University of Northern Iowa

Department of Applied Engineering
Transfer Guide

Des Moines Area Community College

Associate of Science (A.S.) – Engineering Transfer Major

Transfer guide to the University of Northern Iowa

Bachelor of Science (B.S.) – Materials Science & Engineering

1. When will I graduate?

Students transferring to UNI from this A.S. program at DMACC should **expect to complete 81 credits at UNI**. Assuming that the student is starting at UNI during the fall semester, it will take roughly six semesters (three years, a fall/spring/fall/spring/fall/spring sequence), with no summer course work, to graduate.

Transfer Credit Summary	Credits
A.S. credits transferring directly into UNI program	39
Other credits transferring to UNI	0
Total credits transferring towards UNI degree	39
Total credits needed at UNI	**81** (120 total)

2. Which A.S. courses transfer directly into the MSE major?

Students from a community college that transfer an Associate of Science (A.S.) degree to UNI will automatically transfer all requirements towards the UNIFI general education curriculum to UNI. Students holding an A.S. degree from a community college are exempt from any general education (gen ed) courses at UNI.

Upon completion of this A.S. degree, the following courses within the listed program at UNI will be completed:

- CHEM 1110 – General Chemistry I (4 cred.)
- MATH 1420 – Calculus I (4 cred.)
- MATH 1421 – Calculus II (4 cred.)
- PHYSICS 1701 – Physics I for Science & Engineering (4 cred.)
- All remaining requirements towards the UNIFI general education program at UNI (18 cred.)
- Additional university elective credits transferring to UNI (5 cred.)

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3. What would I study at UNI?

By completing the recommended A.S. degree plan, the student would be required to complete the courses in black, listed below, at UNI.

Math/Science Coursework		Cr.
~~CHEM 1110~~	~~General Chemistry I~~	~~4~~
CHEM 1120	General Chemistry II	4
~~MATH 1420~~	~~Calculus I~~	~~4~~
~~MATH 1421~~	~~Calculus II~~	~~4~~
MATH 2422	Calculus III	4
~~PHYSICS 1701~~	~~Physics I for Science & Eng.~~	~~4~~
PHYSICS 1702	Physics II for Science & Eng.	4
PHYSICS 2700 **or** MATH 3425	Math. Methods of Sci. & Eng. **or** Differential Equations	3
	Total Credits Remaining	**15**

Technical Core		Cr.
CHEM 4200	Nanoscience	3
ENGLISH 3772	Technical Writing for Eng. Tech.	3
ENGR 1000	Intro. to Eng. & Prof. Practice	3
ENGR 2080	Statics	2
ENGR 2089	Engineering Seminar	1
ENGR 2180	Strength of Materials	2
ENGR 4235	Material Transformation & Model.	3
ENGR 4500	Senior Design	3
PHIL 1560	Science, Technology & Ethics	3
PHYSICS 4750	Physics of Modern Materials	3
PHYSICS 4760	Computational Materials Science	3
PHYSICS 4900	Thermo. & Statistical Mechanics	4
STAT 3751	Probability & Statistics	3
TECH 1024	Engineering Design with CAD	3
TECH 2072	Engineering Materials	3
TECH 3127	Applied Thermodynamics	3
TECH 3132	Metallurgy & Phase Transitions	3
TECH 3136	Principles of Metal Casting	3
TECH 3192	Non-Destructive Eval. of Mater.	3
	Technical Electives	12
	Total Credits Remaining	**66**

UNI Foundational Inquiry (UNIFI)	Cr.
~~WR – Written Communication~~	~~3~~
~~OC – Oral Communication~~	~~3~~
~~QR – Quantitative Reasoning~~	~~3~~
~~HD – Human Condition (Domestic)~~	~~3~~
~~HG – Human Condition (Global)~~	~~3~~
~~SR – Scientific Reasoning (with Lab)~~	~~4~~
~~HE – Human Expression~~	~~3~~
~~RE – Responsibility~~	~~3~~
~~UNIFI certificate **or** UNIFI electives~~	~~12~~
Total UNIFI Credits Remaining	**0**

Credits needed to earn UNI degree	**81**

4. How would I complete my degree?

Based on the remaining coursework, below is a semester-by-semester breakdown of how the student would complete any remaining requirements at UNI.

Fall 1	Cr.
CHEM 1120	4
MATH 2422	4
ENGR 1000	3
ENGR 2080	2
TECH 1024	3
Total	**16**

Spring 1	Cr.
PHYSICS 1702	4
ENGR 2089	1
ENGR 2180	2
STAT 3751	3
TECH 2072	3
Total	**13**

Fall 2	Cr.
CHEM 4200	3
ENGLISH 3772	3
PHYSICS 4750	3
TECH 3132	3
TECH 3136	3
Total	**15**

Spring 2	Cr.
PHYSICS 2700	3
TECH 3127	3
TECH 3192	3
Technical Elective	3
Total	**12**

Fall 3	Cr.
ENGR 4235	3
PHIL 1560	3
Technical Elective	3
Technical Elective	3
Total	**12**

Spring 3	Cr.
ENGR 4500	3
PHYSICS 4760	3
PHYSICS 4900	4
Technical Elective	3
Total	**13**

Other Important Information

- This transfer guide is based off the 2025-2026 academic catalogs at UNI & Des Moines Area Community College.
- Courses listed in the Remaining UNI Plan of Study (section 4) are subject to change at any time. This plan assumes transfer students start in the fall semester.
- This transfer guide assumes the student is only transferring in coursework from this A.S. degree plan. Students ***may transfer additional credits to UNI***, which will be evaluated on an individual basis.
- The UNI Foundational Inquiry (UNIFI) at UNI is the collection of general education courses required by the institution to fulfill the university's mission. For more information, visit unifi.uni.edu.