ENGINEERING TECHNOLOGY AAS

The Engineering Technology Program offers Associate degrees preparing students for a broad range of industries. Using the latest equipment and technology, students can choose from a range of emphasis areas including Civil, GIS, Mechanical, or a mix of all three in our Traditional program. Skills are introduced and developed for surveying, mapping, drone operation (Civil & GIS options), solid modeling with 3-D printing, CNC machining (Mechanical option), geographical information systems, image processing (GIS option), or structural and architectural concepts (Traditional option).

Engineering Technology faculty maintain close contact with industry leaders tracking the latest advancements and technologies as well as providing opportunities for students. Field trips to manufacturing and construction sites in addition to ample opportunities for hands-on training through real-world and service learning projects are woven through the curriculum. Internship opportunities with industry partners can also be combined with academic credit to complete the degree. The Engineering Technology program combines laboratory experience with general education to provide a well-rounded, career-ready experience.

Entrance requirements for degree seeking students in the Engineering Technology program include:

- ALEKS score of 30 or higher in Math (Algebra), Writing Placement Exam score of 2 or higher, or qualify for MTHPT-137 and ENGL-101.
- Enrollment priority will be given students on the basis of student's enrollment date

Upon completion of the Engineering Technology A.A.S. degree, the student will possess technical skills in chosen areas that may include:

General knowledge:

- Combine general education with laboratory experience and "hands-on" learning
- Be prepared for the time commitment and professionalism of a workplace setting
- Enhancement of professional communication skills
- Oral and written communication skills required in an engineering office.
- Basic math, physics and problem-solving skills
- Enter the engineering field with technical knowledge and skills in various specialized fields (Mechanical, Civil, Surveying, Architectural, GIS)
- Explore a variety of careers associated with Engineering Technology
- Enter into a co-operative professional/technical internship with local employers upon approval from the program advisor
- Obtain entry-level skills and experience in computers and computer terminology as it relates to engineering documentation
- Able to identify and use drafting instruments; letter, using common practices; draft and dimension geometric figures; define and draft orthographic & isometric projections
- Able to develop auxiliary views; determine points of intersection; draft developments and working drawings
- Ability to use Computer Aided Machine Drafting solid modeling with an emphasis in machining processes
- Have a broad understanding of processes used to produce marketable goods

Civil Emphasis:

- Understand civil technology including civil drafting, basic surveying, and mapping procedures
- Perform basic civil design functions such as surface and contour creation, grading and drainage plans, alignment layout, profiles, pipe networks and detail drawings
- Knowledge of fundamental surveying concepts and practices; topographic surveying and mapping; boundary surveys; construction surveying
- Knowledge of earthwork and volumes; global positioning systems and geographic information systems

Traditional Emphasis:

- Knowledge of fundamental architectural and structural drafting methods and organization; use of the American Institute of Architects Architectural Graphic Standards
- Understand civil technology including civil drafting, basic surveying, and mapping procedures

Mechanical Emphasis:

- Understanding of creation and use of 3-D primitives, surface modeling, basic solids modeling, shading techniques, and the use of rendering and animation software
- Skilled in the use of SolidWorks parametric (3D) design software
- Knowledge of the elementary principles of Computer Aided Design and Computer Aided Machining

Geographic Information Systems Emphasis:

- Understand civil technology including civil drafting, basic surveying, and mapping procedures
- Perform basic civil design functions such as surface and contour creation, grading and drainage plans, alignment layout, profiles, pipe networks and detail drawings using current CAD and GIS technology
- Knowledge of fundamental surveying concepts and practices; topographic surveying and mapping; boundary surveys; construction surveying
- Knowledge of earthwork and volumes; global positioning systems and geographic information systems
- Knowledge of remote sensing as related to surveying practices, skilled in the use of industry-standard GIS programs; perform GIS related activities for mobile data collection and surveying.

General Education Requirements

Code	Title	Credits
Written Communication		
ENGL-101	WRITING AND RHETORIC I	3.00
Oral Communication		
Select one of the following:		3.00
COMM-101	FUNDAMENTALS OF ORAL COMMUNICATION	
COMM-203	SMALL GROUP COMMUNICATION	
COMM-204	PUBLIC SPEAKING	
Mathematical Ways of Knowing		
MTHPT-137	MATH FOR TECHNOLOGY	4.00
Social & Behavioral Ways of Knowing		
Select one of the following:		3.00
ANTH-102	CULTURAL ANTHROPOLOGY	
ANTH-120	WORLD PREHISTORY	
ANTH-170	INTRODUCTION TO NATIVE AMERICAN STUDIES	
ECON-201	PRINCIPLES OF MACROECONOMICS	
ECON-202	PRINCIPLES OF MICROECONOMICS	
GEOG-102	INTRODUCTION TO GEOGRAPHY	
HIST-101	WORLD HISTORY I	
HIST-102	WORLD HISTORY II	
HIST-111	UNITED STATES HISTORY I	
HIST-112	UNITED STATES HISTORY II	
HRPT-184	DIVERSITY IN ORGANIZATIONS	
HRPT-185	HUMAN RELATIONS IN ORGANIZATIONS	
POLS-101	AMERICAN NATIONAL GOVERNMENT	
POLS-237	INTERNATIONAL POLITICS	
POLS-285	COMPARATIVE GOVERNMENT	
PSYC-101	INTRODUCTION TO GENERAL PSYCHOLOGY	
PSYC-205	LIFESPAN DEVELOPMENTAL PSYCHOLOGY	
SOC-101	INTRODUCTION TO SOCIOLOGY	
SOC-102	SOCIAL PROBLEMS	
SS-184	DIVERSITY IN ORGANIZATIONS	
SS-185	HUMAN RELATIONS IN ORGANIZATIONS	
Additional General Education Core		
Select one of the following:		3.00-5.00
ANTH-360	RACE AND ETHNICITY	
ART-100	INTRODUCTION TO ART	
BIOF-100	INTRODUCTION TO BIOINFORMATICS	
BIOL-100	CONCEPTS OF BIOLOGY	
BIOL-120	PLANTS AND PEOPLE	
BIOL-123	BIOLOGY IN FILM	
BIOL-175	HUMAN BIOLOGY	
BIOL-227	HUMAN ANATOMY AND PHYSIOLOGY I	

CHEM-100	CONCEPTS OF CHEMISTRY
CHEM-105	GENERAL, ORGANIC AND BIOCHEMISTRY
CHEM-111	PRINCIPLES OF CHEMISTRY I
CITPT-108	INTRODUCTION TO COMPUTER SCIENCE
COMM-345	INTERCULTURAL COMMUNICATION
CS-108	INTRODUCTION TO COMPUTER SCIENCE
ENGL-175	LITERATURE AND IDEAS
ENGL-257	WORLD CLASSICS
ENGL-258	INTERNATIONAL LITERATURE
ENGL-260	NATIVE AMERICAN LITERATURE
ENGL-261	MYTHOLOGIES
ENGL-474	NATIVE AMERICAN WRITTEN LITERATURE
FSCI-101	INTRODUCTION TO FORENSIC SCIENCE
GEOL-101	PHYSICAL GEOLOGY
GEOL-120	INTRODUCTION TO EARTH SYSTEMS
GIS-271	GEOGRAPHIC INFORMATION SYSTEMS
HUM-101	THE ART AND HISTORY OF THE MOTION PICTURE
HUM-150	INTRODUCTION TO THE ARTS
ID-240	INTEGRATED SCIENCE II
ID-300C	ETHICS AND IDENTITY
ID-301A	HELLS CANYON INSTITUTE
KIN-220	SOCIAL-CULTURAL ASPECTS OF SPORTS
MUS-101	SURVEY OF MUSIC
MUS-102	MUSIC IN AMERICA
MUS-150	WORLD MUSIC
MUS-151	HISTORY OF MUSICAL THEATER
MUS-152	HISTORY OF JAZZ AND POPULAR MUSIC STYLES
NP-101	NEZ PERCE LANGUAGE AND CULTURE
NP-102	NEZ PERCE LANGUAGE AND HISTORY
NS-140	INTEGRATED SCIENCE I
NS-150	INTRODUCTION TO NATURAL SCIENCES
NS-174	NATURAL SCIENCE FOR ELEMENTARY EDUCATOR
PHYS-111	GENERAL PHYSICS I
or PHYS-112	GENERAL PHYSICS II
PHYS-171	PHYS SCIENCES FOR ELEMENTARY EDUCATORS
PHYS-205	DESCRIPTIVE ASTRONOMY
PHYS-211	PHYSICS FOR SCIENTISTS AND ENGINEERS I
SPAN-101	ELEMENTARY SPANISH I
SPAN-102	ELEMENTARY SPANISH II
SPAN-201	INTERMEDIATE SPANISH I
SPAN-202	INTERMEDIATE SPANISH II
SS-184	DIVERSITY IN ORGANIZATIONS
SS-185	HUMAN RELATIONS IN ORGANIZATIONS
THEA-101	SURVEY OF THE THEATER
Total Credits	**16.00-18.00**

Program Requirements

Engineering Technology - Civil

Code	Title	Credits
ENGTE-106	DRAFTING FUNDAMENTALS	6.00
ENGTE-107	ENGINEERING TECHNOLOGY DISCIPLINES	2.00
ENGTE-135	APPLIED PHYSICS	4.00

ENGTE-154	INTRODUCTION TO COMPUTER DRAFTING	4.00
ENGTE-171	INTRODUCTION TO GEOSPATIAL TECHNOLOGIES	2.00
ENGTE-201	CIVIL DRAFTING	3.00
ENGTE-202	INTRODUCTION TO SURVEY	3.00
ENGTE-205	ADVANCED CIVIL DRAFTING AND DESIGN	4.00
ENGTE-209	ADVANCED SURVEYING	4.00
ENGTE-211	UNMANNED AERIAL SYSTEM SURVEYING	2.00
ENGTE-221	GLOBAL POSITIONING CONCEPTS AND APPLICATIONS	3.00
ENGTE-246	CONSTRUCTION AND MANUFACTURING TECHNOLOGY	2.00
Elective Credit		7.00
Choose from the following:		
CS-108	INTRODUCTION TO COMPUTER SCIENCE	
CS-111	FOUNDATIONS OF PROGRAMMING	
CS-226	SQL: STRUCTURED QUERY LANGUAGE	
ENGTE-125	3D CAD MODELING I	
ENGTE-203	UNMANNED AERIAL SYSTEMS AND IMAGERY FUNDAMENTALS	
ENGTE-206	RESIDENTIAL ARCHITECTURAL DRAFTING	
ENGTE-207	STRUCTURAL DRAFTING	
ENGTE-225	3-D CAD MODELING II	
ENGTE-272	ADVANCED GIS AND APPLICATIONS	
ENGTE-273	REMOTE SENSING AND APPLICATIONS	
ENGTE-290	DIRECTED STUDY IN ENGINEERING TECHNOLOGY	
ENGTE-294	INTERNSHIP IN ENGINEERING TECHNOLOGY	
Total Credits		**46.00**

Engineering Technology - Geographic Information System

Code	Title	Credits
ENGTE-106	DRAFTING FUNDAMENTALS	6.00
ENGTE-107	ENGINEERING TECHNOLOGY DISCIPLINES	2.00
ENGTE-135	APPLIED PHYSICS	4.00
ENGTE-154	INTRODUCTION TO COMPUTER DRAFTING	4.00
ENGTE-171	INTRODUCTION TO GEOSPATIAL TECHNOLOGIES	2.00
ENGTE-201	CIVIL DRAFTING	3.00
ENGTE-202	INTRODUCTION TO SURVEY	3.00
ENGTE-205	ADVANCED CIVIL DRAFTING AND DESIGN	4.00
ENGTE-209	ADVANCED SURVEYING	4.00
ENGTE-211	UNMANNED AERIAL SYSTEM SURVEYING	2.00
ENGTE-221	GLOBAL POSITIONING CONCEPTS AND APPLICATIONS	3.00
ENGTE-246	CONSTRUCTION AND MANUFACTURING TECHNOLOGY	2.00
ENGTE-272	ADVANCED GIS AND APPLICATIONS	3.00
ENGTE-273	REMOTE SENSING AND APPLICATIONS	3.00
Elective Credit		10.00
Total Credits		**55.00**

Engineering Technology - Mechanical

Code	Title	Credits
ENGTE-106	DRAFTING FUNDAMENTALS	6.00
ENGTE-107	ENGINEERING TECHNOLOGY DISCIPLINES	2.00
ENGTE-125	3D CAD MODELING I	3.00
ENGTE-131	MECHANICAL DRAFTING	4.00
ENGTE-135	APPLIED PHYSICS	4.00
ENGTE-171	INTRODUCTION TO GEOSPATIAL TECHNOLOGIES	2.00

ENGTE-154	INTRODUCTION TO COMPUTER DRAFTING	4.00
ENGTE-225	3-D CAD MODELING II	4.00
ENGTE-227	CAD/CAM	3.00
ENGTE-231	GD&T APPLICATION & INTERPRETATION	3.00
ENGTE-241	INTRODUCTION TO MACHINING	3.00
ENGTE-243	ADVANCED MACHINING	3.00
ENGTE-246	CONSTRUCTION AND MANUFACTURING TECHNOLOGY	2.00
ENGTE-261	3-D ASSEMBLIES & AUTOMATION	3.00
Total Credits		**46.00**

Engineering Technology - Traditional

Code	Title	Credits
ENGTE-106	DRAFTING FUNDAMENTALS	6.00
ENGTE-107	ENGINEERING TECHNOLOGY DISCIPLINES	2.00
ENGTE-125	3D CAD MODELING I	3.00
ENGTE-131	MECHANICAL DRAFTING	4.00
ENGTE-135	APPLIED PHYSICS	4.00
ENGTE-154	INTRODUCTION TO COMPUTER DRAFTING	4.00
ENGTE-171	INTRODUCTION TO GEOSPATIAL TECHNOLOGIES	2.00
ENGTE-201	CIVIL DRAFTING	3.00
ENGTE-202	INTRODUCTION TO SURVEY	3.00
ENGTE-246	CONSTRUCTION AND MANUFACTURING TECHNOLOGY	2.00
ENGTE-206	RESIDENTIAL ARCHITECTURAL DRAFTING	4.00
ENGTE-207	STRUCTURAL DRAFTING	4.00
Elective Credit		3.00
Total Credits		**44.00**

Sequential Plan of Study
Engineering Technology - Civil

Course	Title	Credits
First Year		
Fall		
ENGTE-106	DRAFTING FUNDAMENTALS	6.00
ENGTE-107	ENGINEERING TECHNOLOGY DISCIPLINES	2.00
ENGTE-154	INTRODUCTION TO COMPUTER DRAFTING	4.00
MTHPT-137	MATH FOR TECHNOLOGY	4.00
	Credits	**16.00**
Spring		
ENGL-101	WRITING AND RHETORIC I	3.00
ENGTE-135	APPLIED PHYSICS	4.00
ENGTE-171	INTRODUCTION TO GEOSPATIAL TECHNOLOGIES	2.00
ENGTE-211	UNMANNED AERIAL SYSTEM SURVEYING	2.00
Elective	Elective Credits	4.00
	Credits	**15.00**
Second Year		
Fall		
COMM-101	FUNDAMENTALS OF ORAL COMMUNICATION	3.00
ENGTE-201	CIVIL DRAFTING	3.00
ENGTE-202	INTRODUCTION TO SURVEY	3.00
ENGTE-246	CONSTRUCTION AND MANUFACTURING TECHNOLOGY	2.00

GIS-271	GEOGRAPHIC INFORMATION SYSTEMS	4.00
	Credits	**15.00**
Spring		
ENGTE-205	ADVANCED CIVIL DRAFTING AND DESIGN	4.00
ENGTE-209	ADVANCED SURVEYING	4.00
ENGTE-211	UNMANNED AERIAL SYSTEM SURVEYING	2.00
HRPT-185	HUMAN RELATIONS IN ORGANIZATIONS	3.00
Elective	Elective Credits	3.00
	Credits	**16.00**
	Total Credits	**62.00**

Engineering Technology - Geographic Information System

Course	Title	Credits
First Year		
Fall		
ENGTE-106	DRAFTING FUNDAMENTALS	6.00
ENGTE-107	ENGINEERING TECHNOLOGY DISCIPLINES	2.00
ENGTE-154	INTRODUCTION TO COMPUTER DRAFTING	4.00
MTHPT-137	MATH FOR TECHNOLOGY (or other approved math course)	4.00
	Credits	**16.00**
Spring		
ENGL-101	WRITING AND RHETORIC I	3.00
ENGTE-135	APPLIED PHYSICS	4.00
ENGTE-171	INTRODUCTION TO GEOSPATIAL TECHNOLOGIES	2.00
ENGTE-211	UNMANNED AERIAL SYSTEM SURVEYING	2.00
Elective	Elective Credits	3.00
	Credits	**14.00**
Second Year		
Fall		
COMM-101	FUNDAMENTALS OF ORAL COMMUNICATION	3.00
ENGTE-201	CIVIL DRAFTING	3.00
ENGTE-202	INTRODUCTION TO SURVEY	3.00
ENGTE-246	CONSTRUCTION AND MANUFACTURING TECHNOLOGY	2.00
GIS-271	GEOGRAPHIC INFORMATION SYSTEMS	4.00
	Credits	**15.00**
Spring		
ENGTE-205	ADVANCED CIVIL DRAFTING AND DESIGN	4.00
ENGTE-209	ADVANCED SURVEYING	4.00
ENGTE-272	ADVANCED GIS AND APPLICATIONS	3.00
ENGTE-273	REMOTE SENSING AND APPLICATIONS	3.00
HRPT-185	HUMAN RELATIONS IN ORGANIZATIONS	3.00
	Credits	**17.00**
	Total Credits	**62.00**

Engineering Technology - Mechanical

Course	Title	Credits
First Year		
Fall		
MTHPT-137	MATH FOR TECHNOLOGY	4.00
ENGTE-106	DRAFTING FUNDAMENTALS	6.00
ENGTE-107	ENGINEERING TECHNOLOGY DISCIPLINES	2.00

ENGTE-154	INTRODUCTION TO COMPUTER DRAFTING	4.00
	Credits	**16.00**
Spring		
ENGL-101	WRITING AND RHETORIC I	3.00
ENGTE-125	3D CAD MODELING I	3.00
ENGTE-131	MECHANICAL DRAFTING	4.00
ENGTE-135	APPLIED PHYSICS	4.00
ENGTE-171	INTRODUCTION TO GEOSPATIAL TECHNOLOGIES	2.00
	Credits	**16.00**
Second Year		
Fall		
COMM-101	FUNDAMENTALS OF ORAL COMMUNICATION	3.00
ENGTE-225	3-D CAD MODELING II	4.00
ENGTE-231	GD&T APPLICATION & INTERPRETATION	3.00
ENGTE-241	INTRODUCTION TO MACHINING	3.00
ENGTE-246	CONSTRUCTION AND MANUFACTURING TECHNOLOGY	2.00
	Credits	**15.00**
Spring		
ENGTE-227	CAD/CAM	3.00
ENGTE-243	ADVANCED MACHINING	3.00
ENGTE-261	3-D ASSEMBLIES & AUTOMATION	3.00
HRPT-185	HUMAN RELATIONS IN ORGANIZATIONS	3.00
CORE	Social & Behavioral Ways of Knowing	3.00
	Credits	**15.00**
	Total Credits	**62.00**

Engineering Technology - Traditional

Course	Title	Credits
First Year		
Fall		
ENGTE-106	DRAFTING FUNDAMENTALS	6.00
ENGTE-107	ENGINEERING TECHNOLOGY DISCIPLINES	2.00
ENGTE-154	INTRODUCTION TO COMPUTER DRAFTING	4.00
MTHPT-137	MATH FOR TECHNOLOGY	4.00
	Credits	**16.00**
Spring		
ENGL-101	WRITING AND RHETORIC I	3.00
ENGTE-125	3D CAD MODELING I	3.00
ENGTE-131	MECHANICAL DRAFTING	4.00
ENGTE-135	APPLIED PHYSICS	4.00
ENGTE-171	INTRODUCTION TO GEOSPATIAL TECHNOLOGIES	2.00
	Credits	**16.00**
Second Year		
Fall		
COMM-101	FUNDAMENTALS OF ORAL COMMUNICATION	3.00
ENGTE-201	CIVIL DRAFTING	3.00
ENGTE-202	INTRODUCTION TO SURVEY	3.00
ENGTE-246	CONSTRUCTION AND MANUFACTURING TECHNOLOGY	2.00
GIS-271	GEOGRAPHIC INFORMATION SYSTEMS	4.00
	Credits	**15.00**
Spring		
ENGTE-206	RESIDENTIAL ARCHITECTURAL DRAFTING	4.00

ENGTE-207	STRUCTURAL DRAFTING	4.00
HRPT-185	HUMAN RELATIONS IN ORGANIZATIONS	3.00
Elective	Elective Credits	4.00
	Credits	**15.00**
	Total Credits	**62.00**

Graduates from Engineering Technology programs go on to obtain careers in a variety of fields:

- Civil Engineering Technician
- Electro-Mechanical Engineering Technician
- Industrial Engineering Technician
- Mechanical Engineering Technician
- Geographical Informational Systems Technician
- Architectural Drafting Technician
- Mechanical Drafter
- Surveying Technician
- Senior Drafter/Designer
- Civil Drafter
- Mechanical Drafter
- Mechanical Designer/Machinists