

BS Mechanical Engineering - University of St. Thomas Inver Hills Community College Plus 2 Plan of Study

Students who complete the following courses at Inver Hills 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 Inver Hills Community College – Major Requirements			
Inver Hills Course #	Inver Hills Course Title	Cr.	St. Thomas Course Equivalence
ENGR 1000	Orientation to Engineering	1	ENGR 150
ENGR 2020	Statics	3	ENGR 220
ENGR 2024	Mechanics of Materials	3	ENGR 221 after completion of 1 cr. lab at UST
ENGR 2025	Dynamics	3	ENGR 322 after completion of 1 cr. lab at UST
ENGR 2000	Thermodynamics	3	ENGR 381 after completion of 1 cr. Lab at UST
CS 1119	Computer Programming with C++	4	CISC 130
MATH 1133	Calculus I	5	MATH 113
MATH 1134	Calculus II	5	MATH 114
MATH 2219	Multi-Variable Calculus	5	MATH 200
MATH 2222	Intro to Differential Equations	3	MATH 210
PHYS 1081	Calculus Based Physics I	5	PHYS 111
PHYS 1082	Calculus Based Physics II	5	PHYS 112
CHEM 1061	Principles of Chemistry I	5	CHEM 109
Total Credits		50	

Courses Taken at Inver Hills – Core Curriculum Requirements***		
Core Requirement	Credits	Inver Hills Course Options
Modern and Classical Language*	0-15	ASL1103, FREN2201, SPAN2201
Literature and Writing – Course 1	4	ENG1108, ENG1140
Literature and Writing – Course 2	3-4	ENG1180, ENG2235, ENG2237, ENG2238, ENG2239, ENG2240, ENG 2250, ENG2252
Social Sciences**	3	ECON1105, ECON1106, GEOG1100 ^{HD} , GEOG1115 ^{HD} , POLS1101 ^{HD} , PSYC1101, PSCY1201, SOC1100 ^{HD} , SOC1127 ^{HD}
Fine Arts**	3	ART1100, ART1106, ART1107, ART1109 ^{HD} , ART2300, MUSC1140, MUSC1141, MUSC1144, THTR1101, THTR1103, THTR1105, THTR 1107
History	4	HIST1106, HIST1107, HIST1114, HIST1115
Total Credits	17-33	
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/Inver Hills Course transfer guides including UST Core Curriculum and MnTC Goal Areas are available at https://www.stthomas.edu/tr/credit/communitycollegecourseplans/		

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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
Total Credits		47

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
Total Credits		20

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Proposed Schedule for Final Two Years at University of St. Thomas						
	Fall	Cr	Spring	Cr	Summer / J-term	Cr
1 st 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		
2 nd 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 Inver Hills	50
Core Requirements completed at Inver Hills	17 – 33
Major Requirements completed at University of St Thomas	47
Core Requirements completed at University of St Thomas	20
Total Credits	134 - 150

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.