

Articulation Agreement

University of North Dakota and Normandale Community College

Bloomington, MN

Degree: Bachelor of Science in Electrical Engineering

Major: ELECTRICAL ENGINEERING

The following information was updated according to the 2017-2019 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 (701) 777-3411.

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

*Computer Science classes count toward the B.S.E.E with a Computer Science Focus program only.

NCC	Course/Credits/Title	UND	Course/Credits/Title
<u>I. Communication - COM</u>			
ENGC 1101	4 Freshman Composition	ENGL 110	3 College Composition I
ENGC 2102	3 Business and Technical Writing	ENGL 130	3 Comp II: Writing for Public Audiences
<u>II. Social Science - SS</u>			
Elective Credit	9 Credit from at least two depts.	Elective Credit	9 Credit from at least two depts.
<u>III. Arts and Humanities - FA/HUM</u>			
PHIL 1103	3 Ethics	PHIL 250	3 Ethics in Engineering & Science
Elective Credit	6* Credit from at least two depts.	Elective Credit	6* 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>			
CHEM 1061	5 Principles of Chemistry 1 (Q)	CHEM 121/L	3/1 General Chemistry I/Lab
CHEM 1062 or	5 Principles of Chemistry 2 (Q) or	CHEM 122/L	3/1 General Chemistry II/Lab
PHYS 2250	4 Modern Physics	Physics Elective	Physics Elective
MATH 1510	5 Calculus 1	MATH 165	4 Calculus I
MATH 1520	5 Calculus 2	MATH 166	4 Calculus II
<u>Other Program Requirements</u>			
CSCI 1111	4 Intro to Programming in C	EE 304	3 Computer Aided Meas & Controls
CSCI 2001	4 Structure of Computer Programming 1	*CSCI 160	4 Computer Science I
CSCI 2002	4 Structure of Computer Programming 2	*CSCI 161	4 Computer Science II
ENGR 2001	5 Circuit with Electronics I	EE 206/306	3/1 Circuit Analysis/Lab
ENGR 2011	4 Circuits with Electronics 2	EE 313	3 Linear Electric Circuits

ENGR 2235	3	Statics	Elective Credit	3	Non-EE Elective
ENGR 2236	3	Dynamics	Elective Credit	3	Non-EE Elective
ENGR 2301	2	Intro to Digital Systems Design A/Lab	EE 201	2	Intro to Digital Electronics
ENGR 2302	2	Intro to Digital Systems Design B/Lab	EE 202	2	Electrical Engineering Lab
MATH 2400	4	Probability and Statistics with Calculus	EE 318	3	Engineering Data Analysis
MATH 2510	5	Calculus 3: Multivariable Calculus	MATH 265	4	Calculus III
MATH 2520	5	Calculus 4: Diff Eqns with Linear Algebra	MATH 266	3	Elementary Differential Equations
PHYS 1121	5	Physics with Calculus 1	PHYS 251/L	4	University Physics I/Lab
PHYS 1122	5	Physics with Calculus 2	PHYS 252/L	4	University Physics II/Lab

A complete list of approved Essential Studies courses can be found online at <http://und.edu/academics/essential-studies/approved-courses.cfm>

When choosing your Essential Studies (General Education) Courses in Communication, Fine Arts and Humanities, Social Science, 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 120 credits is required to graduate from UND. A complete listing of program requirements can be found in the [Academic Catalog](#) and [Four Year Plans](#).

Transfer credit for courses other than those listed above will be evaluated on a course-by-course basis.