

# ASSOCIATE IN APPLIED SCIENCE

# DRAFTING AND ENGINEERING TECHNOLOGIES

(64 hrs. min.)

CIP: 15.1303

This degree provides students with opportunities to acquire the skills necessary to enter the workplace as competent drafting and engineering technicians able to make graphical layout decisions. Concentrations in Architecture and Construction, Civil Engineering and Technologies, and Manufacturing and Engineering Process Technologies allow students to focus on distinct career paths. This program combines computer-based modeling with conventional methods in engineering graphics communication to solve drafting and basic design-related problems and provides foundational learning in regards to critical thinking and problem solving using engineering methods.

## PROGRAM OUTCOMES

Upon successful completion of this program, students will be able to:

- Conceptualize and organize design thoughts to compare project needs and determine, justify and communicate a clear, concise explanation of design goals, constraints and methodology.
- Differentiate between necessary tools, capabilities and methods to construct and utilize design models to identify and solve problems related to project management.
- Distinguish graphical and drafting layout necessities to prepare technical drawing and models for the communication of design projects.
- Evaluate, employ and integrate the Design Process to critically deduct the solving of problems relating to sheet layouts, design practices and project management.

Note: A.A.S. degrees are designed to prepare students for entry-level positions in specific occupations; they are not generally intended to transfer to four-year institutions. For more information on transfer, please refer to Page X of this catalog, or speak with an academic adviser.

## GENERAL EDUCATION REQUIREMENTS: (25 HRS. MIN.)

Communications (6 hrs.)

ENGL 111                      Composition and Rhetoric (3)

ENGL 216                      Technical Writing (3)

Humanities (3 hrs.)

Behavioral/Social Sciences (3 hrs.)

Math (4 hrs.)

MATH 150            Pre-Calculus (4)

Science (4 hrs.)

Computers/Technology (3 hrs.)

MART 119 Digital Skills (3)

Health, Physical Education and Recreation or Dance (2 hrs. min.)

CORE REQUIREMENTS: (27 HRS. MIN.)

DRFT 111            Technical Drawing with CAD (3)

DRFT 121            Computer-Aided Drafting Foundation (3)

DRFT 123            Computer-Aided Modeling (3)

[or]

BLDG 123            Building Information Modeling (3)

DRFT 211            Computer-Aided Drafting Proficiency (3)

DRFT 221            Computer-Aided Drafting Mastery (3)

ENGR 111            Introduction to Engineering (3)

ENGR 121            Introduction to Engineering Graphics (3)

[or]

Arch 121            Architectural Graphics (3)

ENGR 122            Engineering Methods (3)

ENGR 298            Internship (3)

[or]

ENGR 299            Cooperative Education (3)

Architecture and Construction Concentration: (15 hrs)

ARCH 111            Introduction to Architectural Drawing (3)

ARCH 123            Introduction to Architecture (3)

ARTS 113L           Two-Dimensional Design (3)

[or]

ARTS 116L           Three-Dimensional Design (3)

BLDG 112            Construction Technologies I (3)

BLDG 122            Construction Technologies II (3)

Civil Engineering and Technology Concentration: (13 hrs.)

DRFT 226            Civil 3D Modeling (3)

ENGR 124            Introduction to Geomatics (3)

ENGR 214            Geographic Information Systems (3)

ENGR 216            Field Surveying (4)