

# BS Mechanical Engineering – University of St. Thomas Anoka-Ramsey Community College Plus 2 Plan of Study

Students who complete the following courses at Anoka-Ramsey 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 Anoka-Ramsey Community College – Major Requirements			
Anoka-Ramsey Course #	Anoka-Ramsey Course Title	Cr.	St. Thomas Course Equivalence
ENGR 1100	Introduction to Engineering	2	ENGR 150
ENGR 1111	Engineering Graphics	3	ENGR 171
ENGR 2241	Statics	3	ENGR 220
ENGR 2243	Mechanics of Materials	3	ENGR 221 after completion of 1 cr. lab at UST
ENGR 2242	Dynamics	3	ENGR 322 after completion of 1 cr. lab at UST
ENGR 2240	Thermodynamics	3	ENGR 381 after completion of 1 cr. Lab at UST
CSCI 1106	Intro to Programming	4	CISC 130
MATH 1400	Calculus I	5	MATH 113
MATH 1401	Calculus II	5	MATH 114
MATH 2220	Multivariable Calculus & Vector Analysis	5	MATH 200
MATH 2210	Differential Equations	4	MATH 210
PHYS 1327	College Physics I	6	PHYS 111
PHYS 1328	College Physics II	6	PHYS 112
CHEM 1061	Principles of Chemistry	4	CHEM 109
<b>Total Credits</b>		<b>56</b>	

Courses Taken at Anoka-Ramsey – Core Curriculum Requirements***		
Core Requirement	Credits	Anoka-Ramsey Course Options
Language and Culture*	0-14	CHIN 2201, FREN 2201, GERM 2201, or SPAN 2201
Literature and Writing – Course 1	4	ENGL 1121
Literature and Writing – Course 2	3	ENGL 2202, ENGL 2203, ENLG 2204, ENGL 2207, ENGL 2208, ENGL 2209, ENGL 2210, or ENGL 2215
Social Analysis**	3-4	ECON 2205, ECON 2206, GEOG 1102 <sup>HD</sup> , GEOG 1106 <sup>HD</sup> , PSYC 1110, SOC 1111 <sup>HD</sup> , or SOC 2221 <sup>HD</sup>
Fine Arts**	3	ART 1100, ART 1107, ART 1108 <sup>HD</sup> , HUM 1103, MUSC 1100, MUSC 1101 <sup>HD</sup> , MUSC 1110 <sup>HD</sup> , MUSC 1111 <sup>HD</sup> , MUSC 2202, or THTR 1101
History	3-4	HIST 1103, HIST 1111, HIST 1121, HIST 1141, HIST 2211, or HIST 2221
<b>Total Credits</b>	<b>16-32</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/Anoka-Ramsey Course transfer guides including UST Core Curriculum and MnTC Goal Areas are available at <a href="https://www.stthomas.edu/tr/credit/communitycollegcourseplans/">https://www.stthomas.edu/tr/credit/communitycollegcourseplans/</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 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>43</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		
	ENGR 350 Introduction to Electronics (LAB)	4	PHIL 115 Philosophy of the Human Person	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		
	<b>Total Credits</b>		<b>14</b>	<b>Total Credits</b>	<b>17</b>	
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		
	<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 Anoka-Ramsey	56
Core Requirements completed at Anoka-Ramsey	16 – 32
Major Requirements completed at University of St Thomas	43
Core Requirements completed at University of St Thomas	20
<b>Total Credits</b>	<b>135 - 151</b>

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.*