

**Electrical Engineering, B.S. (124 Units)**  
Valid for Catalog Years: 2018/2019 to 2019/2020  
\*Official planning guide approved by the Lyles College of Engineering

For assistance or to schedule an advising appointment, please contact the **Department of Electrical and Computer Engineering** at 559-278-2726, Engineering East 254A  
**Lyle College of Engineering Advising Center:** 559-278-1076, Engineering East 383

	Freshman		Sophomore		Junior		Senior	
	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
<b>Units</b>	<b>14</b>	<b>17</b>	<b>14</b>	<b>17</b>	<b>16</b>	<b>16</b>	<b>14</b>	<b>16</b>
<b>Milestones</b>								
<b>General Education</b>	<b>A1 (3 Units)</b> Oral Communication *Must pass with a C or better			<b>D2 (3 Units)</b> American Government			<b>D1 (3 Units)</b> American History	
	<b>A2 (3 Units)</b> Written Communication *Must pass with a C or better							
<b>Major</b>	<b>GE Area B2 BIOL 10 (3 Units)</b> Life Sciences *Not open to students with credit in BIOL 1A	<b>GE Area B1 CHEM 3A (4 Units)</b> Physical Sciences [Pre-Req: GE B4 (may be taken concurrently)] *No credit for CHEM 3A after CHEM 1A	<b>ECE 72 (2 Units)</b> [Pre-Req: ECE 71 or CSCI 40]	<b>ECE 90 (3 Units)</b> [Pre-Req: MATH 77 (may be taken concurrently); PHYS 4B]	<b>ECE 102 (3 Units)</b> [Pre-Req: ECE 72 (may be taken concurrently); ECE 90; MATH 81 or ENGR 101]	<b>CE 29, ME 29, or ME 136 (3 Units)</b> *See course catalog for prerequisite requirements	<b>GE Area D3 ECON 40 or 50 (3 Units)</b> Social Science	<b>GE Area IB ECE 186B (3 Units)</b> Physical Universe & Its Life Forms [Pre-Req: ECE 186A; UDWS]
	<b>GE Area B4 MATH 75 (4 Units)</b> Quantitative Reasoning [Pre-Req: Elementary geometry, intermediate algebra, & trigonometry OR precalculus. Passing score on department's Calculus Readiness Test; ELM]	<b>GE Area C2 PHIL 1 or 10 (3 Units)</b> Humanities *See course catalog for prerequisite requirements	<b>ECE 85 (3 Units)</b> [Pre-Req: ECE 1; MATH 75]	<b>ECE 90L (1 Unit)</b> [Pre-Req: ECE 90 (may be taken concurrently); PHYS 4BL]	<b>ECE 103 (2 Units)</b>	<b>ECE 121 (3 Units)</b> [Pre-Req: ECE 128]	<b>ECE 134 (3 Units)</b> [Pre-Req: ECE 124; ECE 125 (may be taken concurrently)]	<b>GE Area MI PLSI 120 OR BA 104 (3 Units)</b> Multicultural / International *See course catalog for prerequisite requirements

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	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
	<b>14</b>	<b>17</b>	<b>14</b>	<b>17</b>	<b>16</b>	<b>16</b>	<b>14</b>	<b>16</b>
<b>Major</b>	<b>ECE 1 (1 Unit)</b>	<b>ECE 71 (3 Units)</b> [Pre-Req: MATH 75 (may be taken concurrently)]	<b>ECE 85L (1 Unit)</b> [Pre-Req: ECE 85 (may be taken concurrently)]	<b>ECE 118 (3 Units)</b> [Pre-Req: ECE 85; CSCI 40 or ECE 71]	<b>ECE 124 (4 Units)</b> [Pre-Req: ECE 2, ECE 90; MATH 81 or ENGR 101]	<b>ECE 125 (3 Units)</b> [Pre-Req: ECE 124]	<b>ECE 186A (1 Unit)</b> [Pre-Req: 30 units of ECE or instructor permission; UDWS (may be taken concurrently)]	<b>MATH Elective (3 Units)</b> *See footnotes
		<b>MATH 76 (4 Units)</b> [Pre-Req: MATH 75 or MATH 75A & B]	<b>MATH 77 (4 Units)</b> [Pre-Req: MATH 76]	<b>ECE 118L (1 Unit)</b> [Pre-Req: ECE 118(may be taken concurrently), 85L]	<b>ECE 126 (3 Units)</b> [Pre-Req: MATH 81 (may be taken concurrently); ECE 90]	<b>ECE 138 (3 Units)</b> [Pre-Req: ECE 102, 128]	<b>Senior Lab (1 Unit)</b> *See footnotes	<b>Senior Lab (1 Unit)</b> *See footnotes
		<b>PHYS 4A (3 Units)</b> [Pre-Req: GE B4; MATH 76 (may be taken concurrently)]	<b>PHYS 4B (3 Units)</b> [Pre-Req: PHYS 4A; MATH 77 (may be taken concurrently)]	<b>MATH 81 (3 Units)</b> [Pre-Req: MATH 77] <b>OR</b> <b>ENGR 101 (3 Units)</b>	<b>ECE 128 (3 Units)</b> [Pre-Req: ECE 90]	<b>ECE 138L (1 Unit)</b> [Pre-Req: ECE 128L; ECE 138 (may be taken concurrently)]		
			<b>PHYS 4BL (1 Unit)</b> [Pre-Req: Corequisite: PHYS 4B]	<b>PHYS 4C (3 Units)</b> [Pre-Req: PHYS 4B; MATH 77]	<b>ECE 128L (1 Unit)</b> [Pre-Req: ECE 90L; ECE 128 (may be taken concurrently)]	<b>ECE 155 (3 Units)</b> [Pre-Req: ECE 124]		
<b>Additional Graduation Requirements</b>						<b>Technical Area (3 Units)</b> *See footnotes	<b>Technical Area (6 Units)</b> *See footnotes	

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	Freshman		Sophomore		Junior		Senior	
	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
<b>Units</b>	<b>14</b>	<b>17</b>	<b>14</b>	<b>17</b>	<b>16</b>	<b>16</b>	<b>14</b>	<b>16</b>

**FOOTNOTES:**

**Prerequisites/Corequisites:** Other restrictions may apply. Please see your course catalog for detailed prerequisite/corequisite requirements. Students violating any course prerequisites may be required to take an additional course (if they earned a C) or repeat a course (if they earned a D or less.) Repeated violations of prerequisites may trigger disciplinary action.

**Grade Requirements:** Courses in mathematics, the physical sciences, or engineering taken CR/NC are not counted toward fulfillment of degree requirements in Electrical Engineering. The following prerequisite courses must be completed with a letter grade of C or better: ECE 71, 72, 85, 85L, 90, 90L.

**Technical Area (9 units):** Select 9 units from ECE 106, 107, 114, 115, 132, 135, 136, 140, 146, 148, 151, 152, 153, 162, 166, 168, 171, 176, 172, 173, 174, or 178.

**Senior Lab (2 units):** Select 2 units from ECE 119L, 121L, 134L, 136L, or 155L.

**MATH Elective (3 units):** Select one course from MATH 121, 123, 128, 152, 171, 181, or 182.

**Upper Division Writing Skills requirement (UDWS):** All undergraduate students must demonstrate competency in writing skills by passing the Upper Division Writing Exam (UDWE) or by obtaining a C or better in an approved upper division writing course, identified by the letter "W."

**Substitutions:** If substitutions/exceptions/waivers are made for any major courses that also meet GE and/or the Multicultural/International graduation requirement, the student is responsible for completing additional courses to satisfy the respective areas (GE and/or MI). This also includes the upperdivision writing requirement.

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	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
Units	14-15	17-20	14	17	16	16-20	14	16-17
General Education	<b>A1 (3 Units)</b> Oral Communication *Must pass with a C or better	<b>B3 (0-3 Units)</b> Lab		<b>D2 (3 Units)</b> American Government			<b>D1 (3 Units)</b> American History	
	<b>A2 (3 Units)</b> Written Communication *Must pass with a C or better							
Major	<b>GE Area B2</b> <b>BIOL 10 (3 Units)</b> Life Sciences *Not open to students with credit in BIOL 1A	<b>GE Area B1</b> <b>CHEM 3A (4 Units)</b> Physical Sciences [Pre-Req: GE B4 (may be taken concurrently)] *No credit for CHEM 3A after CHEM 1A	<b>ECE 72 (2 Units)</b> [Pre-Req: ECE 71 or CSCI 40]	<b>ECE 90 (3 Units)</b> [Pre-Req: MATH 77 (may be taken concurrently); PHYS 4B]	<b>ECE 102 (3 Units)</b> [Pre-Req: ECE 72 (may be taken concurrently); ECE 90; MATH 81 or ENGR 101]	<b>CE 29, ME 29, or ME 136 (3 Units)</b> *See course catalog for prerequisite requirements	<b>GE Area D3</b> <b>ECON 40 or 50 (3 Units)</b> Social Science	<b>GE Area IB</b> <b>ECE 186B (3 Units)</b> Physical Universe & Its Life Forms [Pre-Req: ECE 186A; UDWS]

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	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
	14-15	17-20	14	17	16	16-20	14	16-17
Major	<b>GE Area B4 MATH 75 (4 Units)</b> Quantitative Reasoning [Pre-Req: Elementary geometry, intermediate algebra, & trigonometry OR precalculus. Passing score on department's Calculus Readiness Test; ELM]	<b>GE Area C2 PHIL 1 or 10 (3 Units)</b> Humanities *See course catalog for prerequisite requirements	<b>ECE 85 (3 Units)</b> [Pre-Req: ECE 1; MATH 75]	<b>ECE 90L (1 Unit)</b> [Pre-Req: ECE 90 (may be taken concurrently); PHYS 4BL]	<b>ECE 103 (2 Units)</b>	<b>ECE 121 (3 Units)</b> [Pre-Req: ECE 128]	<b>ECE 134 (3 Units)</b> [Pre-Req: ECE 124; ECE 125 (may be taken concurrently)]	<b>GE Area MI PLSI 120 or BA 104 (3 Units)</b> Multicultural/International *See course catalog for prerequisite requirements
		<b>ECE 71 (3 Units)</b> [Pre-Req: MATH 75 (may be taken concurrently)]	<b>ECE 85L (1 Unit)</b> [Pre-Req: ECE 85 (may be taken concurrently)]	<b>ECE 118 (3 Units)</b> [Pre-Req: ECE 85; CSCI 40 or ECE 71]				<b>ECE 124 (4 Units)</b> [Pre-Req: ECE 2, ECE 90; MATH 81 or ENGR 101]
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		<b>PHYS 4A (3 Units)</b> [Pre-Req: GE B4; MATH 76 (may be taken concurrently)]	<b>PHYS 4B (3 Units)</b> [Pre-Req: PHYS 4A; MATH 77 (may be taken concurrently)]	<b>MATH 81 (3 Units)</b> [Pre-Req: MATH 77] <b>OR</b> <b>ENGR 101 (3 Units)</b>	<b>ECE 128 (3 Units)</b> [Pre-Req: ECE 90]	<b>ECE 138L (1 Unit)</b> [Pre-Req: ECE 128L; ECE 138 (may be taken concurrently)]	<b>Senior Lab (1 Unit)</b> *See footnotes	<b>Technical Area (3 Units)</b> *See footnotes
			<b>PHYS 4BL (1 Unit)</b> [Pre-Req: Corequisite: PHYS 4B]	<b>PHYS 4C (3 Units)</b> [Pre-Req: PHYS 4B; MATH 77]	<b>ECE 128L (1 Unit)</b> [Pre-Req: ECE 90L; ECE 128 (may be taken concurrently)]	<b>ECE 155 (3 Units)</b> [Pre-Req: ECE 124]		<b>Senior Lab (1 Unit)</b> *See footnotes
Electives						<b>UDWS (0-4 Units)</b> *Upper Division Writing Exam OR "W" Course (must pass with a C or better)		

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