B.S. MECHANICAL ENGINEERING
Plan of Study (with Env Eng Minor)

College of Engineering | UNIVERSITY OF St.Thomas

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		**PHYS 211** Classical Physics I
	MATH 113 Calculus I		**MATH 114** Calculus II
	CORE requirement		**CORE** requirement
	CORE requirement		
	January-term		**Summer**
	CORE requirement	⟷	
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
	PHYS 212 Classical Physics II	⟷	**CHEM 109** General Chemistry for Engineers (Lab)
	CORE requirement		**CORE** requirement
	January-term		**Summer**
	CORE requirement		**ENGR 350** Introduction to Electronics (Lab)
Year 3	**Fall**		**Spring**
	ENGR 255 Fabrication Skills (Lab)		**ENGR 322** Dynamics (Lab)
	ENGR 381 Thermodynamics (Lab)	⟷	**ENGR 361** Engineering Materials (Lab)
	ENGR 371 Manufacturing Processes & Statistical Control	⟷	**ENGR 320** Machine Design & Synthesis (Lab)
	ENGR 468 Environmental Engineering (Lab)		**CORE** requirement
	CORE requirement (or during J-Term)		
	January-term		**Summer**
			ENGR 410 Control Systems & Automation (Lab)
Year 4	**Fall**		**Spring**
	ENGR 480 Engineering Design Clinic I		**ENGR 481** Engineering Design Clinic II
	ENGR 383 Fluid Mechanics (Lab)		**ENGR 384** Heat Transfer (Lab)
	ESCI 310 Environmental Problem Solving (Lab)		**ENGR 473/479** Water Treatment (2 cr.) + **GEOL 231** Applied Environmental Policy (2 cr.) **OR ENGR 467** Water Resources Engineering (4 cr.)
	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 for Mechanical Engineering

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 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

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

Minor in Environmental Engineering

The environmental engineering minor serves students who want additional support for an environmental engineering career or graduate school. Core courses cover environmental engineering applications, systems thinking, and environmental policy, with additional course options related to biology, geochemistry, thermodynamics, hydrogeology, and water treatment. This minor is intended for students from civil or mechanical engineering, environmental science, or earth sciences but is open to other students as well.

Required: 4 courses (12 credits)

- ENGR 468 Environmental Engineering (4 credits)
- ESCI 310 Environmental Problem Solving (4 credits)
- GEOL 231 Applied Environmental Policy (2 credits)
- One of two treatment design courses:
    - ENGR 473 Water Treatment (2 credits)
    - ENGR 479 Wastewater Treatment (2 credits)

Required: Choose 4 additional credits of from courses:

- ENGR 467 Water Resources Engineering (4 credits)
- ENGR 381 Thermodynamics (4 credits) or other thermodynamics
- GEOL 310 Environmental Geochemistry (4 credits)
- GEOL 410 Hydrogeology (4 credits)
- ENGR 488 Air Quality (2 credits)
- The other treatment design course: (ENGR 473 or 479) (2 credits)

If you have a math/science elective within your major, it's recommended to take either:

- BIOL 209 Biology of Sustainability (4 credits) or
- CHEM 111/112 Chemistry I/II instead of CHEM 109 Chemistry for Engineers