

ASSOCIATE IN APPLIED SCIENCE

DRAFTING AND

ENGINEERING TECHNOLOGIES

(64 hrs. min.)

CIP: 15.1303

School of Business and Applied Technologies, (505) 428-1332

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.

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 34 of this catalog, or speak with an academic adviser.

PROGRAM OUTCOMES

Upon 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.

GENERAL EDUCATION REQUIREMENTS: (25 HRS. MIN.)

Communications (6 hrs.)

ENGL 111 Composition and Rhetoric (3)

ENGL 216 Technical Writing (3)

Math (4 hrs.)

MATH 150 Pre-Calculus (4)

Science (4 hrs.)

Social/Behavioral Sciences (3 hrs.)

Humanities and Fine Arts (3 hrs.)

Computers/Technology (3 hrs.)

MART 119 Digital Skills (3)

Health, Physical Education and Recreation (HPER) 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 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 2-Dimensional Design (3)

[or]

ARTS 116L 3-Dimensional Design (3)
BLDG 112 Construction Skills I (3)
BLDG 122 Construction Skills II (3)

Civil Engineering and Technology Concentration: (13 HRS.)

DRFT 216 Civil 3-D Modeling (3)
ENGR 124 Introduction to Geomatics (3)
ENGR 214 Geographic Information Systems (3)
ENGR 216 Field Surveying (4)

Manufacturing and Process Engineering Technology

Concentration: (12 HRS.)

ENGR 117 Computer Integrated Manufacturing I (3)
ENGR 127 Computer Integrated Manufacturing II (3)
ENGR 217 Instrumentation and Control Automation (3)
ENGR 227 Manufacturing Processes (3)

NOTE: See "College Success Course Requirement" on Page 10.

TOTAL 64 CREDITS MIN.