Wheaton College - Illinois Tech Joint Dual-degree Program
THIS PROGRAM PLAN IS FOR GUIDANCE ONLY. SEE CATALOG FOR OFFICIAL REQUIREMENTS.

Engineering Major
General Education

Computer Engineering

Fall Semester

Sem	Code	Name	Hrs.
1	MATH 235	Calculus I	4
	PHYS 231	Introductory Physics I	4
	ENGR 101	Introduction to Engineering	1
	CORE 101	First Year Seminar	4
	CORE 131	Holistic Human Flourishing	1
	LANG	World Languages	4
		Total	18

Sem	Code	Name	Hrs.
3	MATH 237	Calculus III	4
	PHYS 334	Computer Modeling of Physical Systems	2
	ENGR 211	Engr. Mechanics I - Statics (*CE 100+)	3
	COMM	Oral Communication (0-2)	2
	SELECT	Thematic Core (1 of 3)	4
		Total	15

Sem	Code	Name	Hrs.
5	CHEM 231	General Chemistry I	4
	IIT CS 115	Object-Oriented Programming I	2
	CORE 3xx	Advanced Seminar (with 1 Thematic Core tag)	4
	SELECT	Thematic Core (2 of 3)	4
	SELECT	Thematic Core (3 of 3)	4
		Total	18

years 1 - 3 credit hours =   101

Spring Semester

Sem	Code	Name	Hrs.
2	MATH 236	Calculus II	4
	PHYS 232	Introductory Physics II	4
	ENGR 132	Engineering Graphics & CAD (3 - optional)	
	ENGW	Writing (0-4)	4
	BITH	Old Testament Literature	4
		Total	16

Sem	Code	Name	Hrs.
4	MATH 333	Differential Equations	4
	PHYS 331	Spacetime and Quanta (*CE 300+)	4
	ENGR 214	Innovative Design in Engr. (*CE 200+)	3
	BITH	New Testament Literature	4
	SELECT	Visual & Performing Arts (1 of 2)	2
		Total	17

Sem	Code	Name	Hrs.
6	IIT CS 116	Object-Oriented Programming II	2
	IIT ECE 211	Circuit Analysis 1	3
	IIT ECE 218	Digital Systems	4
	ENGR 494	Ethics Capstone	2
	BITH	Christian Thought	4
	SELECT	Visual & Performing Arts (2 of 2)	2
		Total	17

All courses below this line are based on completion at IIT

Sem	Code	Name	Hrs.
7	CS 330	Discrete Structures	3
	CS 331	Data Structures & Algorithms	3
	ECE 213	Circuit Analysis 2	4
	MATH 374	Probability & Statistics for Electrical & Computer Engineers	3
		Total	13

Sem	Code	Name	Hrs.
9	CS 351	Systems Programming	3
	ECE 441	Smart and Connected Embedded System Design	4
	ECE 485	Computer Organization and Design	3
	SELECT	Computer Sys/Software Elective (3-4)	4
	ECE 400+	Professional ECE elective 1 (3-4)	4
		Total	18

Sem	Code	Name	Hrs.
8	ECE 242	Digital Computers & Computing	3
	ECE 307, ECE 308, or ECE 319	Electrodynamics (4) Signals and Systems (3) Fundamentals of Power Engr (4)	4
	ECE 311	Engineering Electronics	4
	MATH 333 or MATH 350	Matrix Algebra/Complex Variables or Intro Computational Mathematics	3
	IPRO	IPRO Elective 1	3
		Total	17

Sem	Code	Name	Hrs.
10	CS 450	Operating Systems	3
	ECE 429 or ECE 446	Introduction to VLSI Design Advanced Logic Design (3-4)	4
	ECE 400+	Professional ECE elective 2 (3-4)	4
	IPRO	IPRO Elective 2	3
	EXAM	Fundamentals of Engineering (Passing is not required)	
		Total	14

years 4 - 5 credit hours =   62
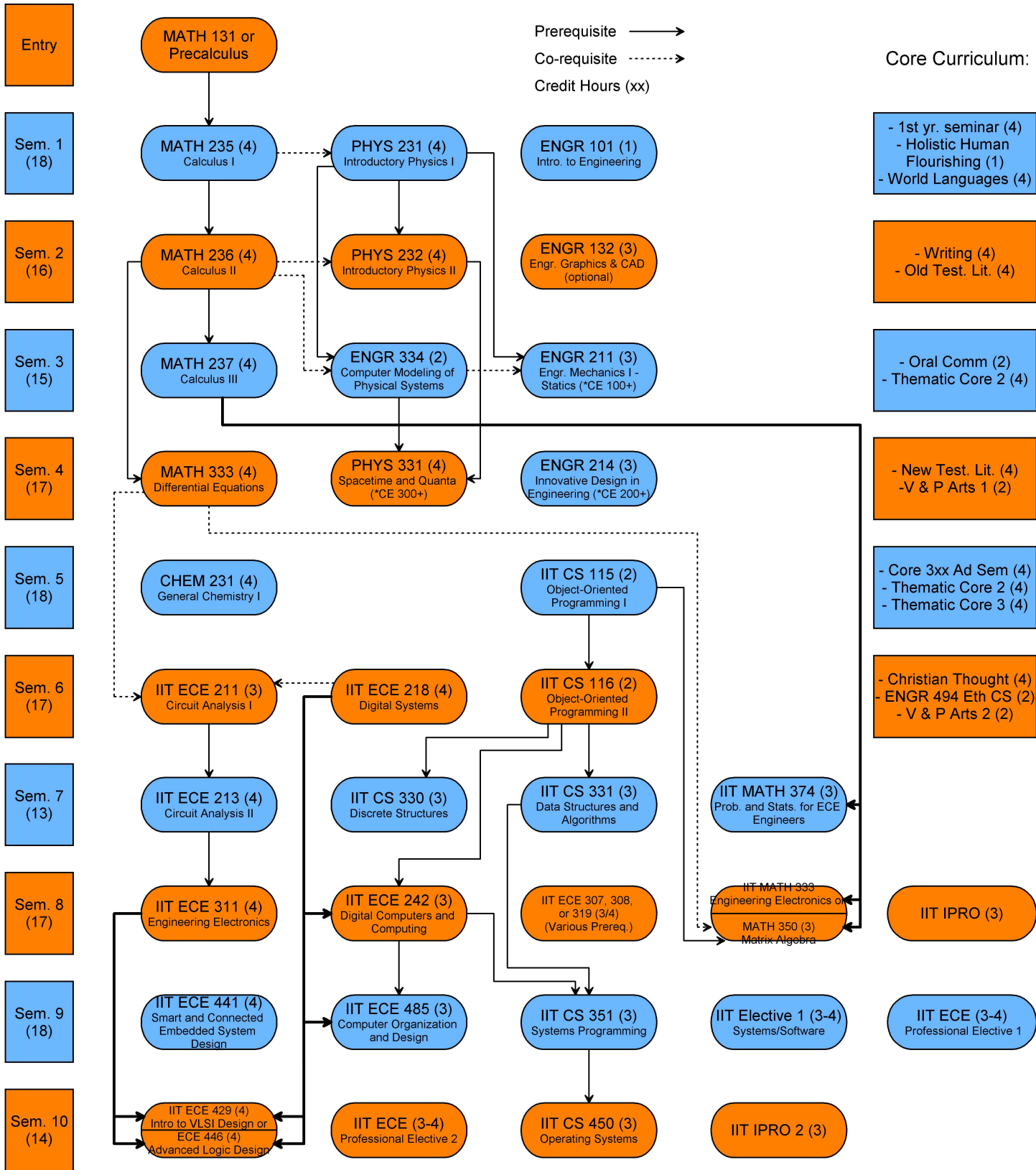
TOTAL credit hours =   163   last updated 8/7/2024

*Career Electives (CE): Advisor-approved course from engineering, science, math, computer science, business, and law at indicated level.

Professional ECE Electives: At 400+ level, Total = 17-20 credit hours

Wheaton College - Illinois Tech
Computer Engineering
Updated August 2024

Entry

MATH 131 or Precalculus

Prerequisite ——→
Co-requisite ----→
Credit Hours (xx)

Core Curriculum:

Sem. 1 (18)

MATH 235 (4) — Calculus I

PHYS 231 (4) — Introductory Physics I

ENGR 101 (1) — Intro. to Engineering

- 1st yr. seminar (4)
- Holistic Human Flourishing (1)
- World Languages (4)

Sem. 2 (16)

MATH 236 (4) — Calculus II

PHYS 232 (4) — Introductory Physics II

ENGR 132 (3) — Engr. Graphics & CAD (optional)

- Writing (4)
- Old Test. Lit. (4)

Sem. 3 (15)

MATH 237 (4) — Calculus III

ENGR 334 (2) — Computer Modeling of Physical Systems

ENGR 211 (3) — Engr. Mechanics I - Statics (*CE 100+)

- Oral Comm (2)
- Thematic Core 2 (4)

Sem. 4 (17)

MATH 333 (4) — Differential Equations

PHYS 331 (4) — Spacetime and Quanta (*CE 300+)

ENGR 214 (3) — Innovative Design in Engineering (*CE 200+)

- New Test. Lit. (4)
- V & P Arts 1 (2)

Sem. 5 (18)

CHEM 231 (4) — General Chemistry I

IIT CS 115 (2) — Object-Oriented Programming I

- Core 3xx Ad Sem (4)
- Thematic Core 2 (4)
- Thematic Core 3 (4)

Sem. 6 (17)

IIT ECE 211 (3) — Circuit Analysis I

IIT ECE 218 (4) — Digital Systems

IIT CS 116 (2) — Object-Oriented Programming II

- Christian Thought (4)
- ENGR 494 Eth CS (2)
- V & P Arts 2 (2)

Sem. 7 (13)

IIT ECE 213 (4) — Circuit Analysis II

IIT CS 330 (3) — Discrete Structures

IIT CS 331 (3) — Data Structures and Algorithms

IIT MATH 374 (3) — Prob. and Stats. for ECE Engineers

Sem. 8 (17)

IIT ECE 311 (4) — Engineering Electronics

IIT ECE 242 (3) — Digital Computers and Computing

IIT ECE 307, 308, or 319 (3/4) (Various Prereq.)

IIT MATH 333 Engineering Electronics or MATH 350 (3) Matrix Algebra

IIT IPRO (3)

Sem. 9 (18)

IIT ECE 441 (4) — Smart and Connected Embedded System Design

IIT ECE 485 (3) — Computer Organization and Design

IIT CS 351 (3) — Systems Programming

IIT Elective 1 (3-4) — Systems/Software

IIT ECE (3-4) — Professional Elective 1

Sem. 10 (14)

IIT ECE 429 (4) — Intro to VLSI Design or ECE 446 (4) — Advanced Logic Design

IIT ECE (3-4) — Professional Elective 2

IIT CS 450 (3) — Operating Systems

IIT IPRO 2 (3)

*Career Electives (CE): Advisor-approved course from engineering, science, math, computer science, business, and law at the indicated level.