Total Major hours at Wheaton: 56 Suggested hours per semester: 16-18

## **Biomedical Engineering**

## - Medical Imaging with Illinois Tech

## Major Academic Plan (MAP) for Catalog Year 2022-2023

The catalog is the final authority on CATC and major requirements; this is intended as a tool for planning purposes. Student course sequencing may vary depending on course offerings and other variables.

Fall Semester 1	Spring Semester 2	Summer 1
ran Jennester 1	שניים ביוויפינבו ב	Consider study, internship or research
MATH 231: Calculus I <sup>1</sup> *	MATH 232: Calculus II*	options –Wheaton In summer program,
PHYS 231: Introductory Physics I <sup>F, 1</sup> *	PHYS 232: Introductory Physics II <sup>S*</sup>	WIN (HoneyRock), Wheaton in the
CHEM 231: General Chemistry I <sup>F</sup>	CHEM 232: General Chemistry II <sup>S*</sup>	Black Hills, non-major internship,
ENGR 101: Intro. to Engineering (1) <sup>F</sup>		summer research or other options that
		provide work experience, build your
CORE 101: First Year Seminar	ENGW 103: Writing	resume, or grow you personally.
	AHS 101: Wellness (2)	
Fall Semester 2	Spring Semester 2	Summer 2
PHYS 334: Computer Modeling of	MATH 331: Vector Calculus (2)*	Consider study, internship or research
Physical Systems (2) <sup>F*</sup>	CHEM 342: Organic Chemistry II <sup>S4*</sup>	options.
CHEM 341: Organic Chemistry I <sup>F4</sup> *		
BITH or ARCH 211: Old Testament		
COMM 101: Oral Comm. (2)	BITH or ARCH 213: New Testament	
Language Core Competency	Thematic Core Course <sup>2</sup>	
Visual & Performing Arts (2) <sup>2</sup>	Advanced Integrative Seminar <sup>2,*</sup>	
Fall Semester 3	Spring Semester 3	Summer 3
MATH 333: Differential Equations*	IIT BIOL 115: Human Biology (3) <sup>3</sup>	Consider study, internship or research
	IIT BIOL 117: Human Biology Lab (1) <sup>3</sup>	options.
	IIT BME 315: Instrumentation &	
	Measurement Laboratory (2) <sup>3</sup>	
	IIT CS 201: Accelerated Introduction to	
	Computer Science <sup>3</sup>	
	IIT ECE 211: Circuit Analysis 1 (3) <sup>3</sup>	
BITH 315: Christian Thought*	ENGR 394: Ethics Capstone (2)*	
Thematic Core Courses (8) <sup>2</sup>	Visual & Performing Arts (2) <sup>2</sup>	
All courses below this line are based on co		
Fall Semester 4	Spring Semester 4	Summer 4
BME 100: Intro. to the Profession (2)	BME 310: Biomaterials (3)	Cancidar study internahin ar receased
BME 309: Biomed Imaging & Sensing (3)		Consider study, internship or research options.
ECE 308: Signals and Systems (3)	BME 443: Biomedical Inst. &	options.
BME 422: Mathematical Methods for	Electronics (3)	
Biomedical Engineers (3)	BME: Technical Elective 1 (3)	
BME 433: Biomedical App. of Stats. (3)	IPRO: IPRO Elective 1 (3)	
ECE 213: Circuit Analysis 2		
Fall Semester 5	Spring Semester 5	Summer 5
BME 405: Physiology Laboratory (2)	BME 420: Design Concepts in	
BME 419: Intro. to Design Concepts in	Biomedical Engineering (3)	
Biomedical Engineering (2)	BME 438: Neuroimaging (3)	
BME 453: Quantitative Physiology (3)	BME 445: Quant. Neural Function (3)	
ECE 437: Digital Signal Processing 1 (3)	ECE 481: Image Processing (3)	
IPRO: IPRO Elective (3)	Fundamentals of Engineering Exam (0)	

Page **1** of **2** 

Last updated: 5/11/2022

## **Notes or Special Guidance for Majors:**

- \*Course has prerequisite
- <sup>F</sup> Fall only course
- <sup>S</sup> Spring only course
- # Offered every other year
- <sup>1</sup> Classes that meet CATC Thematic Core tags: MATH 231 (AAQR), PHYS 231 (SP). Engineering majors should use the Engineering checklist for CATC.
- <sup>2</sup> Engineering majors should carefully select CATC Thematic Core courses. In addition to the Themes already covered with required courses (AAQR and SP, see footnote 1), Social Inquiry (SI) and the Visual and Performing Arts (VPA or 2 of VPAV/VPAM/VPAT) must be taken. 4 of the 5 remaining themes must also be taken by Engineering majors. See the <a href="Engineering checklist">Engineering checklist</a> for the full CATC requirements. Double tagged courses are strongly encouraged.
- <sup>3</sup> These courses are taken in partnership with Illinois Tech while finishing Wheaton requirements.
- <sup>4</sup> Options for Organic Chemistry Series: (WC CHEM 341 or IIT MATH 333) and (WC CHEM 342 or IIT PHYS 224 / WC PHYS 331); If not both WC CHEM 341 and CHEM 342, then Wheaton requires ENGR 204.
- -All Engineering MAPs are also located on the <u>Engineering Department webpage</u>. Please contact the Engineering Coordinator, Jeff Yoder with questions. He can be reached at jeff.yoder@wheaton.edu.

Page **2** of **2** Last updated: 5/11/2022