

# COMPUTER ENGINEERING ~ NORTH DAKOTA STATE UNIVERSITY

## Curriculum Guide ~ FALL 2021

Student: \_\_\_\_\_

Student ID#: \_\_\_\_\_

		Fall				Spring						
		Course	Crs	Grade	Gen Ed	Course	Crs	Grade	Gen Ed			
<b>Freshman (&lt;27 crs)</b>	MATH	165	Calculus I	4		R	MATH	166	Calculus II	4		
	ECE	111	Introduction to ECE	3			CSCI	161	Computer Science II	4		
	CSCI	160	Computer Science I	4			ENGL	120	College Composition II	3		C
	ENGL	110	College Composition I	3		C	CHEM	121	General Chemistry I	3		S
	Gen Ed Elective		<a href="#">See NDSU Bulletin</a>	3		A/B/D/G	Wellness		<a href="#">Wellness options</a>	2		W
							Science Lab		CHEM 121L or PHYS 251L	1		L
			<b>17</b>						<b>17</b>			
<b>Soph (27-59 crs)</b>	MATH	265	Calculus III (w/ vectors)	4			MATH	266	Intro to Differential Equations	3		
	MATH	129	Basic Linear Algebra	3			ECE	311	Circuit Analysis II w/ Lab	4		
	ECE	275	Digital Design I with Lab	4			ECE	375	Digital Design II	3		
	EE	206	Circuit Analysis I w/ Lab	4			PHYS	251	University Physics 1	4		S
							COMM	110	Fund of Public Speaking	3		C
				<b>15</b>						<b>17</b>		
<b>Junior (60 - 89 crs)</b>	ECE	320	Electronics I with Lab	3			ECE	401	Design I (capstone)	1		
	ECE	341	Random Processes	3			ECE	343	Signals & Systems	4		
	CSCI	222	Discrete Math	3			Upper Level English		ENGL 320, 321, 324, or 459	3		
	CpE Core			3			CpE Core			3		
	ECE Elective			3			Gen Ed		<a href="#">See NDSU Bulletin</a>	3		A/B/D/G
				<b>15</b>						<b>14</b>		
<b>Senior (90 + crs)</b>	ECE	403	Design II (capstone)	2			ECE	405	Design III (capstone)	3		
	ECE	376	Embedded Systems	4			CpE Core			3		
	ENGR	402	Engr Ethics/Social Resp	1			ECE Elective			3		
	ECE	374	Comp/Org with Lab	4			Tech Elective			3		
	CpE Core			3			Gen Ed Elective		<a href="#">See NDSU Bulletin</a>	3		A/B/D/G
	Gen Ed Elective		<a href="#">See NDSU Bulletin</a>	3		A/B/D/G						
				<b>17</b>						<b>15</b>		

Extra Courses		Crs	Grade	D/G
		0		
<b>Required Credits to Graduate</b>		<b>127</b>		
<b>Total Credits Earned</b>		<b>0</b>		
<b>GPA</b>				

Humanities/Fine Art (A)

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Social/Behavioral Science (B)

Social/Behavioral Science (B)

Cultural Diversity (D)

Global Perspective (G)

**Key:**

"T" indicates requirement satisfied with transfer course

"S XX" indicates Spring and XX year student is taking course

"F XX" indicates Fall and XX year student is taking course

"Su XX" indicates Summer and XX year student is taking course

**General Education Key:**

A - Humanities/Fine Arts (6 credits)

L - Co-Requisite Lab (1 credit)

B - Social/Behavioral Sciences (6 credits)

R - Quantitative Reasoning (3 or 4 credits)

C - Communication (3 credits)

S - Science & Technology (3 credits)

D - Cultural Diversity (3 credits)

W- Wellness (2 credits)

G - Global Perspectives (3 credits)

- **Please Note:** Global Perspective and Cultural Diversity credits **may** be double counted with GenEd Electives.
- For Gen Ed requirements, the dept. suggests taking ENGR 312 (satisfies Global Perspectives) and ENGR 311.
- GenEd classes suggested to take ECON 105, ECON 201, or ECON 202
- \*Upper level English Requirement: ENGL 320, 321, 324, 459

**ECE Requirements**

- 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 & Senior years
- 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
- Students must take ECE 111 prior to enrolling in ECE courses listed above in the Junior and Senior year; otherwise students must take an additional ECE Elective in lieu of ECE 111
- **Core Classes (choose 4 of the 6):** ECE 474, ECE 423, ECE 425, Embedded Machine Learning (new ECE course), CSCI 474, CSCI 467 (Algorithm Analysis)
- **ECE Electives:** any didactic ECE 4xx course (excluding x93, 494, 496)
- **Tech Electives:** To include ME 33X-level, ME 35X-level, ME 4XX-level didactic courses and BIOL 151, 370, 460 for both CpE and EE majors as technical electives.
- **CSCI Minor:** CSCI 213 and 7-8 credits of Computer Science electives, where 3 of those credits must be a 300-400 level course.
- **MATH Minor:** Requires 6 additional credits to include MATH 270 and all 300-400 level MATH courses except MATH 327 and MATH 376