COMPUTER ENGINEERING
Curriculum Guide effective Fall 2018 ~ North Dakota State University

STUDENT _____   ID # _____   ADVISOR_____

	Fall Course		Crs	Grade	Gen Ed	Spring Course		Crs	Grade	Gen Ed
Freshman (<27 crs)	CHEM 121	General Chemistry I	3		S	ECE 111$^\forall$	Intro to ECE	3		
	Wellness Elec		2		W	ENGL 120	College Composition II	3		C
	ECE 173	Intro to Computing	4		S	MATH 129	Basic Linear Algebra	3		
	ENGL 110	College Composition I	4		C	MATH 166	Calculus II	4		
	MATH 165	Calculus I	4		R	PHYS 251	Univ Physics I	4		S
			17					**17**		
Sophomore (27-59 crs)	EE 206	Circuit Analysis I/lab	4			COMM 110	Fund Public Speaking	3		C
	MATH 265	Calculus III (w/vectors)	4			ECE 320	Electronics I/lab	3		
	CSCI 222	Discrete Math	3			MATH 266	Intro Differential Equations	3		
	ECE 275	Digital Design/lab	4			ECE 374	Computer Org/lab	4		
	Gen Ed Elective	Science Lab	1		L	CSCI 161	Computer Science II	4		
			16					**17**		
Junior (60 - 89 crs)	CSCI 413	Software Engineering	3			ECE 341	Random Processes	3		
	ECE 343	Signals & Systems	4			ECE 401	Design I (capstone)	1		
	CSCI 459	Computer Networks	3			ECE 376	Embedded Systems/lab	4		
	ENGR 402	Engr Ethics/Social Resp	1			CSCI 474	Operating Syst. Concepts	3		
	ECE 474	Computer Architecture	3			ECE 475	Adv. Digital Design/lab	4		
			14					**15**		
Senior (90 + crs)	ECE 403	Design II (capstone)	2			ECE 405	Design III (capstone)	3		
	ENGL	*Upper Level Writing* *	3		C	ECE Elective	or CSCI 467: Alg. Analysis	3		
	ECE Elective		3			Gen Ed Elective†		3		A or B
	Tech Elective		3			Gen Ed Elective		3		A or B
	Gen Ed Elective$^\forall$		3		A or B	Tech Elective		3		
	Gen Ed Elective†		3		A or B					
			17					**15**		
						TOTAL CREDITS		**128**		

General Education Electives

Approved courses listed in the registration schedule centerfold.

Gen Ed	Course	Crs	Grade
A		3	
A		3	
B		3	
B		3	
D ■	(double-count with A or B above)		
G ●	(double-count with A or B above)		
L		1	
W		2	

General Education Categories:
A - Humanities/Fine Arts
B - Social/Behavioral Sciences
C - Communication
D - Cultural Diversity ■
F - First-Year Experience
G - Global Perspectives ●
L - Co-requisite Lab
R - Quantitative Reasoning
S - Science & Technology
W - Wellness

$^\forall$Suggested to take either ECON 105, ECON 201, or ECON 202

*Select from ENGL 320, 321, 324 or 459 to satisfy the Upper Level Writing for General Education

†Suggested to take ENGR 312 and ENGR 311

ECE Elective: any didactic ECE 4xx course[2], (not x93, 494, 496)

Tech Elective: any didactic 4xx course from ECE or CSCI[2], or any of the following: CSCI 336, CSCI 366, CSCI 372, ECE 311, ECE 321, ECE 351, ECE x93, ECE 494, ECE 496 (max 3 credits), ENGR 310, PHYS 252, IME 440, IME 456, IME 460, IME470

$^\forall$Students must take ECE 111 prior to enrolling in ECE courses listed above in the Junior or Senior years; otherwise, student must take an additional ECE Elective in lieu of ECE 111

Students must earn a "C" or better in ECE 173, ECE 275, EE 206, and all required MATH courses, before enrolling in ECE courses listed above in the Junior or Senior years

[1] Students must have at least a 2.0 GPA in all required EE and ECE courses taken at NDSU, in order to graduate. Elective ECE courses are not included in this GPA requirement.

[2] See http://bulletin.ndsu.edu/course-catalog/descriptions/ece/ and http://bulletin.ndsu.edu/course-catalog/descriptions/csci/ for the full list of ECE and CSCI courses, respectively.

Computer Engineering Curriculum Flowchart

ENGL 100

**MATH 103
or
MATH 107**

**MATH 105
or
MATH 107**

Freshman Year

- ENGL 110 Comp I
- CHEM 121 Chem I
- ECE 173 Intro to Computing
- Wellness Elective
- MATH 165 Calc I

- ENGL 120 Comp II
- ECE 111 Intro to ECE
- MATH 129 Linear Algebra
- PHYS 251 Physics I
- MATH 166 Calc II

Sophomore Year

- Science Lab
- ECE 275 Digital Design
- CSCI 222 Discrete Math
- EE 206 Circuits I
- MATH 265 Calc III

- COMM 110 Public Speaking
- ECE 374 Computer Organization
- CSCI 161 Computer Science II
- ECE 320 Electronics I (first 10 wks of semester)
- MATH 266 Diff Eq

Junior Year

- CSCI 459 Computer Networks
- ECE 474 Computer Architecture
- CSCI 413 Software Engineering
- ENGR 402 Engineering Ethics
- ECE 343 Signals & Systems

- CSCI 474 Operating Systems
- ECE 475 Advanced Digital Design
- ECE 376 Embedded Systems
- ECE 401 Senior Design I
- ECE 341 Random Processes

Senior Year

- Upper Level Writing
- ECE Elective
- Tech Elective
- ECE 403 Senior Design II
- Gen Ed Elective
- Gen Ed Elective

- ECE Elective or CSCI 467 Algorithms
- Tech Elective
- ECE 405 Senior Design III
- Gen Ed Elective
- Gen Ed Elective

Prerequisite →

Corequisite ┈▶