

Technology & Engineering Education

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



Mathematics/Science coursework **12 cr.**

CHEM 1020 - Chemical Technology	4 cr.
<i>• course also satisfies UNIFI Scientific Reasoning requirement.</i>	
MATH 1140 - Precalculus	4 cr.
PHYSICS 1000 & 1010 - Physics in Everyday Life & Lab or	4 cr.
PHYSICS 1511 - General Physics I	
<i>• course also satisfies UNIFI Scientific Reasoning requirement.</i>	

Technology & Engineering Core **24 cr.**

TECH 1008 - Basic Manufacturing Processes	3 cr.
TECH 1010 - Fundamentals of Metal Removal	3 cr.
TECH 1024 - Engineering Design with CAD	3 cr.
TECH 1037 - Introduction to Circuits or	3 cr.
TECH 3164 - Programmable Logic Controllers	3 cr.
TECH 1055 - Graphic Communications Foundations	3 cr.
TECH 2065 - Industrial Robotics	3 cr.
TECH CM 1000 - Fund. of CM Materials & Methods	3 cr.
TECH TEE 2020 - Transportation Technology	3 cr.

Technology & Engineering Education Core **12 cr.**

TECH TEE 1000 - Intro. to Technology & Eng. Education	3 cr.
TECH TEE 3100 - Tech. & Eng. Edu. Curriculum Planning	3 cr.
TECH TEE 3150 - Tech. & Eng. Education Lab Management	3 cr.
TECH TEE 4100 - Tech. & Eng. Edu. Level 3 Teaching Exp.	1 cr.
TECH TEE 4200 - Tech. & Eng. Education Methods	2 cr.

Teacher Licensure coursework **30 cr.**

TEACHING 2017 - Level 1 Field Exp.: Exploring Teaching	1 cr.
EDPSYCH 2030 - Dynamics of Human Development	3 cr.
<i>• course also satisfies UNIFI Human Condition (Domestic) requirement.</i>	
SPED 3150 - Meeting the Needs of Diverse Learners in Classrooms	2 cr.
TEACHING 3128 - Lvl. 2 Field Exp.: Lesson Planning & Instruction	1 cr.
EDPSYCH 3148 - Learning & Motivation in Classroom Contexts	3 cr.
MEASURES 3150 - Classroom Assessment	2 cr.
SOCFOUND 3119 - Schools & American Society	3 cr.
TEACHING 4170 - Human Relations - Awareness & Application	3 cr.
TEACHING 3138 - Secondary School Teaching	12 cr.

UNI Foundational Inquiry **37 cr.**

Written Communications	3 cr.
Oral Communications	3 cr.
Quantitative Reasoning	3 cr.
Human Condition (Domestic)	3 cr.
<i>• requirement completed with EDPSYCH 2030.</i>	
Human Condition (Global)	3 cr.
Scientific Reasoning	4 cr.
<i>• requirement completed with PHYSICS 1000 or 1511.</i>	
Human Expression	3 cr.
Responsibility	3 cr.
UNIFI Elective	3 cr.
<i>• requirement completed with CHEM 1020.</i>	
UNIFI Elective	3 cr.
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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	12 cr.
Technology & Engineering Core	24 cr.
Technology & Engineering Edu. Core	12 cr.
Teacher Licensure coursework	30 cr.
UNI Foundational Inquiry (UNIFI)	37 cr.
Credits counted twice (major & UNIFI)	-10 cr.
Total	105 cr.
University Electives needed	15 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
- MATH 1140: 61

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

<p>Fall 1</p> <p>UNIFI Written Communication course 3 cr.</p> <p>UNIFI Quantitative Reasoning course 3 cr.</p> <p>TECH 1008 - Basic Manufacturing Processes^{FO} 3 cr.</p> <p>TECH 1055 - Graphic Communication Foundations^{FO} 3 cr.</p> <p>TECH TEE 1000 - Intro. to Technology & Engineering Education^{FO} 3 cr.</p> <p style="text-align: right;">Total: 15 cr.</p>	<p>Spring 1</p> <p>UNIFI Oral Communication course 3 cr.</p> <p>MATH 1140 - Precalculus 4 cr.</p> <p>TECH 1010 - Fundamentals of Metal Removal^{SO} 3 cr.</p> <p>TEACHING 2017 - Level 1 Field Experience 1 cr.</p> <p>EDPSYCH 2030 - Dynamics of Human Development 3 cr.</p> <p>University elective course 3 cr.</p> <p style="text-align: right;">Total: 17 cr.</p>
<p>Fall 2</p> <p>UNIFI Human Condition (Global) course 3 cr.</p> <p>PHYSICS 1000 & PHYSICS 1010 - Physics in Everyday Life & Lab 4 cr.</p> <p>TECH 1024 - Engineering Design with CAD^{FO} 3 cr.</p> <p>TECH CM 1000 - Fundamentals of CM Materials & Methods 3 cr.</p> <p>SPED 3150 - Meeting the Needs of Diverse Learners in Classrooms[^] 2 cr.</p> <p style="text-align: right;">Total: 15 cr.</p>	<p>Spring 2</p> <p>UNIFI Human Expression course 3 cr.</p> <p>TECH TEE 3100 - Tech. & Eng. Education Curriculum Planning^{^SO} 3 cr.</p> <p>EDPSYCH 3148 - Learning & Motivation in Classroom Contexts[^] 3 cr.</p> <p>MEASURES 3150 - Classroom Assessment^{^%} 2 cr.</p> <p>TEACHING 3128 - Level 2 Field Experience: Lesson Planning & Instruction[%] 1 cr.</p> <p>University elective course 3 cr.</p> <p style="text-align: right;">Total: 15 cr.</p>
<p>Fall 3</p> <p>UNIFI elective course 3 cr.</p> <p>UNIFI elective course 3 cr.</p> <p>CHEM 1020 - Chemical Technology 4 cr.</p> <p>TECH 2065 - Industrial Robotics 3 cr.</p> <p>University elective course 3 cr.</p> <p style="text-align: right;">Total: 16 cr.</p>	<p>Spring 3</p> <p>UNIFI Responsibility course 3 cr.</p> <p>TECH 3164 - Programmable Logic Controllers^{SO} 3 cr.</p> <p>TECH TEE 2020 - Transportation Technology^{SO} 3 cr.</p> <p>TECH TEE 3050 - Tech. & Eng. Education Lab Management^{^SO} 3 cr.</p> <p>University elective course 3 cr.</p> <p style="text-align: right;">Total: 15 cr.</p>
<p>Fall 4</p> <p>UNIFI elective course 3 cr.</p> <p>TECH TEE 4100 - Tech. & Eng. Education Level 3 Teaching Experience^{FO} 1 cr.</p> <p>TECH TEE 4200 - Tech. & Eng. Education Methods^{FO} 2 cr.</p> <p>SOCFOUND 3119 - Schools & American Society[^] 3 cr.</p> <p>TEACHING 4170 - Human Relations-Awareness & Application[^] 3 cr.</p> <p>University elective course 3 cr.</p> <p style="text-align: right;">Total: 15 cr.</p>	<p>Spring 4</p> <p>TEACHING 3138 - Secondary School Teaching 12 cr.</p> <p style="text-align: right;">Total: 12 cr.</p>

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.

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

<p>Fall 1</p> <p>TECH 1008 - Basic Manufacturing Processes^{FO} 3 cr.</p> <p>TECH 1055 - Graphic Communication Foundations^{FO} 3 cr.</p> <p>TECH CM 1000 - Fundamentals of CM Materials & Methods 3 cr.</p> <p>TECH TEE 1000 - Intro. to Technology & Engineering Education^{FO} 3 cr.</p> <p>TEACHING 2017 - Level 1 Field Experience 1 cr.</p> <p>EDPSYCH 2030 - Dynamics of Human Development 3 cr.</p> <p style="text-align: right;">Total: 15 cr.</p>	<p>Spring 1</p> <p>CHEM 1020 - Chemical Technology 4 cr.</p> <p>PHYSICS 1000 & PHYSICS 1010 - Physics in Everyday Life & Lab 4 cr.</p> <p>TECH 1010 - Fundamentals of Metal Removal^{SO} 3 cr.</p> <p>TECH TEE 3100 - Tech. & Eng. Education Curriculum Planning^{^SO} 3 cr.</p> <p>TEACHING 3128 - Level 2 Field Experience: Lesson Planning & Instruction[%] 1 cr.</p> <p>SPED 3150 - Meeting the Needs of Diverse Learners in Classrooms[^] 2 cr.</p> <p style="text-align: right;">Total: 18 cr.</p>
<p>Fall 2</p> <p>TECH 1024 - Engineering Design with CAD^{FO} 3 cr.</p> <p>TECH 2065 - Industrial Robotics 3 cr.</p> <p>TECH TEE 4100 - Tech. & Eng. Education Level 3 Teaching Experience^{FO} 1 cr.</p> <p>TECH TEE 4200 - Tech. & Eng. Education Methods^{FO} 2 cr.</p> <p>EDPSYCH 3148 - Learning & Motivation in Classroom Contexts[^] 3 cr.</p> <p>SOCFOUND 3119 - Schools & American Society[^] 3 cr.</p> <p style="text-align: right;">Total: 15 cr.</p>	<p>Spring 2</p> <p>MATH 1140 - Precalculus 4 cr.</p> <p>TECH 3164 - Programmable Logic Controllers^{SO} 3 cr.</p> <p>TECH TEE 2020 - Transportation Technology^{SO} 3 cr.</p> <p>TECH TEE 3150 - Tech. & Eng. Education Lab Management^{^SO} 3 cr.</p> <p>MEASURES 3150 - Classroom Assessment[^] 2 cr.</p> <p>TEACHING 4170 - Human Relations-Awareness & Application[^] 3 cr.</p> <p style="text-align: right;">Total: 18 cr.</p>
<p>Fall 3</p> <p>TEACHING 3138 - Secondary School Teaching 12 cr.</p> <p style="text-align: right;">Total: 12 cr.</p>	

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