

Computer-Assisted Design Technology

Computer-Assisted Design, or CAD, is a field that utilizes specialized computer software to graphically communicate (or “draft”) ideas into technically precise drawings. CAD drafting is used in the design and documentation process by architects, engineering and construction professionals. Additionally, the software is used to create the three-dimensional images used in animation and rendering. In this program, students master the CAD software packages used most commonly in design, documentation and presentation, with an emphasis on the architecture, design and building construction fields.

The curriculum is designed to help students develop strong marketable skills. Students acquire excellent computer graphic skills as well as the technical background that allows for accurate, informed decisions. Students become versatile draftspersons who have diverse job opportunities. Graduates are prepared to enter the professional and technical services as drafters and technicians, primarily in architecture, engineering and construction, or in architectural animation. Drafters translate ideas, sketches and technical information into complete, accurate drawings needed to make buildings, structures or products. Technicians assist design, construction or art professionals to create renderings and animations or other three-dimensional simulations. They also can create the computer drawings and data required for the execution of creative ideas in a wide range of disciplines, such as film and industrial design. Graduates may also become CAD software support specialists, customizing software for specific companies or providing technical support to the computer users.

STUDENT LEARNING OUTCOMES:

Upon completion of this program graduates will be able to:

- Develop drawings and models utilizing manual and computer drafting in both three and two dimensions.
- Interpret architectural and construction drawings and documents.
- Develop solutions for design and construction problems by utilizing graphic techniques including rendering and animation.
- Demonstrate knowledge of various building materials and methods and related building technologies.

- Communicate effectively and work as part of a team, using graphic, oral and written modes.

PROGRAM ENTRY REQUIREMENTS:

The program is open to all interested students, assuming space is available. Students selecting this curriculum will be assigned a faculty mentor who will guide them throughout their course of study.

Students are required to take the College’s placement tests at the time of entry. Students identified as needing

developmental course work must satisfactorily complete the appropriate English and mathematics courses in addition to the requirements of their degree program.

PROGRAM OF STUDY AND GRADUATION REQUIREMENTS:

To qualify for the A.A.S. degree in Computer-Assisted Design Technology, a student must complete a minimum of 65 credits as prescribed and attain a minimum grade point average of 2.0 (“C” average).

COMPUTER-ASSISTED DESIGN TECHNOLOGY

Course Number and Name	Prerequisites and Corequisites	Credits	Gen Ed Req.
FIRST SEMESTER			
ADC 101 – Introduction to Design and Construction		3	
ADC 103 – CAD Basics		3	Tech Comp*
ADC 109 – Design Studio I		4	
MATH 137 – Geometry for Design ¹ or higher level mathematics course		3/4	Mathematics
ENGL 101 – English Composition		3	ENGL 101
SECOND SEMESTER			
ADC 112 – Construction Materials and Detailing		3	
ADC 159 – Design Studio II	ADC 103, ADC 109	4	
ADC 163 – Digital Documentation in Architecture and Construction	ADC 103	3	Tech Comp*
ENGL 102 – English Composition II	ENGL 101	3	ENGL 102, Info Lit
ADC 160 – Presentation Techniques	ADC 109	3	Tech Comp*
THIRD SEMESTER			
Directed Elective ² – Select one of the following:		3	
ADC 136 – Building Codes	ENGL 101 which may be taken concurrently		
ADC 186 – Surveying	ADC 101		
ADC 212 – Materials and Detailing: Interiors and Enclosures	ADC 101		
ADC 226 – Structures I - Analysis	ADC 101 and MATH 118 or higher		
ADC 227 – Structures II - Design	ADC 226		
ADC 246 – Contracts and Specifications	ADC 101		
ADC 253 – Environmental Control Systems	ADC 101		
ADC 254 – Advanced Topics in Environmental Systems	ADC 253		
ADC 286 – Building Rehabilitation and Redevelopment	ADC 101		
CIS 104 – PC Operating Systems: Windows			
Directed Elective ² – Select one from the list above		3	
ADC 263 – Digital Animation and Rendering	ADC 103 or ART 150	3	Tech Comp*
Social Science Elective		3	Social Sciences
ADC 260 – Advanced Presentation Techniques	ADC 160; and ADC 209 which may be taken concurrently; or ADC 163 which may be taken concurrently	3	Tech Comp*

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COMPUTER-ASSISTED DESIGN TECHNOLOGY, *continued*

Course Number and Name	Prerequisites and Corequisites	Credits	Gen Ed Req.
FOURTH SEMESTER			
Science Elective ¹		3/4	Natural Science
Directed Elective ² – select one from the list above		3	
Directed Elective ² – select one from the list above		3	
ADC 273 – Advanced CAD Applications	ADC 163	3	Tech Comp*
Humanities Elective		3	Humanities
Social Science Elective		3	
MINIMUM CREDITS NEEDED TO GRADUATE		65	

General Education Requirements

All General Education requirements are met through required courses (as indicated above) except for the Writing Intensive, Interpretive Studies and American/Global Diversity requirements. Therefore, in order to graduate, students in this program must choose one course that is designated Writing Intensive, one course that is designated Interpretive Studies and one course that is designated American/Global Diversity. The same course may be used to fulfill all three requirements. A list of courses that fulfill these requirements and a more detailed explanation of the College's general education requirements appear elsewhere in this Catalog and on www.ccp.edu.

*Students must complete ADC 103, ADC 160, ADC 163, ADC 260, ADC 263 and ADC 273 to meet Technological Competency requirement.

1 Transfer institutions vary on the courses accepted for transfer. Consult with departmental advisors or the specific schools to determine choice.

2 Selection of Directed Electives will be made in consultation with departmental advisors.

For More Information Contact:

The Division of Liberal Studies, Room BR-21, 1700 Spring Garden Street, Philadelphia, PA 19130, Telephone (215) 751-8450; or the College Information Center (215) 751-8010.