

# Accelerated Bachelor's-to-Master's Overview

## Computer Engineering or Electrical Engineering

Admission to master's study is restricted to applicants whose backgrounds show a distinguished record in previous work as evidenced by their university transcripts, letters of recommendation, and competitive score on the Graduate Record Examination.

A substantial body of undergraduate work in electrical engineering or computer engineering and considerable breadth of background are essential for graduate study. Students whose undergraduate record is considered lacking in depth or breath may be required to complete preparatory courses without degree credit.

Undergraduate students at Texas Tech University who are majoring in electrical engineering or computer engineering may apply to our Accelerated Bachelor's-to-Master's Program. This program is intended for our best undergraduates who wish to stay on for a master's degree. Students in the program get an early start on master's work by taking two graduate courses in their senior year, in place of two senior elective courses, to complete their B.S.E.E. or B.S.Comp.E. degree. They then take the remaining graduate courses the following year and carry out their thesis research or the required classes for a non-thesis option to complete their M.S.E.E. degree. Work on laboratory projects during the senior year may provide background for the thesis.

Curriculum details for the Accelerated Bachelor's-to-Master's Program are available in the [curriculum tables](#).

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following year and carry out their thesis research to complete their M.S.E.E. degree. Work on laboratory projects during the senior year may provide background for the thesis.

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Undergraduate students at Texas Tech University who are majoring in electrical engineering or computer engineering may apply to our 150-Hour Program. This program is intended for our best undergraduates who wish to stay on for a master's degree. Students in the program get an early start on master's work by taking two graduate courses in their senior year, in place of two senior elective courses, to complete their B.S.E.E. or B.S.Comp.E. degree. They then take the remaining graduate courses the following year and carry out their thesis research to complete their M.S.E.E. degree. Work on laboratory projects during the senior year may provide background for the thesis.

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## **Accelerated Bachelor's-to-Master's Curriculum & Courses**

Two accelerated programs are available for outstanding students wanting to earn both a B.S. and an M.S. degree. Students interested in these programs should inform their academic advisor during the first semester of the junior year and apply when they are within 30 hours of completing their undergraduate degree. The degrees available include:

- B.S. in Electrical Engineering & M.S. in Electrical Engineering
- B.S. in Computer Engineering & M.S. in Electrical Engineering

## Bachelor of Science in Electrical Engineering & Master of Science in Electrical Engineering

### First Year

Fall		Spring	
<i>Course</i>	<i>Hours</i>	<i>Course</i>	<i>Hours</i>
MATH 1451, Calculus I	4	MATH 1452, Calculus II	4
ENGL 1301, Essentials of College Rhetoric	3	ENGL 1302, Advanced College Rhetoric	3
ECE 1304, Introduction to Electrical & Computer Engineering	3	ECE 1305, Introduction to Engineering & Computer Programming	3
POLS 1301, American Government & Organization	3	ECE 2372, Modern Digital Systems Design	3
HIST 2300, History of the U.S. (up to 1877)	3	CHEM 1307 & 1107, Principles of Chemistry I & Lab	4
<b>TOTAL:</b>	<b>16</b>	<b>TOTAL:</b>	<b>17</b>

### Second Year

Fall		Spring	
<i>Course</i>	<i>Hours</i>	<i>Course</i>	<i>Hours</i>
MATH 2450, Calculus III	4	MATH 3342, Statistics for Scientists & Engineers	3
PHYS 1408, Principles of Physics I	4	MATH 3350, Higher Mathematics for Scientists & Engineers I	3
POLS 2302, American Public Policy	3	ECE 3306, Electric Circuits II	3

ECE 3302, Fundamentals of Electrical Engineering	3	ECE 3311, Electronics I	3
ECE 3362, Digital Design Using Microcontrollers	3	ECE 3331, Project Laboratory I	3
		ECE 3303, Linear System Analysis	3
<b>TOTAL:</b>	<b>17</b>	<b>TOTAL:</b>	<b>18</b>

### Third Year

Fall		Spring	
<i>Course</i>	<i>Hours</i>	<i>Course</i>	<i>Hours</i>
ECE 3332, Project Laboratory II	3	ECE 3333, Project Laboratory III	3
ECE 3312, Electronics II	3	ECE 3341, Electromagnetics Theory I	3
ECE 3323, Principles of Communication Systems	3	ECE 3353, Feedback Control Systems	3
PHYS 2401, Principles of Physics II	4	MATH 3351, Higher Mathematics for Scientists & Engineers II	3
Oral Communications Elective*	3	HIST 2301, History of the U.S. (since 1877)	3
		Humanities Elective*	3
<b>TOTAL:</b>	<b>16</b>	<b>TOTAL:</b>	<b>18</b>

### Fourth Year

Fall		Spring	
<i>Course</i>	<i>Hours</i>	<i>Course</i>	<i>Hours</i>
ECE 4333, Senior Project Laboratory IV	3	ECE 4334, Senior Project Laboratory V †	3
ECE 3342, Electromagnetic Theory II	3	ECE Graduate Elective***	3

ECE Graduate Elective***	3	ECE Undergraduate Elective***	3
ECE Undergraduate Elective**	3	ECE Undergraduate Elective**	3
Individual or Group Behavior Elective*	3	Dual Visual & Performing Arts / Multicultural Elective*	3
<b>TOTAL:</b>	<b>15</b>	<b>TOTAL:</b>	<b>15</b>

### Fifth Year

Fall		Spring	
<i>Course</i>	<i>Hours</i>	<i>Course</i>	<i>Hours</i>
ECE Graduate Elective***	3	ECE Graduate Elective***	3
ECE Graduate Elective***	3	ECE Graduate Elective***	3
ECE 6000, Master's Thesis (if Thesis option)	3	ECE 6000, Master's Thesis (if Thesis option)	3
ECE 5120, Graduate Seminar	1	ECE 5120, Graduate Seminar	1
ECE Graduate Elective***	3		
<b>TOTAL:</b>	<b>13</b>	<b>TOTAL:</b>	<b>10</b>