

## BS Electrical Engineering - University of St. Thomas Normandale Community College Plus 2.5 Plan of Study

Students who complete the following courses at Normandale Community College are in a good position to complete a Bachelor of Science degree in Electrical Engineering with 2 ½ more years of study at the University of St. Thomas.

Courses Taken at Normandale Community College – Major Requirements			
Normandale Course #	Normandale Course Title	Cr.	St. Thomas Course Equivalence
ENGR 1020	Intro. to Engineering Design	4	ENGR 150
ENGR 2301 & ENGR 2302	Intro. to Digital Logic Design A & Intro. to Digital Logic Design B	2 2	ENGR 230
CSCI 1113 (or CSCI 1111)	Introduction to C/C++ for Engrs.	4	CISC 130
MATH 1510	Calculus 1	5	MATH 113
MATH 1520	Calculus 2	5	MATH 114
MATH 2510	Calculus 3: Multivariable Calculus	5	MATH 200
MATH 2520	Differential Eqns. & Lin. Algebra	5	MATH 210
PHYS 1121	Physics I for Scientists and Engrs.	5	PHYS 111
PHYS 1122	Physics II for Scientists and Engrs.	5	PHYS 112
<b>Total Credits</b>		<b>42</b>	

Courses Taken at Normandale – Core Curriculum Requirements***		
Core Requirement	Credits	Normandale Course Options
Modern and Classical Language*	0-15	FREN 2100, GERM 2100, JAPN 2100, SPAN 2100
Literature and Writing – Course 1	4	ENGC 1101
Literature and Writing – Course 2	3	ENGL 1130, 1140, 1150, 1170, 1186, 1188, 1189, 2125, 2130, 2133, or 2174
Social Analysis**	3-4	ECON 1400, ECON 2201, ECON 2202, GEOG 1102 <sup>HD</sup> , GEOG 1121 <sup>HD</sup> , POLS 1132 <sup>HD</sup> , PSYC 1110, SOC 1104 <sup>HD</sup> , or SOC 1106 <sup>HD</sup>
Fine Arts**	3	ART 1102, ART 1103, ART 1104, ART 1105, MUSC 1121, MUSC 1122, MUSC 1123 <sup>HD</sup> , MUSC 1124 <sup>HD</sup> , THTR 1111, or THTR 1116
Historical Studies**	4	HIST 1101, 1102, 1103, 1111, 1112, or 2101 <sup>HD</sup>
<b>Total Credits</b>	<b>17-33</b>	

**NOTES:**

\*Students who have a strong background in a language other than English may place out of one or more semesters of St. Thomas' Modern and Classical Language requirement if they demonstrate adequate proficiency on a placement exam.

\*\*One of the courses labeled HD can be selected to simultaneously satisfy UST's Human Diversity requirement

\*\*\*UST/Normandale Course transfer guides including UST Core Curriculum and MnTC Goal Areas are available at <https://www.stthomas.edu/tr/credit/communitycollegcourseplans/>

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Students are not required to complete all the coursework on page 1 before transferring to the University of St. Thomas. We invite prospective students to tour the school of engineering and meet with faculty and financial aid staff to determine the best time for their transfer.

However, if a student does complete all the coursework on page 1, the remaining courses at the University of St. Thomas would require 2 ½ years of full-time study. Courses are listed below, and a sample 2 ½-year plan of study is provided on page 3.

Courses Taken at University of St. Thomas – Major Requirements		
UST Course #	University of St. Thomas Course Title	Credits
ENGR 240	Circuit Analysis	4
ENGR 331	Designing with Microprocessors	4
ENGR 340	Signals & Systems	4
ENGR 342	Electromagnetic Fields and Waves	4
ENGR 345	Electronics I	4
ENGR 346	Electronics II	4
ENGR 410	Control Systems and Automation	4
XXX xxx	Technical Electives (see UST Catalog)	16
ENGR 480	Engineering Design Clinic I	4
ENGR 481	Engineering Design Clinic II	4
PHYS 225	Modern Physics	4
PHYS 341	Electricity & Magnetism	4
<b>Total Credits</b>		<b>60</b>

Courses Taken at University of St. Thomas – Core Requirements		
Core Requirement	UST Course Options	Credits
Faith and Catholic Traditions – Course 1	THEO 101	4
Faith and Catholic Traditions – Course 2	THEO 2XX or THEO 3XX	4
Faith and Catholic Traditions – Course 3	THEO 4XX	4
Moral and Philosophical Reasoning – Course 1	PHIL 115	4
Moral and Philosophical Reasoning – Course 2	PHIL 214 or PHIL 215	4
<b>Total Credits</b>		<b>20</b>

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Proposed Schedule for Final 2 ½ Years at University of St. Thomas						
	Fall	Cr	Spring	Cr	Summer / J-term	Cr
1 <sup>st</sup> Yr			<b>ENGR 240</b> Circuit Analysis	4		
			<b>PHYS 225</b> Modern Physics (Spring Only)	4		
			<b>THEO 101</b> The Christian Theological Tradition	4		
			<b>PHIL 115</b> Philosophy of the Human Person	4		
			<b>Total Credits</b>	<b>16</b>		
2 <sup>nd</sup> Yr	<b>XXX</b> Technical Elective	4	<b>ENGR 331</b> Designing with Microprocessors	4		
	<b>ENGR 345</b> Electronics I (Fall only)	4	<b>ENGR 410</b> Control Systems and Automation	4		
	<b>XXX</b> Technical Elective	4	<b>THEO 2XX</b> or <b>3XX**</b>	4		
	<b>ENGR 340</b> Signals & Systems (Fall only)	4	<b>ENGR 346</b> Electronics II (Spring only)	4		
		<b>Total Credits</b>	<b>16</b>	<b>Total Credits</b>	<b>16</b>	
3 <sup>rd</sup> Yr	<b>ENGR 480</b> Engineering Design Clinic I	4	<b>ENGR 481</b> Engineering Design Clinic II	4		
	<b>PHYS 341</b> Electricity & Magnetism (Fall only)	4	<b>ENGR 342</b> Electromagnetic Fields & Waves (Spring only)	4		
	<b>XXX</b> Technical Elective	4	<b>XXX</b> Technical Elective	4		
	<b>PHIL 214</b> Introductory Ethics	4	<b>THEO 4XX**</b>	4		
		<b>Total Credits</b>	<b>16</b>	<b>Total Credits</b>	<b>16</b>	

\*\*if human diversity requirement has not yet been fulfilled, choose a Theology course that will meet the requirement.

Program Credits	
Major Requirements completed at Normandale	42
Core Requirements completed at Normandale	17-33
Major Requirements completed at University of St Thomas	60
Core Requirements completed at University of St Thomas	20
<b>Total Credits</b>	<b>139 - 155</b>

The number of credits to complete a BSEE is dependent the student's proficiency in a second language upon entering the program.

*This guide is accurate to the best of our knowledge and ability at the time of publication, but is subject to change.*