

Northwest Iowa Community College

Associate of Applied Science (A.A.S.) – Industrial Instrumentation & Control

Transfer guide to the [University of Northern Iowa](#)

Bachelor of Science (B.S.) – Automation Engineering Technology

1. When will I graduate?

Students transferring to UNI from this A.A.S. program at Northwest should **expect to take 70 credits at UNI**. Assuming that the student is starting at UNI during the fall semester, it will take roughly five semesters (two and a half years, a fall/spring/fall/spring/fall sequence), with no summer coursework, to graduate.

Transfer Credit Summary	Credits
A.A.S. credits transferring directly into UNI program	44
Other credits transferring to UNI	6
Total credits transferring towards UNI degree	50
Total credits needed at UNI	70 (120 total)

2. What A.A.S. courses transfer?

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

- CS 1160 – C/C+ Programming (3 cred.)
- TECH 1037 – Introduction to Circuits (3 cred.)
- TECH 1039 – Circuits & Systems (3 cred.)
- TECH 2053 – Digital Electronics & Lab (4 cred.)
- TECH 3164 – Programmable Logic Controllers (3 cred.)
- TECH 4162 – Automation: Pneumatics & Hydraulics (3 cred.)
- AET Electives (15 cred.)
- Additional university electives transferring (10 cred.)

3. What other courses transfer?

Other courses built into this A.A.S. curriculum, or open electives, will also transfer to UNI. The following courses are recommended to take at Northwest as part of this A.A.S. curriculum:

- Communication elective (3 cred.)
 - Students should complete SPC 101-A – Fundamentals of Oral Communication **or** SPC 112-A – Public Speaking **or** SPC 122-A – Interpersonal Communications at Northwest.
- Humanities/Social Science elective (3 cred.)
 - Students should complete PSY 111-A – Introduction to Psychology **or** SOC 110-A – Introduction to Sociology at Northwest.



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4. What would I study at UNI?

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

Math/Science Coursework		Cr.
CS 1160	C/C++ Programming	3
MATH 1150 or MATH 1420	Calculus for Technology or Calculus I	4
PHYSICS 1511	General Physics I	4
STAT 1772	Intro to Statistical Methods	3
Total Credits Remaining		11

AET Technical Core		Cr.
ENGR 1000	Intro. to Eng. & Prof. Practices	3
PHIL 1560	Science, Technology & Ethics	3
TECH 1010	Fund. of Materials Removal	3
TECH 1024	Engineering Design with CAD	3
TECH 1037	Intro to Circuits	3
TECH 1039	Circuits & Systems	3
TECH 2053	Digital Electronics & Lab	4
TECH 2055	Electrical Power & Mach. & Lab	4
TECH 2065	Industrial Robotics	3
ENGR 2080	Statics	2
ENGR 2180	Strengths of Materials	2
TECH 3147	Computer-Aided Manufacturing	3
TECH 3148	Machine Design	3
TECH 3160	Comp.-Aided Instru. & Inter.	3
TECH 3164	Prog. Logic Controllers	3
TECH 4162	Automation: Pneu & Hydraul.	3
ENGR 4500	Senior Design	3
ENGLISH 3772	Tech. Writing for Eng. Tech.	3
	AET Electives	15
Total Credits Remaining		38

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		21

Credits needed to earn UNI degree 70

5. 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.
PHYSICS 1511	4
STAT 1772	3
ENGR 1000	3
TECH 1024	3
UNIFI course	3
Total	16

Spring 1	Cr.
MATH 1150	4
PHIL 1560	3
TECH 1010	3
UNIFI course	3
Total	13

Fall 2	Cr.
TECH 2053	4
TECH 2065	3
ENGR 2080	2
ENGLISH 3772	3
UNIFI course	3
Total	15

Spring 2	Cr.
ENGR 2180	2
TECH 3147	3
TECH 3160	3
UNIFI course	3
UNIFI course	3
Total	14

Fall 3	Cr.
TECH 3148	3
ENGR 4500	3
UNIFI course	3
UNIFI course	3
Total	12

Other Important Information

- This transfer guide is based off of the 2023-2024 academic catalogs at UNI & Northwest Iowa Community College and includes future adjustments to the UNI curriculum.
- Courses listed in the Remaining UNI Plan of Study section are subject to change at any time and are based on a fall semester start.
- This transfer guide assumes the student is only transferring in coursework from this A.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 universities mission. For more information, visit unifi.uni.edu.