Electrical Engineering Technology

- Bachelor of Science (B.S.)
- Program Curriculum

University of Northern Iowa

Mathematics/Science coursework — 18 cr.

CS 1160 - C/C+ Programming	3 cr.
PHYSICS 1511 - General Physics I	4 cr.
• *course also satisfies UNIFI Scientific Reasoning requirement.*	
STAT 1772 - Introduction to Statistical Methods	3 cr.
• *course also satisfies UNIFI Quantitative Reasoning requirement.*	
Math coursework (select two from the list below)	8 cr.
• MATH 1140 - Precalculus	4 cr.
• MATH 1150 - Calculus for Technology	4 cr.
• MATH 1420 - Calculus I	4 cr.
• MATH 1421 - Calculus II	4 cr.

Technical Core — 54 cr.

TECH 1037 - Introduction to Circuits	3 cr.
TECH 1039 - Circuits & Systems	3 cr.
TECH 2038 - Introduction to Electrical Power & Machinery	3 cr.
TECH 2041 - Introduction to Analog Electronics	3 cr.
TECH 2042 - Introduction to Digital Electronics	3 cr.
TECH 3129 - Linear Control Systems	3 cr.
TECH 3152 - Advanced Analog Electronics	3 cr.
TECH 3156 - Advanced Digital Electronics	3 cr.
TECH 3157 - Microcontroller Applications	3 cr.
TECH 3160 - Computer-Aided Instrumentation & Interfacing	3 cr.
TECH 3164 - Programmable Logic Controllers	3 cr.
TECH 3166 - Advanced Electrical Power Systems	3 cr.
TECH 4103 - Electronic Communications	3 cr.
TECH 4104 - Applied Digital Signal Processing	3 cr.
TECH 4165 - Wireless Communication Networks	3 cr.
TECH 4167 - Power Electronics Application	3 cr.
TECH 4220 - Senior Design	3 cr.
ENGLISH 3772 - Tech. Writing for Eng. Technologists	3 cr.

UNI Foundational Inquiry — 37 cr.

Written Communications	**3 cr.**
Oral Communications	**3 cr.**
Quantitative Reasoning	**3 cr.**
• *requirement completed with STAT 1772.*	
Human Condition (Domestic)	**3 cr.**
Human Condition (Global)	**3 cr.**
Scientific Reasoning	**4 cr.**
• *requirement completed with PHYSICS 1511.*	
Human Expression	**3 cr.**
Responsibility	**3 cr.**
UNIFI Elective	**3 cr.**
UNIFI Elective	**3 cr.**
UNIFI Elective	**3 cr.**
UNIFI Elective	**3 cr.**

Inspired by the University of Northern Iowa mission to engage students in high-quality and high-impact learning experiences within a challenging and supportive environment, UNI's new general education requirements are designed to ensure that students' foundational learning experiences lead to a lifetime full of potential. For more information, visit **unifi.uni.edu**.

Credit Totals

Math/Science coursework	18 cr.
Technical Core coursework	54 cr.
UNI Foundational Inquiry (UNIFI)	37 cr.
Credits counted twice (major & UNIFI)	-7 cr.
Total	**102 cr.**
University Electives needed	18 cr.
Grand Total	**120 cr.**

Department of Applied Engineering & Technical Management
University of Northern Iowa
25 Industrial Technology Center
Cedar Falls, IA 50614-0178
Phone: (319) 273-2561 || E-mail: appliedengineering@uni.edu

Important ALEKS Test Information

The ALEKS test is a math placement test that all UNI students must complete prior to enrolling in certain math & science courses. Below are the scores required for the math & science requirements in this program:

• PHYSICS 1511: 45 • STAT 1772: 50 • MATH 1150: 61

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UNI University of Northern Iowa

Example course sequence for ***first-year, freshmen*** students

Fall 1		**Spring 1**	
UNIFI Written Communication course	3 cr.	UNIFI Oral Communication course	3 cr.
UNIFI elective course	3 cr.	UNIFI elective course	3 cr.
MATH 1140 - Precalculus	4 cr.	MATH 1150 - Calculus for Technology[SO]	4 cr.
PHYSICS 1511 - General Physics I	4 cr.	TECH 1039 - Circuits & Systems[^SO]	3 cr.
TECH 1037 - Introduction to Circuits	3 cr.	University elective course	3 cr.
	Total: 17 cr.		***Total: 16 cr.***
Fall 2		**Spring 2**	
UNIFI Human Condition (Domestic) course	3 cr.	UNIFI Human Expression course	3 cr.
CS 1160 - C/C+ Programming	3 cr.	TECH 3152 - Advanced Analog Electronics[^SO]	3 cr.
TECH 2038 - Introduction to Electrical Power & Machinery[^FO]	3 cr.	TECH 3156 - Advanced Digital Electronics[^SO]	3 cr.
TECH 2041 - Introduction to Analog Electronics[^FO]	3 cr.	TECH 3166 - Advanced Electrical Power Systems[^SO]	3 cr.
TECH 2042 - Introduction to Digital Electronics[^FO]	3 cr.		
	Total: 15 cr.		***Total: 12 cr.***
Fall 3		**Spring 3**	
UNIFI Human Condition (Global) course	3 cr.	UNIFI Responsibility course	3 cr.
STAT 1772 - Introduction to Statistical Methods	3 cr.	TECH 3160 - Computer-Aided Instrumentation & Interfacing[^SO]	3 cr.
TECH 3129 - Linear Control Systems[^FO]	3 cr.	TECH 3164 - Programmable Logic Controllers[SO]	3 cr.
TECH 3157 - Microcontroller Applications[^FO]	3 cr.	ENGLISH 3772 - Technical Writing for Engineering Technologists[^]	3 cr.
University elective course	3 cr.	University elective course	3 cr.
	Total: 15 cr.		***Total: 15 cr.***
Fall 4		**Spring 4**	
UNIFI elective course	3 cr.	UNIFI elective course	3 cr.
TECH 4103 - Electronic Communications[^FO]	3 cr.	TECH 4104 - Applied Digital Signal Processing[^SO]	3 cr.
TECH 4165 - Wireless Communications Networks[^FO]	3 cr.	TECH 4167 - Power Electronics Applications[^SO]	3 cr.
University elective course	3 cr.	TECH 4220 - Senior Design[^]	3 cr.
University elective course	3 cr.	University elective course	3 cr.
	Total: 15 cr.		***Total: 15 cr.***

Example course sequence for ***transfer students with an A.A. or A.S.*** degree

Fall 1		**Spring 1**	
MATH 1140 - Precalculus	4 cr.	MATH 1150 - Calculus for Technology[SO]	4 cr.
PHYSICS 1511 - General Physics I	4 cr.	STAT 1772 - Introduction to Statistical Methods	3 cr.
TECH 1037 - Introduction to Circuits	3 cr.	TECH 1039 - Circuits & Systems[^SO]	3 cr.
ENGLISH 3772 - Technical Writing for Engineering Technologists[^]	3 cr.	TECH 3164 - Programmable Logic Controllers[SO]	3 cr.
	Total: 14 cr.		***Total: 16 cr.***
Fall 2		**Spring 2**	
CS 1160 - C/C+ Programming	3 cr.	TECH 3152 - Advanced Analog Electronics[^SO]	3 cr.
TECH 2038 - Introduction to Electrical Power & Machinery[^FO]	3 cr.	TECH 3156 - Advanced Digital Electronics[^SO]	3 cr.
TECH 2041 - Introduction to Analog Electronics[^FO]	3 cr.	TECH 3166 - Advanced Electrical Power Systems[^SO]	3 cr.
TECH 2042 - Introduction to Digital Electronics[^FO]	3 cr.	University elective course	3 cr.
	Total: 12 cr.		***Total: 12 cr.***
Fall 3		**Spring 3**	
TECH 3129 - Linear Control Systems[^FO]	3 cr.	TECH 3160 - Computer-Aided Instrumentation & Interfacing[^SO]	3 cr.
TECH 3157 - Microcontroller Applications[^FO]	3 cr.	TECH 4104 - Applied Digital Signal Processing[^SO]	3 cr.
TECH 4103 - Electronic Communications[^FO]	3 cr.	TECH 4167 - Power Electronics Applications[^SO]	3 cr.
TECH 4165 - Wireless Communications Networks[^FO]	3 cr.	TECH 4220 - Senior Design[^]	3 cr.
	Total: 12 cr.		***Total: 12 cr.***

Legend
[^] - course requires a prerequisite.
[%] - course requires a co-requisite.
[FO] - course is only offered in the fall.
[SO] - course is only offered in the spring.

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