

B.S. MECHANICAL ENGINEERING

(Material Science & Engineering (MSE) Minor)

Plan of Study

Year 1	Fall		Spring	
	FYEX Foundation for College Success			
	ENGR 100 (FYE) Introduction to Engineering Design		CISC 130 Introduction to Programming & Problem Solving in the Sciences	
	ENGR 170 Mechanical Engineering Graphics		CHEM 109 General Chemistry for Engineers (Lab)	
	MATH 113 Calculus I		MATH 114 Calculus II	
	CORE requirement		CORE requirement	
	CORE requirement			
	January-term		Summer	
CORE requirement		PHYS 211 Classical Physics I		
Year 2	Fall		Spring	
	ENGR 220 Statics		ENGR 221 Mechanics of Materials (Lab)	
	MATH 200 Multi-Variable Calculus		↔	MATH 210 Introduction to Differential Equations & Systems
	ENGR 361 Engineering Materials (Lab)		PHYS 212 Classical Physics II	
	CORE requirement		CORE requirement	
	January-term		Summer	
	CORE requirement		↔	IDSC 365 Materials Science & Engineering
Year 3	Fall		Spring	
	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)	
	CORE requirement		CORE requirement	
	January-term		Summer	
Year 4	Fall		Spring	
	ENGR 480 Engineering Design Clinic I		ENGR 481 Engineering Design Clinic II	
	ENGR 410 Control Systems & Automation (Lab)		↔	ENGR 384 Heat Transfer (Lab)
	ENGR XXX Materials Science Engineering Elective		Materials Science Elective	
	CORE requirement		CORE requirement	
	January-term		Summer	

* 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 Design (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 also fulfills 4 credits of Materials Elective
60 Engineering Credits

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)
32 Allied Requirement Credits

Materials Science Engineering Minor Requirements:

IDSC 365 - Materials Science & Engineering Practicum (0 credits)
*ENGR/ Materials Electives (4 credits) [doubles as ENGR elective]
Materials Elective (4 credits) (outside of ENGR)
**Courses with asterisk are requirements for both the mechanical engineering degree and the MSE minor*
24 Materials Credits (16 credits are also included in the mechanical engineering major requirements)

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