

# Articulation Agreement

## University of North Dakota and Mesabi Range College

Virginia, 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.

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

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MRCTC	Course/Credits/Title	UND	Course/Credits/Title
<b><u>I. Communication - COM</u></b>			
ENGL 1511	4 College Writing I	ENGL 110	3 College Composition I
ENGL 1512 or	4 College Writing II or	ENGL 130 or	3 Comp II: Writing for Public Audiences or
ENGL 1532	3 Technical Writing	ENGL 130	3 Comp II: Writing for Public Audiences
<b><u>II. Social Science - SS</u></b>			
Elective Credit	9 Credit from at least two depts.	Elective Credit	9 Credit from at least two depts.
<b><u>III. Arts and Humanities - FA/HUM</u></b>			
PHIL 1551	3 Intro to 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			
<b><u>IV. Mathematics, Science &amp; Technology - MST</u></b>			
CHEM 1522	5 General Chemistry I (Q)	CHEM 121/L	3/1 General Chemistry II/Lab
CHEM 1523 or	5 General Chemistry II/Lab (Q) or	CHEM 122/L	3/1 General Chemistry II/Lab
PHYS 2430	3 Modern Physics		
MATH 1561	5 Calculus I	MATH 165	4 Calculus I
MATH 1562	5 Calculus II	MATH 166	4 Calculus II
<b><u>Other Program Requirements</u></b>			
CSCI 2471	3 C Language	EE 304	3 Computer Aided Meas & Controls
ENGR 1010	2 Intro to Engineering	EE 101	1 Intro to Electrical Engineering
ENGR 1410	3 Intro to Digital Logic & Logic Design/Lab	EE 201/202	2/1 Intro to Digital Electronics/Lab
ENGR 2410	3 Statics	Elective Credit	3 Non-EE Elective

ENGR 2420 or	3	Dynamics	Elective Credit	3	Non-EE Elective
ENGR 2430 or	3	Mechanics of Materials	Elective Credit	3	Non-EE Elective
ENGR 2440 or	3	Fluid Mechanics or	Elective Credit	3	Non-EE Elective
ENGR 2450	3	Thermodynamics (preferred)	Elective Credit	3	Non-EE Elective
ENGR 2461	4	Circuit Analysis and Lab	EE 206/306	3/1	Circuit Analysis/Lab
ENGR 2462	4	Linear Electric Circuits with Lab	EE 313/307	3/1	Linear Electric Circuits/Lab
MATH 2563	5	Calculus III	MATH 265	4	Calculus III
MATH 2564	5	Differential Equations & Linear Algebra	MATH 266	3	Elementary Differential Equations
PHYS 1571/1581	4/1	Engineering Physics I/Lab	PHYS 251/L	4	University Physics I/Lab
PHYS 1572/1582	4/1	Engineering Physics II/Lab	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.