

**College of Engineering and Computer Science**

Computer Engineering

Fall 2016

Name \_\_\_\_\_

SUID \_\_\_\_\_

pr= prerequisite, co=corequisite

Minor/Second Major (if any): \_\_\_\_\_

CREDIT	FIRST-YEAR		SOPHOMORE		JUNIOR		SENIOR		VAR
	F	S	F	S	F	S	F	S	
<b>MATHEMATICS (21)</b>									
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			
<b>SCIENCES (12)</b>									
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					
<b>WRITING SKILLS (9)</b>									
WRT105 Studio 1: Practices of Academic Writing	(3)_____	3							
WRT205 Studio 2: Critical Research and Writing (pr: WRT 105)	(3)_____			3					
WRT401 Technical Comm. Design Methodology (pr: WRT 105, 205)	(2)_____						2		
WRT402 Technical Comm. Prototyping & Constr (pr: WRT 105, 205, 401)	(1)_____							1	
<b>SOC. SCIENCE/HUMANITIES/GEN. ED. (9)</b>									
ECS392 Ethical Aspects of ECS	(3)_____				3				
SSH Elective _____	(3)_____	3							
SSH Elective _____	(3)_____				3				
<b>ENGINEERING (14)</b>									
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					
<b>COMPUTER ENGINEERING (35)</b>									
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, CSE 281)	(3)_____				3				
CSE382 Algorithms & Data Structures (pr: CSE 283)	(3)_____		3						
CSE384 Systems Programming** (pr: CSE 281 or CSE 283)	(3)_____			3					
CSE389 Web Sys Arch, and Programming (pr: CIS 351 or CSE 382)	(3)_____		3						
CSE397 Computer Laboratory 1 (pr: CSE 261, ELE 292)	(3)_____				3				
CSE398 Computer Laboratory 2 (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 281, 382)	(3)_____					3			
CSE491 Senior Design Project I (pr: CSE 398)	(1)_____						1		
CSE492 Senior Design Project II (pr: CSE 491)	(3)_____							3	
<b>TECHNICAL ELECTIVES (18)**</b>									
Tech Elective _____	(3)_____					3			
Tech Elective _____	(3)_____						3		
Tech Elective _____	(3)_____						3		
Tech Elective _____	(3)_____							3	
Tech Elective _____	(3)_____							3	
<b>NON-ENG./COMP. SCIENCE ELECTIVES (12)***</b>									
Arts & Science Elective _____	(3)_____					3			
Arts & Science Elective _____	(3)_____				3				
Non-Eng./Comp. Sci. Elective _____	(3)_____						3		
Non-Eng./Comp. Sci. Elective _____	(3)_____							3	
<b>TOTAL CREDITS</b>	<b>130</b>	<b>17</b>	<b>17</b>	<b>16</b>	<b>18</b>	<b>18</b>	<b>16</b>	<b>15</b>	<b>13</b>

\*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 2016-2017

## **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.

## **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.