

B.S. COMPUTER ENGINEERING & Biomedical Engineering Minor Plan of Study

Year 1	Fall		Spring	
	FYEX Foundation for College Success			
	ENGR 100 (FYE) Introduction to Engineering Design			
	ENGR 175 Intro to Electrical & Comp Eng		PHYS 211 Classical Physics I	
	MATH 113 Calculus I		MATH 114 Calculus II	
	CISC 130 Intro to Programming & Problem Solving in the Sciences		ENGR 230 Digital Design (lab)	
	CORE requirement		CORE requirement	
	January-term		Summer	
	CORE requirement	↔		
Year 2	Fall		Spring	
	ENGR 240 Circuit Analysis (Lab)		CISC 230 Object-Oriented Design & Programming (Lab)	
	ENGR 330 Microprocessor Architectures		ENGR 331 Designing with Microprocessors (Lab)	
	PHYS 212 Classical Physics II		MATH 210 Intro to Differential Equations & Systems	
	CORE requirement		CORE requirement	
	January-term		Summer	
	CORE requirement	↔		
Year 3	Fall		Spring	
	ENGR 345 Electronics I (Lab)		ENGR 432 Current Trends in Computing Sys.	
	Odd year: ENGR 431 Design of Embedded Systems (Lab)		MATH 128 Introduction to Discrete Mathematics	
	Even year: ENGR 312 + 313 Bioelectricity and Instrumentation + Biomedical Imaging			
	CISC 231 Data Structures using Object-Oriented Design		ENGR 310 + 311 Biomedical Engr. + Medical Device Manufacturing	
	BIOL 105 Human Biology (Lab)		CORE requirement	
	January-term		Summer	
	CORE requirement	↔		
Year 4	Fall		Spring	
	ENGR 480 Engineering Design Clinic I		ENGR 481 Engineering Design Clinic II	
	MATH/SCI XXX Elective 2		CORE requirement	
	Odd year: ENGR 431 Design of Embedded Systems (Lab)		BIOMED elective	
	Even year: ENGR 312 + 313 Bioelectricity and Instrumentation + Biomedical Imaging			
	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 175 – Introduction to Electrical & Computer Engineering (2 credits)
ENGR 230 – Digital Design (4 credits)
ENGR 240 – Circuit Analysis (4 credits)
ENGR 330 – Microprocessor Architectures (4 credits) or CISC 340 Computer Architecture (4 credits)
ENGR 331 – Designing with Microprocessors (4 credits)
ENGR 345 – Electronics I (4 credits)
ENGR 431 – Design of Embedded Systems (4 credits)
ENGR 432 – Current Trends in Computing Systems (4 credits)
ENGR 480 – Engineering Design Clinic I (4 credits)
ENGR 481 – Engineering Design Clinic II (4 credits)
40 Engineering Credits

Allied & Elective Requirements:

MATH 113 – Calculus I (4 credits)
MATH 114 – Calculus II (4 credits)
MATH 128 – Introduction to Discrete Mathematics (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)
CISC 130 – Introduction to Programming and Problem Solving in Sciences (4 credits)
CISC 230 – Object-Oriented Design and Programming (4 credits)
CISC 231 – Data Structures using Object-Oriented Design (4 credits)
ENGR/CISC XXX – Elective (8 credits)
MATH/SCI XXX – Elective (8 credits)
52 Allied & Elective 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

Biomedical Engineering Minor Requirements:

BIOL 105 – Human Biology (4 cr.) OR EXSC 214 – Physiology (4 cr). BIOL 105 fulfills a MATH/SCI elective so is strongly encouraged.
ENGR 310 – Biomedical Engineering (2 credits)
ENGR 311 – Medical Device Manufacturing (2 credits)
ENGR 312 – Bioelectricity and instrumentation (2 credits)
ENGR 313 – Medical Imaging (2 credits)
4 credits of Biomedical Engineering Minor electives
Biomedical Engineering Minor electives
ENGR 314 – Biomaterials in Engineering (4 credits)
EXSC 213 Anatomy (4 credit)
EXSC 326 Kinesiology (4 credits)
NSIC 340 Computational neuroscience (4 credits)
BIOL 354 Neurobiology (4 credits)
PHYS 347 Optics (4 credits)
BIOL 349 Comparative Anatomy and Physiology (4 credits)
BIOL 364 Immunology
EXSC 426 Biomechanics
ETLS 507 Intro to Systems Engineering + 1 credit independent study or 1 credit paper
ETLS 675 Digital Signal Processing + 1 credit independent study or 1 credit paper
ETLS 746 Power Electronics + 1 credit independent study or 1 credit paper