

**Saint Louis University**  
**Electrical and Computer Engineering Department**  
**ELECTRICAL ENGINEERING (BIOELECTRONICS CONCENTRATION) FLOW CHART**

Name: \_\_\_\_\_

Student #: \_\_\_\_\_

First Semester: \_\_\_\_\_

Freshman

ECE 1001 Introduction to ECE I	1 _____	ECE 1002 Introduction to ECE II	1 _____
CHEM 1110 General Chemistry I	3 _____	CHEM 1120 General Chemistry II (CHEM 1110)	3 _____
CHEM 1115 General Chemistry Lab (co-CHEM 1110)	1 _____	CHEM 1125 General Chem Lab II (co-CHEM 1120)	1 _____
ENGL 1920 Adv Writing for Professionals <sup>1</sup>	3 _____	MATH 1520 Calculus II (MATH 1510)	4 _____
MATH 1510 Calculus I	4 _____	PHYS 1610 Engr Physics I (MATH 1510)	3 _____
BIOL 1240 Biology I	3 _____	PHYS 1620 Engr Physics I Lab (co-PHYS 1610)	1 _____
BIOL 1245 Biology I Lab (co-BIOL 1240)	1 _____	BIOL 1260 Biology II (BIO 1240)	3 _____
		BIOL 1265 Biology II Lab (co-BIOL 1260)	1 _____
	16		17

Sophomore

ECE 2101 Electrical Circ I (MATH 1520, PHYS 1610)	3 _____	ECE 2102 Electrical Circuits II (ECE 2101)	3 _____
ECE 2205 Digital Design	3 _____	ECE 2103 Electrical Circuits Lab (co-ECE 2102)	1 _____
ECE 2206 Digital Design Lab (co-ECE 2205)	1 _____	MATH 1660 Discrete Math (MATH 1200)	3 _____
MATH 2530 Calculus III (MATH 1520)	4 _____	MATH 3550 Differential Eq. (MATH 2530)	3 _____
PHYS 1630 Engr Physics II	3 _____	THEO 1000 Theological Foundations	3 _____
PHYS 1640 Engr Physics II Lab (co-PHYS 1630)	1 _____	Core: Social & Behavioral Science <sup>4</sup>	3 _____
BME 2000 BME Computing (MATH 1520)	3 _____		
	18		16

Junior

BIOL 2600 Human Physiology	3 _____	ECE 3052 Prob & RV Engr (MATH 2530, prog <sup>6</sup> )	3 _____
ECE 3130 Semiconductors (ECE 2102, MATH 3550)	3 _____	ECE 3131 Electronic Circuits (ECE 3130)	3 _____
ECE 3225 Microprocessors (prog <sup>6</sup> )	3 _____	ECE 3132 Electronic Circuits Lab (co-ECE 3131)	1 _____
ECE 3226 Microprocessors Lab (co-ECE 3225)	1 _____	ECE 3090 Junior Design (ECE 3150)	1 _____
ECE 3150 Linear Systems (ECE 2102, MATH 3550)	3 _____	BME 3150 Biomedical Instr (BIOL 2600, ECE 3150)	3 _____
ECE 3151 Linear Systems Lab (co-ECE 3150, prog <sup>6</sup> )	1 _____	MATH 3110 Linear Algebra (MATH 1520)	3 _____
	14		14

Senior

ECE 4800 Senior Design I <sup>5</sup>	3 _____	ECE 4810 Senior Design II (ECE 4800)	3 _____
PHIL 3400 Ethics & Engineering	3 _____	ECE 3140 EM Fields (ECE 2101, MATH 3550)	3 _____
BME 4100 Biomedical Signals	3 _____	ECE 4120 Auto Controls (ECE 3150)	3 _____
ECE/BME Elective <sup>3</sup>	3 _____	ECE/BME Elective <sup>3</sup>	3 _____
Core: Cultural Diversity <sup>2</sup>	3 _____	Core: Humanities <sup>2</sup>	3 _____
	15		15

Total Hours: 125

<sup>1</sup> Students needing prerequisite work in writing skills as determined by ACT or SAT scores will be required to take ENGL 1500: the Process of composition (3) and perhaps ENGL 1040 Accelerated Reading

<sup>2</sup> Cannot be used to satisfy another core requirement.

<sup>3</sup> Must be selected from an approved list of ECE or BME elective courses.

<sup>4</sup> Must be taken from a list of approved courses in Social and Behavioral Science including Economics.

<sup>5</sup> REQUIRES SENIOR STANDING (all required technical courses through the junior year have been completed and passed)

<sup>6</sup> Prerequisite requirement of computer programming, either CSCI 1060, CSCI 1300, or BME 2000