

WESTERN DAKOTA TECH

ARCHITECTURAL AND ENGINEERING TECHNOLOGY

Associate of Applied Science, 68 Credit Hours, 18-Month Program

The Architectural and Engineering Technology program at WDTC equips students with the skills and knowledge necessary to work side-by-side with Architects and Engineers as they develop solutions for the Manufacturing and Construction industries.

Graduates of the program become experts in the full range of software and design concepts needed to succeed in as an AE Technician. This degree is widely accepted as the industry standard in qualifying for an entry level position in the architectural, civil, and mechanical AE fields.

Architectural designers work with architects to create 3D building models, technical plans and details showing the dimensions, construction materials, and processes used for residential and commercial building projects. Mechanical designers also develop 3D models which are then used to create detail and assembly drawings of a wide variety of machinery and mechanical devices, indicating dimensions, fastening methods, and other requirements. Civil designers create drawings that detail the construction related to land, roads, bridges, and other infrastructure. The Architectural and Engineering Technology program at WDTC provides students with a solid base of knowledge in all three of these fields, maximizing their versatility when entering the job market.

Course No.	Course Title	Credits
General Education Requirements		
CSC 105	MICROCOMPUTER SOFTWARE APPLICATIONS I	3
ENGL 101	COMPOSITION I* <i>or</i>	3
ENGL 106	WORKPLACE COMMUNICATIONS I *	
MATH 101	INTERMEDIATE ALGEBRA** <i>or</i>	3
MATH 114	COLLEGE ALGEBRA***	
MATH 120	TRIGONOMETRY****	3
PSYC 101	GENERAL PSYCHOLOGY <i>or</i>	3
PSYC 103	HUMAN RELATIONS IN THE WORKPLACE	
	Total	15
Technical Requirements		
AE 101	DRAFTING FUNDAMENTALS	3
AE 111	ARCHITECTURAL DRAFTING I	3
AE 135	ARCHITECTURAL CONSTRUCTION THEORY I	3
AE 139	2D CAD	3
AE 141	ARCHITECTURAL 3D CAD	3
AE 142	MECHANICAL 3D CAD	3
AE 150	ARCHITECTURAL PRINT READING	1
AE 202	MECHANICAL DRAFTING	3
AE 203	PRINCIPLES OF COMMERCIAL THEORY I	3
AE 214	INTRODUCTION TO CIVIL DRAFTING <i>online</i>	3
AE 232	MECHANICAL PRINCIPLES	3
AE 234	MECHANICAL PRINT READING	2
AE 237	ARCHITECTURAL DRAFTING II	3
AE 250	INTRODUCTION TO MAPPING/GPS	2
AE 252	INTRODUCTION TO SURVEYING	3
	ELECTIVES	12
	Total	53
Technical Electives-Choose minimum 12 credits		
AE 240	3D ARCHITECTURAL DESIGN	3
AE 244	3D ENGINEERING DESIGN	3
AE 247	COMPUTER AUTOMATED MANUFACTURING	3
AE 249	INTRODUCTION TO MEP DESIGN	3
AE 297	INTERNSHIP	3

*Prerequisite: Acceptable ACCUPLACER score or Basic Writing.

**Prerequisite: Acceptable ACCUPLACER score or Basic Math.

***Prerequisite: Acceptable ACCUPLACER score or Intermediate Algebra.

****Prerequisite: Acceptable ACCUPLACER score, Intermediate Algebra, or College Algebra.

Semester breakdown on next page

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Semester Breakdown AAS

First Semester			Second Semester		
		CR			CR
AE 101	Drafting Fundamentals	3	AE 111	Architectural Drafting I	3
AE 135	Architectural Construction Theory I	3	AE 141	Architectural 3D CAD	3
AE 139	2D CAD	3	AE 142	Mechanical 3D CAD	3
AE 250	Introduction to Mapping/GPS	2	AE 150	Architectural Print Reading	1
CSC 105	Microcomputer Software Applications I	3	AE 232	Mechanical Principles	3
MATH 101	Intermediate Algebra <i>or</i>	3	AE 234	Mechanical Print Reading	2
MATH 114	College Algebra		MATH 120	Trigonometry	3
Total Credit Hours		17	Total Credit Hours		18
Third Semester			Fourth Semester		
		CR			CR
AE 202	Mechanical Drafting	3	PSYC 101	General Psychology <i>or</i>	3
AE 203	Principles of Commercial Theory I	3	PSYC 103	Human Relations in the Workplace	12
AE 214	Introduction to Civil Drafting <i>online</i>	3		Technical Electives	
AE 237	Architectural Drafting II	3			
AE 252	Introduction to Surveying	3			
ENGL 101	Composition I <i>or</i>	3			
ENGL 106	Workplace Communications I				
Total Credit Hours		18	Total Credit Hours		15

If you are or have been convicted, pleaded guilty or no contest to, or received a suspended imposition of sentence for a felony or certain misdemeanors, you are advised that you may not be able to complete all course requirements for your chosen program, you may be prevented from taking required certification/licensure examinations in your chosen program field, and you may be prevented from gaining employment in your program field.