elective Hours (3 hours) from:
- ENGR 4020, Mechatronics System Design, 4 credit hours
- ENGR 4050, Data Communications, 3 credit hours
- ENGR 4210, Solid State Devices, 3 credit hours
- ENGR 4230, Power Systems, 3 credit hours
- ENGR 4240, Communications Theory, 3 credit hours
- ENGR 4250, Digital Signal Processing, 3 credit hours

Remaining hours:
- Any ENGR courses 3000-level or above
- Any CPSC courses 3000-level or above

- ENGR 4950, is a Writing Intensive course in the Liberal Arts Program.
- ENGR 4960, is both a Writing and Speaking Intensive course in the Liberal Arts Program.
- CHEM 2110, fulfills the Scientific Ways of Knowing requirement in the Liberal Arts Program
- MATH 2010, fulfills the Quantitative Ways of Knowing requirement in the Liberal Arts Program.

NOTE: All students must complete 120 total credit hours to graduate from Anderson University.
## Proposed course sequence:

**Freshman:**  MATH 2010, CHEM 2110, ENGR 2001, 2002, 2003; MATH 2020, PHYS 2240, ENGR 2310  
**Sophomore:** MATH 3010, PHYS 2250, ENGR 2090, 2010, CPSC 2320/2500; MATH 3020, 3100, ENGR 2110, 2030  
**Junior:** MATH 4010, ENGR 3030, 3220, PHYS 3130; CPSC 2420, ENGR 3200, 3270, 3230  
**Senior:** ENGR 3260, 3240, 4950, ENGR 4210/4230/4240/4250; ENGR 3250, 4960, ENGR 4210/4230/4240/4250

### Electrical Engineering Suggested Course Sequence 2019-2020

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<tr>
<th>SEMESTER 1</th>
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<tr>
<td>MATH 2010</td>
<td>4 Hours</td>
<td>MATH 2020</td>
<td>4 Hours</td>
<td>MATH 3010</td>
<td>4 Hours</td>
<td>MATH 3020</td>
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<td>ENGR 3270</td>
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<td>ENGR 3280</td>
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<td>CHEM 2110</td>
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<td>PHYS 2240</td>
<td>4 Hours</td>
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<td>ENGR 3030</td>
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<td>ENGR 4240/4250</td>
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<td>ENGR 4950</td>
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<td>ENGR 2001, 2002, 2003</td>
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<td>ENGR 2310</td>
<td>3 Hours</td>
<td>ENGR 2010</td>
<td>2 Hours</td>
<td>ENGR 3020</td>
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<td>ENGR 3200</td>
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<td>CPSC 2420</td>
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<td>ENGL 1100/ENGL 1110</td>
<td>3-4 Hours</td>
<td>ENGL 1120</td>
<td>3 Hours</td>
<td>ENGR 2090</td>
<td>2 Hours</td>
<td>ENGR 2011</td>
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<td>LART 1050</td>
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<td>Personal Wellness</td>
<td>2 Hours</td>
<td>CPSC 2320 or CPSC 2500</td>
<td>1 Hour</td>
<td>ENGR Skills Lab</td>
<td>0-1 Hour</td>
<td>PHYS 3130</td>
<td>2 Hours</td>
<td>BIBL 2000</td>
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<td>Civic Ways of Knowing (POSC 2100)</td>
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<td>Aesthetic Ways of Knowing (COMM 2550)</td>
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1. **Electrical Engineering Suggested Course Sequence**

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   - **SEMESTER 3:** MATH 4010, ENGR 3030, 3220, PHYS 3130; CPSC 2420, ENGR 3270, 3230  
   - **SEMESTER 4:** ENGR 3260, 3240, 4950, ENGR 4210/4230/4240/4250; ENGR 3250, 4960, ENGR 4210/4230/4240/4250

**Questions? Please contact the School of Science and Engineering.**