

ASSOCIATE OF APPLIED SCIENCE (895)

Architectural/Civil Engineering Technology

Purpose: The Architectural/Civil Technology degree is designed to prepare qualified technicians for career opportunities in architecture and civil engineering technology by exposing the student to the main areas of these professions. Courses in construction planning, estimating, surveying, and construction materials are included. Fundamental courses in mechanics (statics and strength of materials) are required. A comprehensive three semester sequence of CAD drafting classes exposes the student to the fundamentals of computer-aided drafting and introduces the application of a specialty suite such as Autodesk® Architectural Desktop. Graduates may seek immediate employment or transfer to a Bachelor of Technology program at certain four-year colleges and universities.

Occupational Objectives: The architectural/civil technician serves as a liaison between the craftsperson and the technologist or engineer. Opportunities include employment with architects, consulting engineers, general contractors, land surveyors, and government organizations such as the Virginia Department of Transportation (VDOT) and the Department of Environmental Quality (DEQ). Opportunities also exist in construction-related manufacturing fields such as prefabricated buildings, steel fabrication, and precast/prestressed concrete production.

Admission Requirements: Applicants must meet the general admission requirements for admission to the college.

Students who do not place into college-level English on the placement test will be required to take developmental courses (i.e., ENG 1, ENG 3, ENG 4, ENG 7).

Program Requirements: It is strongly recommended that students take ENG 111 in the first year of coursework.

SUGGESTED SCHEDULE

FIRST YEAR

FALL

ARC 100
DRF 201
EGR 216
GEO 200
MTH 115
SDV 101

SPRING

ARC 133
DRF 202
DRF 238
ENG 111
MEC 131
MTH 116

CURRICULUM AND OTHER REQUIREMENTS

GENERAL EDUCATION CORE COURSES

CREDITS

CST 100	Prin of Public Speaking (or CST 105)	3
ENG 111	College Composition I	3
GEO 200 ³	Intro to Physical Geography	3
HLT/PED ⁷	Health or Physical Education	2
MTH 115-116*	Technical Mathematics I-II	6
PHY 201 ⁴	General College Physics I	4
SDV 101	Orientation to Engineering	1
E ²	Humanities/Fine Arts Elective	3
E ³	Social Science Elective	3

ARCHITECTURAL/CIVIL ENGINEERING AND RELATED COURSES

ARC 100	Introduction to Architecture	3
ARC 133	Construction Method & Proced I	3
ARC 221*	Architectural CAD Applica Software I	3
CIV 135	Construction Manage & Estimating	3
CIV 171*	Surveying I	3
DRF 201-202*	Computer Aided Drafting Design I-II	6
DRF 238*	Computer-Aided Modeling/Rendering	3
EGR 216*	Computer Methods in Engin & Tech	3
GIS 200-201*	Geographical Information Sys I-II	6
MEC 131*	Mechanics I – Statics for Engin Tech	3
MEC 132*	Mechanics II – Strength of Materials	3
Total Minimum Credits for Degree		67

¹ Two credits of Health (HLT) or Physical Education (PED) are required of all students. Consult approved Health courses in the Description of Courses for selection. Veterans with an honorable discharge will be awarded HLT/PED credit based on military service.

² Any three credit 100 or 200 level ART, ENG, FRE, HUM, MUS, PHI, REL or SPA elective may be used, except ENG 111, ENG 112 or ENG 210. CST 130, 131, 132 or 136 may also be used. Students intending to transfer should contact the four-year college and choose a humanities course from the “Approved List of Transfer Courses” that is recommended by their transfer institution.

³ Any 100 or 200 level social science elective may be used. Students intending to transfer should contact the four-year college and choose a social science course from the “Approved List of Transfer Courses” that is recommended by their transfer institution.

⁴ Students transferring to a four-year institution should also complete PHY 202.

* This course has a prerequisite. Prerequisites for all courses are listed in the course description section at the back of the catalog.

SECOND YEAR

FALL

ARC 221
GIS 200
HLT/PED
MEC 132
PHY 201

SPRING

CIV 135
CIV 171
CST 100
GIS 201
Humanities/Fine Arts
Social Science Elective

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Architectural/Civil Engineering Technology cont'd

Students who do not place above Algebra II (MTH 04) and into the pre-requisite course for calculus (MTH 163 or 166) on the placement test will be required to take developmental courses.

Program Requirements: As a result of an articulation agreement with Old Dominion University, students receiving an Associate of Applied Science (AAS) degree in Architectural/Civil Engineering Technology may earn a baccalaureate degree (BS) in Engineering Technology on the Virginia Western Community College campus in Roanoke. Students must take ENG 111 in their first semester of classes.

SUGGESTED SCHEDULE

FIRST YEAR	SPRING
FALL	DRF 202
DRF 201	HLT/PED
EGR 216	ITP 136
ENG 111	MEC 131
GEO 200	MTH 116
MTH 115	Humanities/Fine Arts
SDV 101	
SECOND YEAR	SPRING
FALL	CIV 171
ARC 221	CST 100
GIS 200	GIS 201
GIS 210	GIS 205
MEC 132	Social Science Elective
PHY 201	

CURRICULUM AND OTHER REQUIREMENTS

GEOGRAPHIC INFORMATION SYSTEMS SPECIALIZATION

GENERAL EDUCATION CORE COURSES	CREDITS
CST 100 Prin of Public Speaking (or CST 105)	3
ENG 111* College Composition I	3
GEO 200 Introduction to Physical Geography	3
HLT/PED ¹ Health or Physical Education	2
MTH 115-116*. Technical Mathematics I-II	6
PHY 201 ⁴ General College Physics I	4
SDV 101 Orientation to Engineering	1
E ² Humanities/Fine Arts Elective	3
E ³ Social Science Elective	3

GIS AND RELATED COURSES

ARC 221 Architectural CAD Applica Software I	3
CIV 171 Surveying I	3
DRF 201-202* .. Computer-Aided Drafting Design I-II.....	6
EGR 216* Computer Methods in Engin & Tech	3
GIS 200-201* Intro to Geographical Info Systems I-II	6
GIS 205** Three Dimensional Analysis	3
GIS 210** Understanding Geographic Data	3
ITP 136..... C# Programming.....	4
MEC 131 Mechanics I-Statics for Engin Tech	3
MEC 132* Mechanics II – Strength of Materials	3
Total Minimum Credits for Degree	65

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² Any three credit 100 or 200 level ART, ENG, FRE, HUM, MUS, PHI, REL or SPA elective may be used, except ENG 111, ENG 112 or ENG 210. CST 130, 131, 132 or 136 may also be used. Students intending to transfer should contact the four-year college and choose a humanities course from the "Approved List of Transfer Courses" that is recommended by their transfer institution.

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⁴ Students transferring to a four-year institution should also complete PHY 202.

* This course has a prerequisite. Prerequisites for all courses are listed in the course description section at the back of the catalog.

**This course has a co-requisite. Co-requisites for all courses are listed in the course description section at the back of the catalog.