

**B.S. MECHANICAL ENGINEERING**  
*(Mathematics Minor)*  
**Plan of Study**

Year 1	<b>Fall</b>		<b>Spring</b>	
	FYEX Foundation for College Success			
	ENGR 100 (FYE) Introduction to Engineering Design		CISC 130 Introduction to Programming & Problem Solving Science (Lab)	
	ENGR 170 Mechanical Engineering Graphics		PHYS 211 Classical Physics I	
	MATH 113 Calculus I		MATH 114 Calculus II	
	CORE requirement		CORE requirement	
	CORE requirement			
	<b>January-term</b>		<b>Summer</b>	
CORE requirement		↔		
Year 2	<b>Fall</b>		<b>Spring</b>	
	ENGR 220 Statics		ENGR 221 Mechanics of Materials (Lab)	
	MATH 200 Multi-Variable Calculus		↔ MATH 210 Introduction to Differential Equations & Systems	
	PHYS 212 Classical Physics II		↔ CHEM 109 General Chemistry for Engineers (Lab)	
	CORE requirement		CORE requirement	
	<b>January-term</b>		<b>Summer</b>	
	CORE requirement		↔	
Year 3	<b>Fall</b>		<b>Spring</b>	
	ENGR 255 Fabrication Skills (Lab)			
	ENGR 322 Dynamics (Lab)		↔ ENGR 350 Introduction to Electronics (Lab)	
	ENGR 371 Manufacturing Processes & Statistical Control		↔ ENGR 320 Machine Design & Synthesis (Lab)	
	ENGR 381 Thermodynamics (Lab)		ENGR 383 Fluid Mechanics (Lab)	
	MATH XXX Mathematics Course		CORE requirement	
	<b>January-term</b>		<b>Summer</b>	
CORE requirement		↔		
Year 4	<b>Fall</b>		<b>Spring</b>	
	ENGR 480 Engineering Design Clinic I		ENGR 481 Engineering Design Clinic II	
	ENGR 410 Control Systems & Automation (Lab)		↔ ENGR 384 Heat Transfer (Lab)	
	ENGR 361 Engineering Materials (Lab)		↔ MATH XXX Mathematics Course	
	CORE requirement		CORE requirement	
	<b>January-term</b>		<b>Summer</b>	

\* arrow indicates that the two courses can be interchanged

\* this illustrates just one example of how all courses could be taken within a 4-year plan

**Complete Course Listing:****Engineering Courses:**

ENGR 100 – Introduction to Engineering (2 credits)  
ENGR 170 – Mechanical Engineering Graphics (2 credits)  
ENGR 220 – Statics (4 credits)  
ENGR 221 – Mechanics of Materials (4 credits)  
ENGR 255 – Fabrication Skills (0 credits)  
ENGR 320 – Machine Design and Synthesis (4 credits)  
ENGR 322 – Dynamics (4 credits)  
ENGR 350 – Introduction to Electronics (4 credits)  
ENGR 361 – Engineering Materials (4 credits)  
ENGR 371 – Manufacturing Processes and Statistical Control (4 credits)  
ENGR 381 – Thermodynamics (4 credits)  
ENGR 383 – Fluid Mechanics (4 credits)  
ENGR 384 – Heat Transfer (4 credits)  
ENGR 410 – Control Systems and Automation (4 credits)  
ENGR 480 – Engineering Design Clinic I (4 credits)  
ENGR 481 – Engineering Design Clinic II (4 credits)  
\*4 Credits of Engineering Electives  
60 Engineering Credits

**Mathematics Minor Requirements:**

\*Courses with asterisk are requirements for both the Mechanical Engineering degree and the Math minor  
8 additional math credits in courses numbered 200 or above (or approved by the department chair) (\*4 credits can count as engineering elective)  
24 Mathematics Minor Requirement Credits (20 credits are included in the mechanical engineering major requirements)

**Allied Requirements:**

\*MATH 113 – Calculus I (4 credits)  
\*MATH 114 – Calculus II (4 credits)  
\*MATH 200 – Multi-Variable Calculus (4 credits)  
\*MATH 210 – Introduction to Differential Equations and Systems (4 credits)  
PHYS 211 – Classical Physics I (4 credits)  
PHYS 212 – Classical Physics II (4 credits)  
CHEM 109 – General Chemistry for Engineers (4 credits)  
CISC 130 – Introduction to Programming and Problem Solving in the Sciences (4 credits)  
36 Allied Requirement Credits

**University of St. Thomas Core Curriculum:**

FYEX Foundation for College Success (1 credit)  
Language and Culture (0-8 credits)  
Literature and Writing (4 credits)  
Philosophy and Theology (12 credits)  
Social Analysis (4 credits)  
Fine Arts (4 credits)  
Historical Studies (4 credits)  
Integrations in the Humanities (8 credits)  
*Some of these courses must satisfy the flagged requirements; check your degree evaluation*  
45 Core Curriculum Credits