ARCHITECTURAL TECHNOLOGIES

Associate of Applied Science Degree

Arts, Communication & Design Pathway
CCD.edu/Architecture

The next generation of architectural designers will be challenged to give shape to a sustainable world. CCD's architectural technology programs are designed to provide a springboard into a rewarding career, whether it involves transfer into a four-year degree program or direct employment within the design community as an architectural technologist paraprofessional. CCD's pathways offer a balance of technical skill training with the development of collaborative design-thinking abilities that are crucial to solving the complex range of today's building tasks. Community College of Denver currently offers four Associate of Applied Science degrees in architectural technology.

- Architectural Technologies
- Architectural Studies
- Digital Design Media
- Sustainable Design

Architectural Technologies

This degree prepares you for a career as an architectural technologist, whose primary role is in the development of detailed design for the construction and renovation of buildings to meet the needs of a sustainable world. The focus of the curriculum is on the knowledge base and decision-making processes involved with shaping building form and assembling architectural materials and components in a manner that supports minimal energy and resource consumption and produces functional, robust architecture.

The contemporary building technology certificate and Revit certificate both seamlessly transfer into the A.A.S. in architectural technologies.

PROGRAM ADMISSION REQUIREMENTS
Meet minimum assessment scores or prerequisites required for general education courses in the program. Meet with the program chair or your academic advisor to discuss this program.

COURSE MAP

Course	Title	Credits
First Semester		
AEC 1100	Introduction to Design Theory [1]	3
AEC 1510	Building Materials	3
ENG 1021	English Composition I: GT-CO1 [1]	3
MAT 1340	College Algebra: GT-MA1	4
Choose One Art Course		3
ART 1201	Drawing I [1]	
ART 1002	Visual Concepts 2-D Design	
	Subtotal	**16**
Second Semester		
AEC 1220	Architectural Drawing Theory [1]	4
AEC 1110	History of Architecture	3
PHY 1105	Conceptual Physics with Lab: GT-SC1	4
CAD 2204	AutoCAD Architecture	3
	Subtotal	**14**
Third Semester		
AEC 1231	Residential Construction Drawing	4
AEC 2300	Sustainable Building Systems	3
AEC 2410	Applied Statics and Strengths of Materials	3
CAD 2220	Revit Architecture	3
COM 2220	Group Communication: GT-SS3	3
	Subtotal	**16**
Fourth Semester		
AEC 2230	Architectural Design and Development	4
AEC 2700	International Building Codes	3
AEC 1600	Construction Practices and Documents	2
AEC 1232	Commercial Construction Drawing	4
Choose One Computer Aided Drafting Class		3
CAD 1115	Rhino	
CAD 2221	Advanced Revit Architecture	
	Subtotal	**16**
	Total Credits	**62**

Architectural Studies

This program prepares students for transfer into the four-year undergraduate program in Architecture at the University of Colorado Denver through fulfillment of basic General Education, GTE, and foundational architecture and design courses. This is an articulated agreement with CU Denver; students who are accepted into CU Denver's College of Architecture and Planning BS Architecture program with this degree are able to achieve junior-year status, contingent on maintenance of minimum course grades and portfolio review of completed work from AEC 104.

CCD advises students interested in this pathway to consult CCD Advising and the Architectural Technology Program Chair as well as the anticipated transfer institution (CU Denver College of Architecture and Planning) for development of the most optimal selection of available electives.

Course	Title	Credits
First Semester		
AEC 1100	Introduction to Design Theory	3
ART 1201	Drawing I	3
ENG 1021	English Composition I: GT-CO1	3
MAT 1340	College Algebra: GT-MA1	4
Choose One Geography Course		3
GEO 1005	World Regional Geography: GT-SS2	
GEO 1006	Human Geography: GT-SS2	
	Subtotal	**16**
Second Semester		
AEC 1220	Architectural Drawing Theory	4
AEC 1110	History of Architecture	3
ENG 1022	English Composition II: GT-CO2	3
MAT 1420	College Trigonometry: GT-MA1	3
Choose One Humanities Course		3
HUM 1021	Humanities: Early Civilization: GT-AH2	
HUM 1022	Humanities: Medieval-Modern: GT-AH2	
HUM 1023	Humanities: Modern World: GT-AH2	
	Subtotal	**16**
Third Semester		
AEC 1510	Building Materials	3
PHY 1111	Physics Algebra-Based I with Lab: GT-SC1	5
Choose One Sociology Course		3
SOC 1001	Introduction to Sociology I: GT-SS3	
SOC 1002	Introduction to Sociology II: GT-SS3	
SOC 2007	Environmental Sociology: GT-SS3	
Choose One Course		3
AST 1140	Astronomy of Ancient Cultures: GT-SC2	
BIO 1003	Principles of Animal Biology: GT-SC2	
GEY 1108	Geology of National Parks GT-SC2	
	Subtotal	**14**
Fourth Semester		
AEC 2410	Applied Statics and Strengths of Materials	3
PHI 2018	Environmental Ethics: GT-AH3	3
Choose One Course		3
AEC 2300	Sustainable Building Systems	
AEC 2700	International Building Codes	
Choose One Course		3
CAD 1115	Rhino	
CAD 2220	Revit Architecture	
Choose One History Course		3

HIS 2135	Colorado History: GT-HI1	
HIS 2130	History of American West: GT-HI1	
HIS 2015	20th Century World History: GT-HI1	
	Subtotal	**15**
	Total Credits	**61**

Digital Design Media

This program, which shares a core set of courses with the other A.A.S. architectural technology degrees, focuses on developing proficiencies across a broad spectrum of current and widely used digital design software. The degree prepares you for career pathways involving leadership in architectural drawing production, architectural rendering and presentation, and digital visualization roles in professional design practices.

COURSE MAP

Course	Title	Credits
First Semester		
AEC 1100	Introduction to Design Theory	3
ART 1201	Drawing I	3
AEC 1510	Building Materials	3
ENG 1021	English Composition I: GT-CO1	3
MAT 1340	College Algebra: GT-MA1	4
	Subtotal	**16**
Second Semester		
AEC 1220	Architectural Drawing Theory	4
AEC 1110	History of Architecture	3
PHY 1105	Conceptual Physics with Lab: GT-SC1	4
CAD 1110	Sketchup	3
	Subtotal	**14**
Third Semester		
CAD 2204	AutoCAD Architecture	3
ART 1002	Visual Concepts 2-D Design	3
CAD 2220	Revit Architecture	3
MGD 1001	Introduction to Computer Graphics	3
Choose One Elective Course		3
AEC 2700	International Building Codes	
AEC 2410	Applied Statics and Strengths of Materials	
	Subtotal	**15**
Fourth Semester		
CAD 1115	Rhino	3
CAD 2221	Advanced Revit Architecture	3
CAD 2540	3DS Max	3
AEC 2300	Sustainable Building Systems	3
Choose One Elective Course		3
AEC 2700	International Building Codes	
AEC 2080	Internship	
AEC 2410	Applied Statics and Strengths of Materials	
ART 1004	Visual Concepts 4-D Design	
	Subtotal	**15**
	Total Credits	**60**

Sustainable Design

This program, which shares a core set of courses with the other A.A.S. architectural technology degrees, focuses on developing concepts for energy and resource conservation in architectural design and the methodologies used to implement them. Studies include regional and global implications of sustainable design and training in the use and administration of green building standards in professional practice. The degree enables you to pursue a career in sustainable design consultation and green building certification administration.

COURSE MAP

Course	Title	Credits
First Semester		
AEC 1100	Introduction to Design Theory	3
AEC 1510	Building Materials	3
ENG 1021	English Composition I: GT-CO1	3
MAT 1340	College Algebra: GT-MA1	4
Choose One Course		3
ART 1201	Drawing I	
ART 1002	Visual Concepts 2-D Design	
	Subtotal	**16**
Second Semester		
AEC 1220	Architectural Drawing Theory	4
AEC 2300	Sustainable Building Systems	3
PHY 1105	Conceptual Physics with Lab: GT-SC1	4
CAD 1110	Sketchup	3
	Subtotal	**14**
Third Semester		
ENV 1111	Environmental Science with Lab: GT-SC1	4
AEC 1110	History of Architecture	3
AEC 2410	Applied Statics and Strengths of Materials	3
CAD 2220	Revit Architecture	3
Choose One Course		3
ANT 2540	Environmental Anthropology	
ANT 2545	Anthropology of Energy	
	Subtotal	**16**
Fourth Semester		
AEC 2230	Architectural Design and Development	4
AEC 1600	Construction Practices and Documents	2
AEC 2310	LEED Exam Preparation	3
PHI 2018	Environmental Ethics: GT-AH3	3
Choose One Elective Course		3
AEC 2700	International Building Codes	
CAD 2221	Advanced Revit Architecture	
	Subtotal	**15**
	Total Credits	**61**

Certificates

Arts, Communication & Design Pathway
CCD.edu/Architecture

Community College of Denver currently offers six certificates in architectural technology. These certificates reflect the core course makeup of each A.A.S. degree concentration. As a student pursuing any of the three A.A.S. degrees, you can typically add an additional full semester to complete any of the other two certificate concentrations.

Additionally, as a student with a prior bachelor's degree or a mid-career professional seeking to enhance your skill sets, you are able to complete these certificates without fulfilling additional general education requirements

- Contemporary Building Technology
- Digital Design Media
- Sustainable Design

This is a stand-alone certificate recognizing successful completion of the two-semester progression of Revit courses.

- Revit

These two certificates are designed to support a successful career in the building trades as a well-rounded, skilled field worker. Both certificates blend a mix of classroom, digital design and construction learning opportunities.

- Basic Building Crafts
- Advanced Building Crafts

Contemporary Building Technology

This certificate seamlessly transfers to the Associate of Applied Science degree in architectural technology.

This certificate focuses on two aspects of critical skills necessary for the successful development of robust, sustainable architecture: the knowledge base of architectural materials and components, their selection and proper assembly, and the graphic documentation skills required to communicate their extent and relationships to a builder or fabricator. The successful completion of this certificate prepares you for employment as an entry-level architectural technologist and drafter.

COURSE MAP

Course	Title	Credits
First Semester		
AEC 1231	Residential Construction Drawing	4
AEC 1510	Building Materials	3
AEC 2410	Applied Statics and Strengths of Materials	3
CAD 2220	Revit Architecture	3
	Subtotal	**13**
Second Semester		
CAD 2204	AutoCAD Architecture	3
AEC 2700	International Building Codes	3
CAD 2221	Advanced Revit Architecture	3
AEC 1232	Commercial Construction Drawing	4
AEC 1600	Construction Practices and Documents	2
	Subtotal	**15**
	Total Credits	**28**

Digital Design Media

This certificate seamlessly transfers to the Associate of Applied Science degree in digital design media.

Increasing specialization within architecturally related design practices — particularly larger ones — has created niches for individuals with interest and skills in 2- and 3-D project visualization and presentation. Technologists with training in a wide variety of digital media will be in growing demand as client and user expectations for these kinds of products and services during a typical project design process grows.

COURSE MAP

Course	Title	Credits
First Semester		
CAD 2204	AutoCAD Architecture	3
CAD 1110	Sketchup	3
ART 1002	Visual Concepts 2-D Design	3
CAD 2220	Revit Architecture	3
MGD 1001	Introduction to Computer Graphics	3
	Subtotal	**15**
Second Semester		
CAD 1115	Rhino	3
CAD 2221	Advanced Revit Architecture	3
CAD 2540	3DS Max	3
Choose One Course		3
AEC 1510	Building Materials	
AEC 2300	Sustainable Building Systems	
AEC 2700	International Building Codes	
	Subtotal	**12**
	Total Credits	**27**

Sustainable Design

This certificate seamlessly transfers to the Associate of Applied Science degree in sustainable design.

Sustainable design as a client and end user expectation is a fast-developing aspect of current architectural practice, and the sometimes complex administration of green building certification is increasingly taken up by a specialized staff of consultants experienced and dedicated to these particular tasks within a larger design team. This certificate enables you to pursue foundational studies in emerging areas of specialization.

COURSE MAP

Course	Title	Credits
First Semester		
ENV 1111	Environmental Science with Lab: GT-SC1	4
AEC 1510	Building Materials	3
CAD 2220	Revit Architecture	3
CAD 1110	Sketchup	3
	Subtotal	**13**
Second Semester		
AEC 1600	Construction Practices and Documents	2
AEC 2310	LEED Exam Preparation	3
PHI 2018	Environmental Ethics: GT-AH3	3
AEC 2300	Sustainable Building Systems	3
Choose One Course		3
AEC 1100	Introduction to Design Theory	
AEC 1110	History of Architecture	
AEC 2700	International Building Codes	
	Subtotal	**14**
	Total Credits	**27**

Revit

This program is not eligible for federal student aid.

This certificate seamlessly transfers to the Associate of Applied Science degree in architectural technology, which provides for the development of critical skills needed to fill both current and evolving roles in the mechanical design and advanced manufacturing industries.

The Revit certificate delivers curriculum and well-designed competencies using current and emerging 2D/3D-digital design technologies. By blending classic 2D drafting (ISO, ASTM, ANSI) requirements, our students are ready to understand and meet all mechanical design and manufacturing needs for 2D documents and document control. Then the engineering graphics program builds a strong 3D foundation in modeling, assembling, and documenting their 3D solid designs. Lastly, to keep up with cutting-edge technology, we include 3D printing and 3D scanning, rounding out skills in concurrent design.

PROGRAM ADMISSION REQUIREMENTS

Meet with the program chair or your academic advisor to discuss this program.

Course Map

Code	Title	Credits
CAD 2220	Revit Architecture	3
CAD 2221	Advanced Revit Architecture	3
Total Credits		**6**

Basic Building Crafts

This certificate prepares you with a well-rounded combination of conceptual and manual skills centered around light-frame construction materials and methods to enable competitive employment as a skilled construction field worker.

COURSE MAP

Course	Title	Credits
First Semester		
AEC 1231	Residential Construction Drawing	4
AEC 1220	Architectural Drawing Theory	4
AEC 1520	Construction Materials and Systems	3
AEC 1600	Construction Practices and Documents	2

AEC 2080	Internship	3
	Subtotal	**16**
	Total Credits	**16**

Advanced Building Crafts

This certificate is intended to build on the coursework and field experience acquired through the completion of the basic building crafts certificate. The advanced certificate develops skills in digital construction documentation, building code principles, and connects classroom design and documentation training with relevant field experience.

Successful completion of the basic certificate will be a prerequisite for pursuit of the advanced certificate.

This certificate seamlessly transfers into the A.A.S. in architectural technologies.

COURSE MAP

Course	Title	Credits
First Semester		
AEC 1232	Commercial Construction Drawing	4
AEC 2700	International Building Codes	3
CAD 2220	Revit Architecture	3
CAD 2204	AutoCAD Architecture	3
AEC 2087	Cooperative Education	3
	Subtotal	**16**
	Total Credits	**16**