SAN FRANCISCO STATE UNIVERSITY
ELECTRICAL ENGINEERING STUDENT PLANNING WORKSHEET

This worksheet centralizes information pertaining to your progress towards graduation, including contact information, course planning, and transfers. It is intended to be used as a guideline for advising purposes. See SFSU Academic Bulletin for most recent major curriculum, course information & prerequisites. You should keep an updated copy of this worksheet in your folder in the engineering office. Privacy note: *By law, all student information and grades are kept strictly confidential and are only accessed by authorized personnel of the School of Engineering.*

Student Information

Student ID #: | | | | | | | | | | | |

Name:_____
LAST FIRST MI

Main address to which official mail may be sent:

_____
STREET

_____
CITY

_____ _____
STATE ZIP

(_____)_____ _____
PHONE E-MAIL

Term/Year entered SFSU: _____ Term/Year you expect to graduate: _____

Δ Transfer Student?

Δ If yes, are your transfer credits evaluated?
Δ Graduation plan O.K.?

Advising Information

Advisor Name	Approval Signature	Term	Year	Comments

Required Courses

*subject to change

- 15 units of required mathematics, 12 units of physics, 3-5 units of chemistry
- 12 units of required lower division engineering courses and 42 units of required upper division courses,
- 9 units of elective courses, and 36 units of General Education courses (for Engineering Track)
- Course prerequisites are strictly enforced.

Required Lower Division Math and Science Courses

Course Number	Course Name	Units	Grade	SFSU or Transfer	Term	Yr	Prerequisite
CHEM 180 or CHEM 115	Chemistry for the Energy and the Environment	3					Category I or II QR/Math placement; or Category III or IV QR/Math placement: MATH 197© or GE B4♥.
	General Chemistry I: Essential Concepts of Chemistry	5					Category I or II QR/Math placement; or Category III or IV QR/Math placement: MATH 197© or GE B4.
MATH 226	Calculus I	4					One of the following: MATH 198© or MATH 199©; or high school pre-calculus with B or better; or high school calculus with a grade of C or better.
MATH 227	Calculus II	4					MATH 226©
MATH 228	Calculus III	4					MATH 227©
MATH 245	Elementary Differential Equations & Linear Algebra	3					MATH 228©
PHYS 220/222	General Physics with Calculus I & Lab	4					MATH 226©; PHYS 222♥; (MATH 227♥ recommended)
PHYS 230/232	General Physics with Calculus II & Lab	4					PHYS 220© and MATH 227©; PHYS 232♥ (MATH 228♥ recommended)
PHYS 240/242	General Physics with Calculus III & Lab	4					PHYS 220© and MATH 227©; PHYS 242♥(MATH 228♥ recommended)

Required Lower Division Electrical Engineering Courses

ENGR	Course Name	Units	Grade	SFSU or Transfer	Term	Yr	Prerequisite
100	Introduction to Engineering	1					High school algebra and trigonometry
2XX ♦	Mechanical Engineering Elective	3					See Bulletin for prerequisite requirement
205	Electric Circuits	3					PHYS 230; MATH 245♥
206	Circuits and Instrumentation Lab	1					ENGR 205♥
213	Introduction to C Programming for Engineers	3					MATH 226©
271 or 294	Intro. to MATLAB or Intro. to Microcontrollers	1					MATH 226© Engineering students with sophomore standing or above

Required Upper Division Electrical Engineering Courses

ENGR	Course Name	Units	Grade	SFSU or Transfer	Term	Yr	Prerequisite
300	Engineering Experimentation	3					ENGR 205©-; ENGR 206©-
301	Microelectronics Laboratory	1					ENGR 353♥
305	Linear Systems Analysis	3					ENGR 205©-; MATH 245
306	Electromechanical Systems	3					ENGR 205©-
315	System Analysis Laboratory	1					ENGR 305♥
350	Intro. Engineering Electromagnetics	3					MATH 245©-; PHYS 240©-
353	Microelectronics	3					ENGR 205©-; ENGR 206©-
356	Digital Design	3					ENGR 205©-
357	Digital Design Laboratory	1					ENGR 356♥
442	Op. Amplifier System Design	3					ENGR 305©-
446	Control Systems Laboratory	1					ENGR 447♥
447	Control Systems	3					ENGR 305©-
449	Communication Systems	3					ENGR 305©-
451	Digital Signal Processing	4					ENGR 305©-; ENGR 213©- or ENGR 271©-
478	Design with Microprocessors	4					ENGR 356©- & ENGR 213©- or CSC 210©-
696	Engineering Design Project I	1					18 upper division ENGR units
697	Engineering Design Project II	2					ENGR 696; GE Area A2

♦ = Any of ENGR 201, 203, 204, 303

©- = Course must be passed with a grade of C- or better

© = Course must be passed with a grade of C or better

♥ = Course must either be completed or taken concurrently

Elective Courses

- A minimum of 9 upper division engineering elective units is required.
- Upper division courses must have been taken within five years of graduation.
- Students with a GPA of at least 3.0 and the required prerequisites may take graduate courses (numbered 800 and above) with the approval of their advisor or the program head.

Elective Upper Division Electrical Engineering Courses

ENGR	Course Name	Units	Grade	SFSU or Transfer	Term	Yr	Prerequisite
378	Digital Systems Design	3					ENGR 356 ©-
410	Process Instrumentation and Control	3					ENGR 305 or ENGR 307
411	Instrumentation and Process Control Laboratory	1					ENGR 410♥
415	Mechatronics	4					ENGR 305 ©- or ENGR 307 ©-
445	Analog Integrated Circuit Design	4					ENGR 301 ©-; 353 ©-
448	Electrical Power Systems	3					ENGR 306 ©-
453	Digital Integrated Circuit Design	4					ENGR 301©- or ENGR 354©-; ENGR 356©-
454	Application Specific Integrated Circuit Design	4					ENGR 356 ©-
455	Power Electronics	3					ENGR 301©-; ENGR 305 ©-; ENGR 306 ©-; ENGR 353©-
456	Computer Systems	3					ENGR 356 ©-; ENGR 213 ©-
458	Renewable Electrical Power Systems and Smart Grid	3					ENGR 306 ©-
476	Computer Communication Networks	3					ENGR 356 ©-; ENGR 213 ©-
492	Hardware for Machine Learning	3					ENGR 213 ©-; ENGR 353 ©- or ENGR 354 ©-; ENGR 356 ©-
498	Advanced Design with Microcontrollers	4					ENGR 478 ©-
610	Engineering Cost Analysis	3					ENGR 103 or ENGR 213 or ENGR 271; MATH 227
844	Embedded Systems	3					Graduate Standing or consent of instructor
845	Neural-Machine Interfaces: Design and Applications	3					Graduate Standing or consent of instructor
848	Digital VLSI Design	3					Graduate Standing or consent of instructor
849	Advance Analog IC Design	3					Graduate Standing or consent of instructor
850	Digital Design Verification	3					Graduate Standing or consent of instructor
851	Advanced Microprocessor Architecture	3					Graduate Standing & ENGR 456 or instructor consent
852	Advanced Digital Design	3					Graduate Standing or consent of instructor
853	Advanced Topics in Computer Communication and Network	3					Graduate Standing or consent of instructor
856	Nanoscale Circuits and Systems	3					Graduate Standing or consent of instructor
858	Hardware Security and Trust	3					Graduate Standing & ENGR 356 or consent of instructor
859	On-Device Machine Learning	3					Computer Programing (Python recommended); familiarity with command-line tools in Mac, Windows, or Linux; college calculus, linear algebra (matrix-vector operations), basic probability, and statistics.
868	Advanced Control Systems	3					Graduate Standing or consent of instructor
869	Robotics	3					Graduate Standing or consent of instructor
870	Robot Control	3					Graduate Standing or consent of instructor
871	Advanced Electrical Power Systems	3					Graduate Standing & MATH 245 or consent of instructor
890	Static Timing Analysis for Nanometer Designs	3					Graduate Standing or consent of instructor

Units Completed	

©- = Course must have been passed with a grade of C- or better

♥ = Course must either be completed or taken concurrently

Graduation Requirements

- Completed GEs
- Transfer courses evaluated

Program Planning

Term	Year	Course Numbers					

Transferred Courses

Students wishing to transfer Math, Science and Engineering courses from other educational institutions should complete this form and see the Program Head of Electrical Engineering in their first term of residence at SFSU. If you haven't done your transfer credit evaluation with the Program Head, you may not be able to enroll in courses with prerequisites, so do it now!

- Students transferring lower division courses from other schools in California only need bring a copy of their transcripts (official or unofficial) and this form.
- Transfers of upper division courses and transfers from out-of-state institutions are evaluated on a case-by-case basis. Students wishing to make such transfers should bring a copy of the Advanced Standing Evaluation (ASE) from SFSU, as well as all relevant supporting material, including course syllabi, books, notes, etc.

See SFSU Bulletin for Degree Requirements

Name: _____ Student number: _____

Course Number	Course Name	Institution	Course	Units†	Term/Year	Grade	Approval
CHEM 180 or CHEM 115	Chemistry for the Energy and the Environment General Chemistry I: Essential Concepts of Chemistry						
MATH 226	Calculus I						
MATH 227	Calculus II						
MATH 228	Calculus III						
MATH 245	Elementary Differential Equations & Linear Algebra						
CSC 210	Introduction to Computer Programming						
PHYS 220/222	General Physics with Calculus I & Lab						
PHYS 230/232	General Physics with Calculus II & Lab						
PHYS 240/242	General Physics with Calculus III & Lab						
ENGR 100	Introduction to Engineering						
ENGR 201	Dynamics						
ENGR 203	Materials of Electrical and Electronics Engineering						
ENGR 204	Mechanics						
ENGR 205	Electric Circuits						
ENGR 206	Circuits and Instrumentation Lab						
ENGR 213	Introduction to C Programming for Engineers						
ENGR 271	Introduction to MATLAB						
ENGR 294	Introduction to Microcontrollers						

† Express as semester units. Each quarter unit = 2/3 semester units

Examined by: _____ Signed: _____ Date: __ *subject to change (see SFSU Bulletin for current information)

October 2023