

# BS Mechanical Engineering - University of St. Thomas

## Normandale Community College Plus 2 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 Mechanical Engineering with two 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	Introduction to Engrg. Design	4	ENGR 150
ENGR 2235	Statics	3	ENGR 220
ENGR 2331	Deformable Bodies	3	ENGR 221 after completion of 1 cr. lab at UST
ENGR 2236	Dynamics	3	ENGR 322 after completion of 1 cr. lab at UST
ENGR 2231	Thermodynamics	3	ENGR 381 after completion of 1 cr. Lab at UST
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
CHEM 1061	Principles of Chemistry	5	CHEM 109
<b>Total Credits</b>		<b>55</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 <a href="https://www.stthomas.edu/tr/credit/communitycollegecourseplans/">https://www.stthomas.edu/tr/credit/communitycollegecourseplans/</a>		

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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 two years of full-time study. Courses are listed below, and a sample 2-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 171	Engineering Graphics and Design	4
ENGR 221	Mechanics of Materials - LAB only	1
ENGR 320	Machine Design and Synthesis	4
ENGR 322	Dynamics – LAB only	1
ENGR 350	Introduction to Electronics	4
ENGR 361	Engineering Materials	4
ENGR 371	Manufacturing Processes and Statistical Control	4
ENGR 381	Thermodynamics – LAB only	1
ENGR 382	Heat Transfer	4
ENGR 383	Fluid Mechanics	4
ENGR 410	Control Systems and Automation	4
ENGR 480	Engineering Design Clinic I	4
ENGR 481	Engineering Design Clinic II	4
ENGR xxx	Engineering Elective	4
<b>Total Credits</b>		<b>47</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 Two Years at University of St. Thomas						
	Fall	Cr	Spring	Cr	Summer / J-term	Cr
1 <sup>st</sup> Yr	ENGR 371 Manufacturing Processes & Statistical Control (LAB)	4	ENGR 320 Machine Design & Synthesis (LAB)	4	PHIL 115 Philosophy of the Human Person	4
	ENGR 171 Engineering Graphics and Design	4	ENGR 350 Introduction to Electronics (LAB)	4		
	THEO 101 The Christian Theological Tradition	4	THEO 2XX or 3XX	4		
	ENGR 381 Thermodynamics – Lab only	1	ENGR 382 Heat Transfer (LAB)	4		
	ENGR 221 Mechanics of Materials – Lab only	1	ENGR 322 Dynamics – Lab only	1		
	Total Credits	14	Total Credits	17	Total Credits	4
2 <sup>nd</sup> Yr	ENGR 480 Engineering Design Clinic I	4	ENGR 481 Engineering Design Clinic II	4		
	ENGR 410 Control Systems and Automation (LAB)	4	ENGR 383 Fluid Mechanics (LAB)	4		
	ENGR 361 Engineering Materials (LAB)	4	ENGR XXX Engineering Elective	4		
	PHIL 214 Introductory Ethics	4	THEO 4XX**	4		
		Total Credits	16	Total Credits	16	

\*\*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	55
Core Requirements completed at Normandale	17-33
Major Requirements completed at University of St Thomas	47
Core Requirements completed at University of St Thomas	20
Total Credits	139 - 155

The number of credits to complete a BSME 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.*