

B.S. MECHANICAL ENGINEERING

Plan of Study – Aerospace Minor (starting in odd year)

Year 1	Fall – odd year		Spring – even year
	FYEX Foundation for College Success 1 cr.		
	ENGR 100 (FYE) Intro to Engineering Design 2 cr.		CHEM 109 General Chemistry for Engineers (Lab)
	ENGR 170 Mechanical Engineering Graphics 2 cr.		PHYS 211 Classical Physics I
	MATH 113 Calculus I		MATH 114 Calculus II
	CORE requirement		CORE requirement
	CORE requirement		
	January-term		Summer
Year 2	CORE requirement		
	Fall – even year		Spring – odd year
	ENGR 220 Statics		ENGR 221 Mechanics of Materials (Lab)
	MATH 200 Multi-Variable Calculus	←	MATH 210 Introduction to Differential Equations & Systems
	ENGR 381 Thermodynamics (Lab)		CISC 130 Introduction to Programming & Problem Solving in the Sciences
	PHYS 212 Classical Physics II		CORE requirement
			ENGR 255 Fabrication Skills (Lab) 0 cr.
	January-term		Summer
Year 3	CORE requirement		ENGR 350 Introduction to Electronics (Lab)
	Fall – odd year		Spring – even year
	ENGR 226 Introduction to Aerospace Engineering 2 cr.		ENGR 371 Manufacturing Processes & Statistical Control
	ENGR 412 Composite Materials 2 cr. (Fall odd years)		MINOR XXX Aerospace Engineering Elective
	ENGR 361 Engineering Materials (Lab)		ENGR 320 Machine Design & Synthesis (Lab)
	ENGR 383 Fluid Mechanics (Lab)		ENGR 384 Heat Transfer (Lab)
	CORE requirement		
	January-term		Summer
Year 4	CORE requirement		
	Fall – even year		Spring – odd year
	ENGR 480 Engineering Design Clinic I		ENGR 481 Engineering Design Clinic II
	ENGR 410 Control Systems & Automation (Lab)	←	ENGR 322 Dynamics (Lab)
	MINOR XXX Aerospace Engineering Elective		ENGR 414 Applied Thermodynamics 2 cr. (Spring odd years)
	CORE requirement		ENGR 413 Introduction to Aerodynamics 2 cr. (Spring odd years)
			CORE requirement
	January-term		Summer
Year 4	CORE requirement		

This is just one example of a Plan of Study for this program. Please consult with your advisor.

Rev: 2/23/2026

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Complete Course Listing:

Engineering Courses: (56 Credits)

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

Allied Requirements: (32 credits)

MATH 113 – Calculus I (4 cr.)
MATH 114 – Calculus II (4 cr.)
MATH 200 – Multi-Variable Calculus (4 cr.)
MATH 210 – Intro to Differential Equations and Systems (4 cr.)
PHYS 211 – Classical Physics I (4 cr.)
PHYS 212 – Classical Physics II (4 cr.)
CHEM 109 – General Chemistry for Engineers (4 cr.)
CISC 130 – Intro to Programming and Problem Solving in the Sciences (4 cr.)

Minor Requirements: (minimum 18 credits)

ENGR 226 - Introduction to Aerospace Engineering (2 cr.), only during Fall semester
ENGR 383 or ENGR 368 – Fluid mechanics (4 cr.)
ENGR 412 – Composite Materials (2 cr.), only Fall of odd years
ENGR 413 – Introduction to Aerodynamics (2 cr.), only Spring of odd years
ENGR 414 – Applied Thermodynamics (2 cr.), only Spring of odd years

Plus a minimum of 6 credits from the following aerospace engineering electives:

ETLS 664 – Propulsion Systems & Compressible Flow (3 cr.), only Spring of even years
ETLS 591 – Advance Thermal Systems (3 cr.), only during Fall semesters
PHYS 331 – Theoretical Mechanics (4 cr.), only Fall of even years
PHYS 325 – Methods of Computational Physics (4 cr.), only Spring of odd years
PHYS 354 – Astrophysics (4 cr.) only Fall of odd years
ENGR 415 – Smart Materials (2 cr.), only Fall of odd years

* Note that an aerospace engineering elective course can potentially be used in place of a required aerospace engineering minor course with permission of the department chair

University of St. Thomas Core Curriculum: (45 Credits)

FYEX Foundation for College Success (1 cr.)
Language and Culture (0-8 cr.)
Literature and Writing (4 cr.)

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Philosophy and Theology (12 cr.)

Social Analysis (4 cr.)

Fine Arts (4 credits)

Historical Studies (4 cr.)

Integrations in the Humanities (8 cr.)

Some of these courses must satisfy the flagged requirements; check your degree evaluation