

SF State Scholars

in Computer/Electrical Engineering

B.S. in Computer/Electrical Engineering + M.S. in Engineering: Concentration in Embedded Electrical and Computer Systems

The blended programs offer an accelerated route for motivated undergraduate students in Computer/Electrical Engineering to complete both their B.S. and M.S. degrees in five years. Students work directly with a faculty advisor to gain research experience and necessary skills to apply creativity, critical thinking, and technologies in developing engineering products and solutions for real-world problems.

Program Coordinators

Contact us if any questions!

SF Scholars Coordinator (Computer Engineering):

Dr. Xiaorong Zhang
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SF Scholars Coordinator (Electrical Engineering):

Dr. Hamid Mahmoodi
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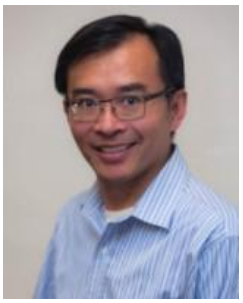
Program Value

- **Getting the most out of your education:** Paying undergraduate tuition for graduate-level courses. Graduate School application fee waived.
- **Getting the most of your time:** Students in this program pursue bachelor's and master's degrees simultaneously, enabling students to use their senior project capstone experience to be integrated with a graduate thesis/project.
- **Challenging yourself:** Students will become more competitive and dynamic by engaging with advanced &/or graduate-level cohort.

For more information, please visit
https://engineering.sfsu.edu/sf-state-scholars-41-blended-bsms-program

Faculty Mentors






Xiaorong Zhang | Hamid Mahmoodi | Hao Jiang | Hamid Shahnasser | Zhuwei Qin | David Quintero

- Research areas: embedded systems, digital design and verification, hardware security, human machine interfaces, neuromorphic computing, mobile computing, robotics
- Research supported by funding agencies including National Science Foundation, Air Force Research Laboratory, and Department of Defense
- Active collaborations among disciplines and with other institutions (e.g. UCSF, Duke) and industry (e.g. Intel, Synopsys)

Skills Offered

- Embedded Systems Design
- ASIC Design
- Digital Design Verification
- Mobile Computing
- Hardware Design
- Machine Learning
- Robotics and Control

Potential Jobs

- Embedded Systems Engineer
- Firmware Engineer
- Verification/Validation Engineer
- Test Engineer
- Application Engineer
- Hardware Design Engineer
- Software Engineer

Career Paths after Graduation

- Our graduates work at high-tech companies or continue to pursue a Ph.D. degree at institutions such as UC campuses, Virginia Tech, and Duke

Representative companies that hire our graduates

intel, NVIDIA, AMD, BROADCOM, Qualcomm, SYNOPSYS, cisco, Western Digital, STMicroelectronics

Bold= must take courses & pass before applying

Green= Undergraduate courses
Orange= Graduate Courses

SF State Scholars *Tentative*Computer Engineering Roadmap

**Students must meet with their advisor prior to registering for courses. This roadmap is designed for general planning ONLY! Roadmaps for more than 5 years plan may vary please consult with your department.

Freshman

Fall	Spring
CHEM 180 or 115	ENGR 213
ENG 114	MATH 227
ENGR 100 + 121+212	PHYS 220+222
MATH 226	Area D
Area A	Area E
17-19 Units (17-19 total)	**17 Units (34-36 total)**

Sophomore

Fall	Spring
CSC 210	MATH 245
MATH 228	ENGR 205+206
PHYS 230/232	CS 220
Area B2	CS 230
Area C	Area D
17 Units (51-53 total)	**16 Units (67-69 total)**

Junior

Fall	Spring	Summer
ENGR 300+301	ENGR 451	UD-C
ENGR 305	ENGR 476	UD-D
ENGR 353	ENGR 478	Area C
ENGR 356+357	CSC 340	
Area C	Area D	
17 Units (84-86 total)	**16 Units (100-102 total)**	**9 Units (109-111 total)**

Apply to SF Scholars

81 Units (GE Requirements	**3.0 GPA**

Senior

Fall	Spring
CS 413	ENGR 697 GW
ENGR 456	ENGR 378
ENGR 696	UD-Elective
UD-Elective	ENGR 852
ENGR 844	Graduate Elective
Graduate Elective	
16-17 Units (125-128 total)	**17 Units (142-145 total)**

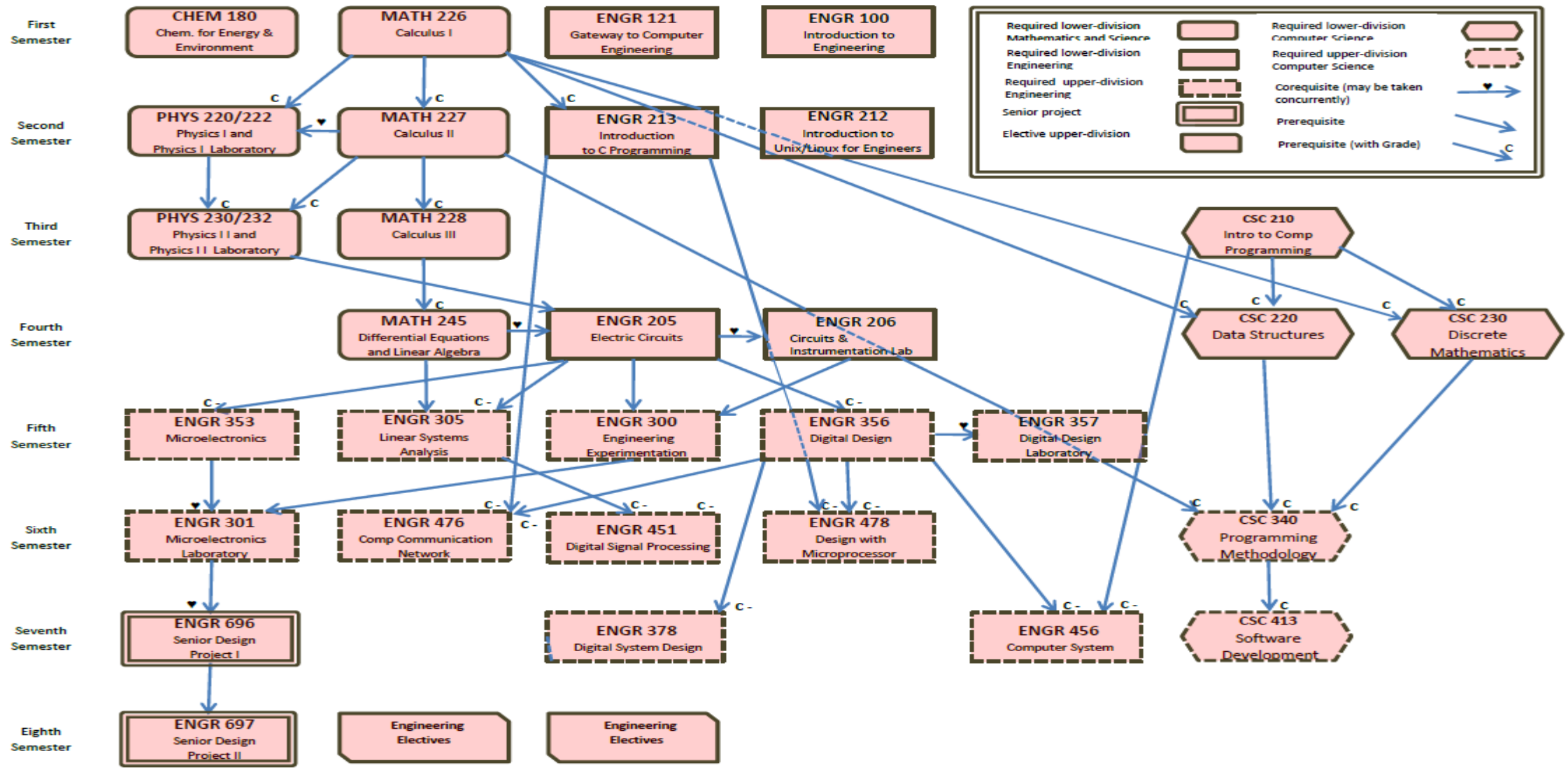
Graduate

Fall	Spring
ENGR 800	ENGR 801
ENGR 897 or Graduate Elective	Graduate Elective
Graduate Elective	ENGR 898 or 895
9 Units (151-154 total)	**9 Units (160-163 total)**

Minimum Units required for Bachelors =128
Minimum Units required for Masters = 30

School Of Engineering

Computer Engineering Prerequisite Flow Chart



Bold= must take courses & pass before applying

Green= Undergraduate courses
Orange= Graduate Courses

SF State Scholars *Tentative*Electrical Engineering Roadmap

**Students must meet with their advisor prior to registering for courses. This roadmap is designed for general planning ONLY! Roadmaps for more than 5 years plan may vary please consult with your department.

Freshman

Fall	Spring
CHEM 180 or 115	ENGR 213
ENG 114	MATH 227
ENGR 100	PHYS 220+222
MATH 226	Area C
Area A	Area E
Area D	
17-19 Units (17-19 total)	17 Units (34-36 total)

Sophomore

Fall	Spring
ENGR 201/203/204/ 303	MATH 245
MATH 228	ENGR 205+206
PHYS 230/232	ENGR 290
Area B2	CSPHYS 240/242
Area D	Area D +C
17 Units (51-53 total)	18 Units (67-69 total)

Junior

Fall	Spring	Summer
ENGR 300	ENGR 301+306	UD-C
ENGR 305+315	ENGR 442	UD-D
ENGR 353	ENGR 451	
ENGR 356+357	ENGR 478	
Area C	UD-Major Elective	
17 Units (84-86 total)	18-19 Units (102-105 total)	6 Units (108-111 total)
Apply to SF Scholars		
Prior to taking ENGR 696	3.0 GPA	

Senior

Fall	Spring
ENGR 446+447	ENGR 697 GW
ENGR 449	ENGR 350
ENGR 696	UD-Major Elective
UD-Major Elective	ENGR 852
ENGR 844	Graduate Elective
Graduate Elective	
16-17 Units (124-128 total)	14-15 Units (140-143 total)

Graduate

Fall	Spring
ENGR 800	ENGR 801
ENGR 897 or Graduate Elective	Graduate Elective
Graduate Elective	ENGR 898 or 895
9 Units (149-152 total)	9 Units (158-161 total)

Minimum Units required for Bachelors =129
Minimum Units required for Masters = 30

School Of Engineering

Electrical Engineering Prerequisite Flow Chart