

Articulation Agreement

University of North Dakota and Benedictine College

Atchison, KS

Degree: Bachelor of Science in Electrical Engineering

Major: ELECTRICAL ENGINEERING WITH COMPUTER SCIENCE FOCUS

The following information was updated according to the 2013-2015 UND CATALOG - Students satisfactorily completing the courses below may transfer them to UND in fulfillment of the corresponding course requirements for this degree. Essential Studies equivalencies, courses, and major requirements may change. An official evaluation of transfer credit will be done upon admission to the university. Transfer credits will be evaluated and applied according to the current catalog and the approved Essential Studies list at the first semester of enrollment at UND.

Students planning to transfer to UND are encouraged to have phone or email contact with a UND adviser. Students may call the Advising Office at 1-800-CALL-UND ext. 3411 or 777-3411.

137 credits are required to graduate with an electrical engineering degree from UND

BC		Course/Credits/Title	UND		Course/Credits/Title
<u>I. Communication - COM</u>					
En 101	3	English Composition	ENGL 110	3	College Composition I
En 326 or	3	Advanced Composition or	ENGL 130	3	College Comp II: Writing for Public Au
Eg 217	3	Technical Communications	ENGL 130	3	College Comp II: Writing for Public Au
<u>II. Social Science - SS</u>					
Eg 317	3	Engineering Economics	ENGR 460	3	Engineering Economics
Ph 325	3	Ethics	ChE 340	3	Professional Integrity in Engineering
Elective Credit	3	Elective Credits	Elective Credits	3	Elective Credits
<u>III. Arts and Humanities - FA/HUM</u>					
Elective Credit	9*	Credit from at least two depts.	Elective Credit	9*	Credit from at least two depts.
*must include 3 credits designated as Fine Arts and 3 credits designated as Humanities					
<u>IV. Mathematics, Science & Technology - MST</u>					
Ch 103/105	3/1	General Chemistry I/Lab (Q)	CHEM 121/L	3/1	General Chemistry I/Lab
Ma 131	4	Calculus I	MATH 165	4	Calculus I
Ma 132	4	Calculus II	MATH 166	4	Calculus II
Ch 104/106 or	3/1	General Chemistry II/Lab or	Elective Credit	3	Basic/Applied Science Elective
Pc 320/321	3/1	Relativity & Atomic Physics/Lab (preferred)			
<u>Other Program Requirements</u>					
Cs 230	2	Programming for Engineers & Scientists	EE 304	3	Comp Aided Measures & Controls
Ee 201	3	Intro to Digital Electronics	EE 201	2	Intro to Digital Electronics
Ee 202	1	Digital Electronics Laboratory	EE 202	1	Electrical Engineering Lab
Ee 206	3	Circuit Analysis	EE 206	3	Circuit Analysis
Ee 306	1	Circuits Laboratory I	EE 306	1	Circuits Laboratory I
Ee 307	1	Circuits Laboratory II	EE 307	1	Circuits Laboratory II
Ee 308	2	Electronics Laboratory I	EE 308	2	Junior Laboratory I
Ee 309	2	Electronics Laboratory II	EE 308	2	Junior Laboratory II
Ee 313	3	Linear Electric Circuits	EE 313	3	Linear Electric Circuits
Eg 110	2	Technical Drawing	ENGR 101	3	Graphical Communication
Ög 120	2	Intro to Engineering	EE 101	1	Intro to Electrical Engineering

Eg 230	3	Statics	ENGR 201	3	Statics
Ma 233	4	Calculus III	MATH 265	4	Calculus III
Ma 250	3	Linear Algebra	MATH 207	2	Introduction to Linear Algebra
Ma 255	3	Discrete Mathematical Structures I	MATH 208	3	Discrete Mathematics
Ma 310	3	Differential Equations	MATH 266	3	Elementary Differential Equations
Pc 210	4	Classical Physics I/Lab	PHYS 251/L	4/0	University Physics I/Lab
Pc 211	4	Classical Physics II/Lab	PHYS 252/L	4/0	University Physics II/Lab
Pc 350	3	Electronics	EE 321	3	Electronics I
Pc 372	3	Electricity and Magnetism II	EE 316	3	Electric and Magnetic Fields
Pc 480	3	Condensed Matter Physics	Elective Credit	3	Electrical Engineering Elective
Òg 315 or	3	Statistical Data Analysis or	EE 318	3	Engineering Data Analysis
Eg 415 or	3	Design of Engineering Experiments			
Ma 315	3	Probability and Statistics			
Òg 231	3	Dynamics (preferred) or	Elective Credit	6	Engineering Science Electives (Select 6 credits)
Eg 320	3	Mechanics of Materials or			
Eg 330	3	Fluid Dynamics			
Eg 340	2	Engineering Laboratory I			
Eg 341	2	Engineering Laboratory II			
Eg 350	3	Properties of Materials			
Eg 360	4	Heat and Mass Transfer			
Eg 460	1	Engineering Design I			
Eg 480	1	Engineering Design II			
Úc 330	3	Mechanics I			
Pc 370	3	Electricity and Magnetism I			
Pc 380	3	Thermodynamics (preferred)			
Eg 300+	3	All EG courses 300 level or above	Elective Credit	6	Technical Electives (Select 6 credits)
Ma 300+	3	All MA courses 300 level or above			
Pc 300+	3	All PC courses 300 level or above			

Other Program Requirements: Computer Science

Cs 114	4	Introduction to Computer Science I	CSCI 130	4	Intro to Scientific Programming
Cs 115	4	Introduction to Computer Science II	CSCI 161	4	Computer Science II
Cs 300+	3	All Cs courses 300 level or above	Elective Credit	6	Computer Science Electives (Select 6)
Cs 300+	3	All Cs courses 300 level or above	Elective Credit	3	Technical Elective
Cs 421	4	Computer Architecture	CSCI 370	3	Computer Architecture
Cs 440	4	Operating Systems and Networking	CSCI 230	3	Systems Programming

When choosing your Essential Studies (General Education) Courses in Communication, Social Science, Arts and Humanities, and Math, Science and Technology, you will need to consider how you will meet the special emphasis requirements. Courses listed above that meet a special emphasis requirement are marked as follows: Oral Communication requirement (O), Social-Cultural Diversity requirement: United States (U), Social-Cultural Diversity requirement: Global (G), Quantitative Reasoning requirement (Q), and Advanced Communication requirement (A). To learn more please go to <http://und.edu/academics/essential-studies> or check with your adviser.

All students-including transfers-are required to take an Essential Studies upper division Capstone (C) course at UND. Approved Capstone courses are taken in the senior year of a student's undergraduate program.

Additional classes will be required to earn the above degree; a minimum of 125 credits is required to graduate from UND. Transfer credit for courses other than those listed above will be evaluated on a course-by-course basis.