NDSU NORTH DAKOTA STATE UNIVERSITY

COLLEGE OF ENGINEERING
MAJOR: COMPUTER ENGINEERING
ACADEMIC YEAR: 2013-2014
DEGREE TYPE: B.S.Cpr.E.
REQUIRED DEGREE CREDITS TO GRADUATE: 131

GENERAL EDUCATION REQUIREMENTS – 40 CREDITS

Lower Division Requirements – 37 Credits

First Year Experience (F) - 1 Credit

UNIV	189	Skills for Academic Success	1 cr

Students transferring in 24 or more credits do not need to take UNIV 189.

Communication (C) - 9 Credits

ENGL	110	College Composition I	3 cr
ENGL	120	College Composition II	3 cr
COMM	110	Fund of Public Speaking	3 cr

Quantitative Reasoning (R) - 3 Credits

MATH	165	Calculus I	4 cr

Science & Technology (S) - 10 Credits

CHEM	121	General Chemistry I	3 cr
PHYS	251	University Physics I	4 cr
PHYS	252	University Physics II	4 cr
Select 1 co-req lab from courses listed above			1 cr

Humanities & Fine Arts (A) - 6 Credits

Select from current general education courses www.ndsu.edu/registrar/gened/

Social & Behavioral Sciences (B) - 6 Credits

Select from current general education courses www.ndsu.edu/registrar/gened/

Wellness (W) - 2 Credits

Select from current general education courses www.ndsu.edu/registrar/gened/

Cultural Diversity (D)

Select from current general education courses www.ndsu.edu/registrar/gened/

Global Perspectives (G)

Select from current general education courses www.ndsu.edu/registrar/gened/

Upper Division Requirements - Writing – 3 Credits

ENGL 320, 321, 324, or 459		3 cr

COMPUTER ENGINEERING REQUIREMENTS - 88 CREDITS

ECE Courses Required - 45 Credits

ECE	111	Introduction to E&C Engineering	3 cr
ECE	173	Introduction to Computing	3 cr
ECE	275	Digital Systems I	3 cr
ECE	311	Circuit Analysis II	4 cr
ECE	321	Electronics I	5 cr
ECE	341	Random Processes	3 cr
ECE	343	Signals & Systems	4 cr

COMPUTER ENGINEERING REQUIREMENTS - CONTINUED

ECE Courses - Continued

ECE	351	Applied Electromagnetics	4 cr
ECE	374	Computer Organization	3 cr
ECE	376	Embedded Systems	4 cr
ECE	401	Design I (capstone)	1 cr
ECE	403	Design II (capstone)	2 cr
ECE	405	Design III (capstone)	3 cr
ECE	423	VLSI Design	3 cr

MATH Courses Required - 13 Credits

MATH	129	Basic Linear Algebra	2 cr
MATH	166	Calculus II	4 cr
MATH	265	Calculus III (w/ vectors)	4 cr
MATH	266	Intro to Differential Equations	3 cr

CSCI Courses Required - 10 Credits

CSCI	161	Computer Science II	4 cr
CSCI	222	Discrete Math	3 cr
CSCI	474	Operating System Concepts	3 cr

Other Courses Required - 8 Credits

EE	206	Circuit Analysis I	4 cr
ENGR	402	Engineering Ethics & Social Respon	1 cr
ME	221	Engineering Mechanics I	3 cr

CPRE Core Electives – 9 Credits

ECE	373	Assembly Programming	3 cr
ECE	375	Digital System Design & Implementation	3 cr
ECE	443	Communication I	4 cr
ECE	470	Digital Systems II	3 cr

ECE or Engineering Science Electives – 3 Credits

ECE Electives

ECE 331	4 cr	ECE/CSCI 373	3 cr	ECE 375	3 cr	ECE/PHYS 411	3 cr
ECE 417	3 cr	ECE 421	3 cr	ECE 424	3 cr	ECE 425	3 cr
ECE/IME 427	3 cr	ECE/IME 429	3 cr	ECE 431	3 cr	ECE 432	3 cr
ECE 433	3 cr	ECE 437	3 cr	ECE 438	4 cr	ECE 443	4 cr
ECE 444	3 cr	ECE 445	3 cr	ECE 453	3 cr	ECE 455	3 cr
ECE 461	4 cr	ECE 470	3 cr	ECE 471	3 cr	ECE 472	3 cr
ECE 483	3 cr	ECE 485	3 cr	ECE 487	3 cr	ECE 488	3 cr
ECE 494	3 cr	ECE 496	3 cr	ECE 499	3 cr		

Engineering Science Electives

CE 309	3 cr	CE 310	1 cr	CSCI 366	3 cr	CSCI 372	3 cr
CSCI 426	3 cr	CSCI 458	3 cr	CSCI 459	3 cr	CSCI 467	3 cr
CSCI 475	3 cr	CSCI 477	3 cr	IME 440	2-4 cr	IME 456	3 cr
IME 461	3-4 cr	ME 222	3 cr	ME 223	3 cr	ME 350	3 cr
PHYS 413	3 cr	PHYS 415	3 cr				

Degree Requirements and Notes:

- A student must complete at least 60 semester credits of professional level course work in his/her program while in residence and enrolled in the college. Students transferring into the college from programs with professional accreditation are exempt from this residency requirement but are subject to the residency requirement of NDSU.
- Transfer Students – Transfer courses with grades less than 'C' in Biology, Chemistry, Computer Science, Mathematics, Physics, and any type of engineering class will not be accepted as a major requirement.
- All Students – Students are required to attain a grade of 'C' or better in ECE 173, 275, EE 206, and all required MATH courses.