

College of Engineering and Computer Science

Computer Engineering

Fall 2018

Name _____

SUID _____

pr= prerequisite, co=corequisite

Minor/Second Major (if any): _____

MATHEMATICS (21)

PHI 251	Logic	(3)		3						
MAT295	Calculus 1	(4)	4							
MAT296	Calculus 2 (pr: MAT 295 min C-)	(4)		4						
MAT331	1st Course in Linear Algebra (pr: MAT 296)	(3)			3					
CIS375	Intro to Discrete Mathematics (pr: PHI 251)	(3)			3					
CIS321	Intro. to Probability and Statistics* (pr: MAT 295)	(4)					4			

SCIENCES (12)

CHE106	General Chemistry I	(3)	3							
CHE107	General Chemistry I Lab (co: CHE 106)	(1)	1							
PHY211	General Physics 1 (co: PHY 221, MAT 295)	(3)		3						
PHY221	General Physics Lab 1 (co: PHY 211)	(1)		1						
PHY212	General Physics 2 (pr: PHY 211, 221, co: PHY 222, MAT 296)	(3)			3					
PHY222	General Physics Lab 2 (co: PHY 212)	(1)			1					

WRITING SKILLS (9)

WRT105	Studio 1: Practices of Academic Writing	(3)	3							
WRT205	Studio 2: Critical Research and Writing (pr: WRT 105)	(3)			3					
WRT401	Adv. Wrkshp Tech Com: Desgn Mthd (pr:WRT 105, 205)	(2)					2			
WRT402	Adv. Wrkshp Tech Com: Proto. & Constr. (pr: WRT 105, 205, 401)	(1)							1	

SOC. SCIENCE/HUMANITIES/GEN. ED. (9)

ECS392	Ethical Aspects of ECS	(3)				3				
SSH Elective	_____	(3)		3						
SSH Elective	_____	(3)				3				

ENGINEERING (14)

ECS101	Intro. to Engr. & Comp. Sci.	(3)	3							
ECS102	Intro. to Computing	(3)	3							
ELE231	Electrical Engr. Fundamentals I (pr: MAT 295)	(3)		3						
ELE232	Electrical Engr. Fundamentals II (pr: ELE 231)	(3)			3					
ELE291	Electrical Lab. 1 (co: ELE 231)	(1)		1						
ELE292	Electrical Lab. 2 (co: ELE 232)	(1)			1					

COMPUTER ENGINEERING (35)

CSE261	Digital Logic Design	(3)			3					
CSE262	Digital System Design and Simulation	(1)			1					
CSE283	Intro. To Object-Oriented Design (pr: ECS 102)	(3)		3						
CSE381	Computer Architecture (pr: CSE 261)	(3)				3				
CSE382	Algorithms & Data Structures (pr: CSE 283)	(3)		3						
CSE384	Systems Programming** (pr: CSE 283)	(3)			3					
CSE389	Web Sys Arch, and Programming (pr: CIS 351 or CSE 283)	(3)		3						
CSE397	FPGA and Microcontroller Design Lab (pr: CSE 261, ELE 231)	(3)				3				
CSE398	Embedded and Mobile Systems Lab (pr:CSE 397)	(3)					3			
CSE484	Intro to Computer & Network Security (pr: CIS 486 or CSE 486)	(3)				3				
CSE486	Design of Operating Systems (pr: CIS 341,342, 351 or CSE 381, 382)	(3)					3			
CSE491	Senior Design Project I (pr: CSE 398)	(1)						1		
CSE492	Senior Design Project II (pr: CSE 491)	(3)							3	

TECHNICAL ELECTIVES (18)**

Tech Elective	_____	(3)				3				
Tech Elective	_____	(3)						3		
Tech Elective	_____	(3)						3		
Tech Elective	_____	(3)						3		
Tech Elective	_____	(3)							3	
Tech Elective	_____	(3)							3	

NON-ENG./COMP. SCIENCE ELECTIVES (12)***

Arts & Science Elective	_____	(3)				3				
Arts & Science Elective	_____	(3)				3				
Non-Eng./Comp. Sci. Elective	_____	(3)						3		
Non-Eng./Comp. Sci. Elective	_____	(3)							3	

TOTAL CREDITS

	130	17	17	16	18	18	16	15	13
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*CIS321 can be waived if a student takes both MAT521 and MAT525. ** Every year, three courses will be selected as Group A courses, at least two of them have to be selected ***At least 6 of the 9 credits must be from the College of Arts & Sciences.

Computer Engineering Curriculum Notes 2018-2019

Technical Electives

Students fulfill 18 credits of technical electives by completing at least 6 credits from group A technical electives and the remaining from group B technical electives. Special topic technical courses, which from time to time are offered, may be assigned to either group A or group B as determined by Computer Engineering program committee. Every year the computer engineering program committee will review the list and may make change(s).

Group A (*at least 6 credits*):

- ❖ Please see the Program Director for a list of courses.

Group B (*remaining credits*):

Any CSE, ELE, CIS course 300 Level or above can be considered as a Group B elective

The Computer Engineering Program Committee will determine if a specific 'special topics' course can be used to fulfill the technical elective requirement.

Social Sciences and Humanities Electives

This 6-credit requirement for SSH electives may be fulfilled by any combination of courses whose contents are in the social science and humanities area. A glossary of course designations with such contents can be found in the Humanities Division and the Social Sciences Division of the College of Arts and Sciences with the exception of the following Anthropology - Physical courses: ANT 131, 331, 431, 432, and 433. These glossaries are given in The College of Arts and Sciences section of the Undergraduate Catalog.

Non-Engineering/Computer Science Electives

The purpose of this 12-credit requirement of non-engineering/computer science elective courses is to provide students with a broad educational experience in a diversity of subjects.

More specifically, technical courses offered by (or crosslisted with) the College of Engineering and Computer Science (ECS), courses with pass/fail grades, CPS courses, and 100-level courses in CHE, MAT, and PHY cannot be used to satisfy this requirement. IST courses will require permissions from academic advisors.

General Information

Note that you cannot take CIS 554 – Object-Oriented Programming in C++, to fulfill any requirement in the Computer Engineering undergraduate program. This is because a considerable amount of material covered in this course overlaps with the material covered in the core course CSE 283 – Introduction to Object-Oriented Design.

Note that CPS courses cannot be taken to fulfill any of the requirements for the Computer Engineering undergraduate program. These courses are designed for non-majors in Computer Engineering or in Computer Science.

Note that Fall 2017 students will be asked to take CIS 351 in place of CSE 382. Students who are sophomores in Fall 2017 will have this deviation.

Minors

In order to promote interdisciplinary study and facilitate the pursuit of minors, students may use up to 6 credits of technical electives towards completing minor requirements (in programs other than MAT and ELE). In this case, at least 6 credits of technical electives have to be from Group A (shown above). This special rule applies only when a student actually completes a minor requirement.