

Plan of Study for the Electrical and Computer Engineering Track of AB Engineering Sciences Concentration

Effective for Students Declaring the Concentration after July 1, 2017

DATE: _____

NAME: _____

CLASS: _____

EMAIL: _____

This Plan of Study Form is for a (*Circle One*): DECLARATION REVISION

REQUIRED COURSES (Circle course and % for course you are taking or plan to take in each category.)	Semester (Fall/Spring Year)
Mathematics Required 4 courses Math 1a – Intro to Calculus 1 Math 1b – Calculus, Series, and Differential Equations AM 21a – Mathematical Methods in the Sciences 1 (or Math 21a or 23a) AM 21b – Mathematical Methods in the Sciences 2 (or Math 21b or 23b)	_____ _____ _____ _____
Physics 2 courses AP 50a – Physics as a Foundation for Science & Engineering 1 (or PS 12a, Physics 15a or 16) AP 50b – Physics as a Foundation for Science & Engineering 2 (or PS 12b or Physics 15b)	_____ _____
Computer Science CIRCLE ONE CS 50 – Intro to Computer Science 1 CS 51 – Intro to Computer Science 2 CS 61 – Systems Programming & Machine Organization	_____
Sophomore Forum	_____
Electrical Engineering Core ES 150 – Introduction to Probability with Engineering Applications ES 154 – Electronic Devices and Circuits ES 156 – Signals and Systems	_____ _____ _____

Electrical Engineering Breadth CIRCLE TWO ES 52 – The Joy of Electronics – Part 1 or ES 153 – Laboratory Electronics CS 141 – Computing Hardware ES 173 – Intro to Electronic & Photonic Devices ES 177 – Microfabrication Laboratory ES 151 – Applied Electromagnetism	<hr/> <hr/> <hr/>
Electrical Engineering Electives* See list on page 3 1. 2. 3. 4.	<hr/> <hr/> <hr/> <hr/>

** For courses co-listed in another department, students must enroll in the Engineering Sciences offering. No more than two of Engineering Sciences 6, 50, 51, and 53 can count toward concentration credit.*

Student Signature

Date: _____

Associate Director of Undergraduate Studies

Date: _____

Adviser indicate if a petition is needed: Yes ____ No ____

Director of Undergraduate Studies

Date: _____

Electrical Engineering Electives

Students choosing to Concentrate in *Electrical and Computer Engineering* in the *Engineering Sciences A.B. Program* have a broad set of *Engineering Electives* which they may take to satisfy their degree requirements.

The following courses may serve as *Engineering Electives*, only if taken during the Freshman or Sophomore years. Only *one* of these courses may be used as an *Engineering Elective*:

- ES 6 – Introduction to Environmental Science & Engineering
- ES 50 – Introduction to Electrical Engineering
- ES 53 – Quantitative Physiology as a Basis for Bioengineering

The following courses are intended to serve as a *sampling* of allowed *Engineering Electives*. Other courses may be allowed (including 200-level courses): students should confer with their *Concentration Advisors* to determine the suitability of a course as an *Engineering Elective*.

- AM 104 – Series Expansions & Complex Analysis
- AM 105 – Ordinary & Partial Differential Equations
- AM 108 – Nonlinear Dynamical Systems
- AP 195 – Intro to Solid State Physics
- Chemistry 160 – Quantum Chemistry
- CS 51 - Intro to Computer Science 2
- CS 141 - Computing Hardware
- CS 143 - Computer Networks
- CS 144r – Networks Design Projects
- CS 148 – Design of VLSI Circuits & Systems
- CS 161 – Operating Systems
- CS 175 – Computer Graphics
- CS 283 - Computer Vision
- ES 51 – Computer Aided Machine Design
- ES 52 – The Joy of Electronics – Part 1
- ES 91r – Supervised Reading & Research (one semester only)
- ES 120 – Intro to the Mechanics of Solids
- ES 121 – Intro to Optimization: Models & Methods
- ES 123 - Introduction to Fluid Mechanics & Transport Processes
- BE 110 - Physiological Systems Analysis
- ES 151 - Applied Electromagnetism
- ES 159 – Intro to Robotics
- ES 173 – Intro to Electronic & Photonic Devices
- ES 177 – Photonic & Electronic Device Laboratory
- ES 181 – Engineering Thermodynamics
- ES 190 – Intro to Materials Science & Engineering
- Physics 143a – Quantum Mechanics 1
- Physics 153 - Electrodynamics