Architectural Technology Program

Division of Engineering Technologies and Computer Sciences — Curriculum Code: 2301
Will Earn Upon Program Completion: Associate in Applied Science (A.A.S.) Degree

Why major in Architectural Technology?

The program prepares students for employment in the architectural profession. Instruction is offered in the architectural design studio, and students have the opportunity to express their ideas via conceptual and real-life architectural projects. Jobs in the field are typically found in architectural consulting firms, and in the architectural departments of corporations and state and federal agencies. Job titles range from construction site inspector to CAD operator.

If I major in Architectural Technology, can I transfer to an upper division college or university?

Yes. The curriculum is designed to parallel the first two years of architectural study offered in the five year programs leading to the bachelor of architecture (B.Arch.) degree. Several area colleges and universities offer architecture programs including nearby New Jersey Institute of Technology. With the B.Arch. degree, you become eligible to sit for the architect's license exam.

Are there any requirements I must satisfy before I start taking courses in my major?

All new students must take a basic skills competency test. Based on the results of the test, you may be required to take developmental courses in reading, English, and/or mathematics.

How long will it take for me to complete this degree?

If you do not need developmental coursework and you attend full time, you can complete the degree in two years. Part time students can complete the program in three or four years.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-4400 or Admissions at (973) 877-1941.

Upon completion of this program, graduates will be able to:

◆ Demonstrate knowledge of basic construction principles and materials, including concrete, steel and wood;

◆ Demonstrate understanding of architectural and engineering drawings including the concept of scale and orthographic projection;

◆ Design various architectural projects including site layout and building features;

◆ Design a structure utilizing functional as well as aesthetic considerations;

◆ Demonstrate knowledge of architectural history, especially in ways that it influences architectural design today; and

◆ Utilize computer software applications such as word processing, spreadsheets, basic programming, and mathematical computing.

Architectural Technology — A.A.S. Degree Program

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GENERAL EDUCATION REQUIREMENTS:
(21-22 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any ANT, POL, PSY, or SOC course	3

Math (4 credits)

MTH	113	College Algebra with Trigonometry	4

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (3 credits)

Any History course	3

MAJOR COURSE REQUIREMENTS:
(28 credits)

ARC	101	Architectural Design I	4
ARC	102	Architectural Design II	4
ARC	111	History of Architecture I	3
ARC	112	History of Architecture II	3
ARC	131	Construction Methods I	3
ARC	132	Construction Methods II	3
ARC	201	Architectural Design III	4
ARC	202	Architectural Design IV	4

ADDITIONAL COURSE REQUIREMENTS:
(21 credits)

CSC	112	Computer Prog. for Engr. & Tech.	3
MTH	114	Unified Calculus I	3
ENR	103	Engineering Graphics	2
ENR	105	Applied Computer Aided Design	2
ENR	205	Advanced CAD	3
PHY	101	College Physics I	4
PHY	102	College Physics II	4

Total Credits Required for Degree   **70-71**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

ENG	101	College Composition I	3
ARC	101	Architectural Design I	4
ARC	111	History of Architecture I	3
ENR	103	Engineering Graphics	2
MTH	113	College Algebra with Trigonometry	4

Second Semester

ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3
ARC	102	Architectural Design II	4
ARC	112	History of Architecture II	3
ENR	105	Applied Computer Aided Design	2
MTH	114	Unified Calculus I	3

Summer

Social Science requirement	3
Humanities requirement	3

Third Semester

ARC	131	Construction Methods I	3
ARC	201	Architectural Design III	4
CSC	112	Computer Prog. for Engr. & Tech.	3
PHY	101	College Physics I	4
Physical Education/Health requirement			2-3

Fourth Semester

ARC	132	Construction Methods II	3
ARC	202	Architectural Design IV	4
ENR	205	Advanced CAD	3
PHY	102	College Physics II	4
Social Science requirement			3

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*NOTE: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Computer Aided Design Technology Program

Division of Engineering Technologies and Computer Sciences — Curriculum Code: 3205
Will Earn Upon Program Completion: Certificate in Computer Aided Design Technology

Why major in Computer Aided Design Technology?

Computer Aided Design (CAD) involves the preparation of engineering drawings using specialty computer software. In recent years, CAD has become the preferred means of drawing and illustrating in all engineering related fields. The Computer Aided Design Technology certificate program is designed to provide students with the knowledge and skills needed to effectively use CAD in any professional environment. Fields in which CAD is used as a basic tool include civil, mechanical, and manufacturing engineering, architecture, surveying, and construction.

If I major in Computer Aided Design Technology, can I transfer to an upper division college or university?

The Computer Aided Design Technology Program is intended as a career oriented program. Courses completed as part of this certificate program can be applied toward associate degrees at ECC. Most or all credits earned in certificate programs that are applied to associate degree programs transfer to four-year institutions. See a divisional advisor for more information.

Are there any requirements I must satisfy before I start taking courses in my major?

All new students must take a basic skills competency test. Based on the results of the test, you may be required to take developmental courses in reading, English, and/or mathematics.

How long will it take for me to complete this certificate?
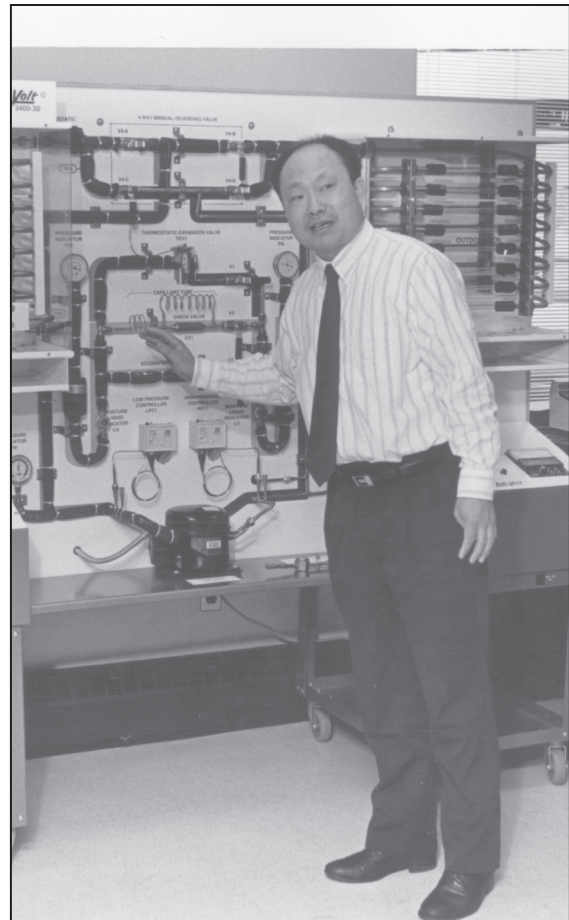
If you do not need developmental coursework and you attend full time, you can complete the certificate in two semesters. Part time students can complete the program in two years.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-4400 or Admissions at (973) 877-1941.

Upon completion of this program, graduates will be able to:

◆ Apply principles of engineering graphics to prepare detailed drawings using CAD software;

◆ Demonstrate computer literacy in the use of various CAD systems;

◆ Use American National Standards Institute (ANSI) protocol for sizing and tolerancing of mating parts;

◆ Apply Geometric Dimension and Tolerancing (GD&T) techniques to engineering design; and

◆ Utilize 3D solid modeling CAD systems to create mechanical components and generate assembly designs.

Computer Aided Design Technology — Certificate Program

GENERAL EDUCATION REQUIREMENTS:
(10 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3

Math (4 credits)

MTH	100	Introductory College Mathematics	4

MAJOR COURSE REQUIREMENTS:
(14 credits)

ENR	100	Intro. to Engineering Tech. and Sci.	3
ENR	103	Engineering Graphics	2
ENR	105	Applied Computer Aided Design	2
ENR	106	Intermediate Computer Aided Design	2
ENR	205	Advanced Computer Aided Design	3
ENR	250	Computer Aided Design Project	2

Total Credits Required for Certificate   **24**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

ENG	101	College Composition I	3
ENR	100	Intro. to Engineering Tech. and Sci.	3
ENR	103	Engineering Graphics	2
MTH	100	Introductory College Mathematics	4

Second Semester

ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3
ENR	105	Applied Computer Aided Design	2
ENR	106	Intermediate Computer Aided Design	2

Summer

ENR	205	Advanced Computer Aided Design	3
ENR	250	Computer Aided Design Project	2

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.