Architectural Technology
Level I Unit Outline

Unit 1: Agenda Book Review/Classroom Rules

- Class discussion of student agenda book
- Review of classroom rules and expectations
- School safety protocols, district drills and emergency evacuations, behavior and meeting locations
- Review expectations and school policies for electronic devices

Unit 2: Safety, First Aid, Personal Protective Equipment and Shop Attire

- Identify, discuss, locate first aid and blood borne kits
- Identify, locate and demonstrate function and purpose of the Emergency Eye Station
- Identify, discuss, locate fire extinguisher
- Identify, distribute and discuss function and uses of protective eyewear, appropriate personal protective equipment (PPE) required in shop, and acceptable shop attire
- Identify, show location and discuss function and uses of the SDS (Safety Data Sheets) and how to interpret the information about paints and aerosols, content precautions, material labeling
- Equipment safety protocols
- Identify, demonstrate shop ventilation systems where applicable
- Identify locate and discuss function of shop flammable cabinet where applicable
- Discuss and demonstrate shop housekeeping of supplies, work stations and room maintenance
- Discuss and identify electrical safety considerations in the shop area
- Compile a safety section in the student shop notebook
- Identify, demonstrate air gauge function and operation where applicable
- Completion of online safety course and successful passing of safety test(s)

Unit 3: CAD Drafting 1

- Autodesk AutoCAD Software Drafting Basics: Commands & Overrides
- Coordinates & Arrays: Line Direction & Multiple Reproduction
  - Sketching Techniques
- Orthographics & Isometrics: 2-Dimensional & 3-Dimensional Views
  - Geometric Drawings
- 3-D Solids: 3-Dimensional Modeling
- Introduction to Professional Practice: Professional Development Basics
  - Office Organization

- o Statements
- Portfolio Basics: Presentation of Work

Unit 4: CAD Drafting 2
- Delineation: Good Drafting Habits, Clarity & Accuracy
  - o Mechanical Drafting
- Assemblies: Drafting Components/Parts of an Operating Unit/Device
- Sections & Exploded Assemblies: Pulled-Apart Views
  - o Isometric Drawing
- Working Drawings: Residential & Commercial Document Standards & Practices
  - o Alternate Views
- Design Basics: Form, Space & Order
  - o Basic Architectural Principals
- Project Management: Organizing & Scheduling
  - o Working in Studio Teams
  - o Time Crunches
  - o Meeting Deadlines

NJ Learning Standards: CTE.9.3

CONTENT AREA:	STANDARD 9.3 CAREER AND TECHNICAL EDUCATION
ARCHITECTURE & CONSTRUCTION CAREER CLUSTER®	
Number	**Standard statement**
By the end of Grade 12, Career and Technical Education Program completers will be able to:	
CAREER CLUSTER®:	ARCHITECTURE & CONSTRUCTION (AC)
9.3.12.AC.1	Use vocabulary, symbols and formulas common to architecture and construction.
9.3.12.AC.2	Use architecture and construction skills to create and manage a project.
9.3.12.AC.3	Comply with regulations and applicable codes to establish and manage a legal and safe workplace.
9.3.12.AC.4	Evaluate the nature and scope of the Architecture & Construction Career Cluster and the role of architecture and construction in society and the economy.
9.3.12.AC.5	Describe the roles, responsibilities, and relationships found in the architecture and construction trades and professions, including labor/management relationships.
9.3.12.AC.6	Read, interpret and use technical drawings, documents and specifications to plan a project.
9.3.12.AC.7	Describe career opportunities and means to achieve those opportunities in each of the Architecture & Construction Career Pathways.
PATHWAY:	DESIGN/PRE-CONSTRUCTION (AC-DES)
9.3.12.AC-DES.1	Justify design solutions through the use of research documentation and analysis of data.
9.3.12.AC-DES.2	Use effective communication skills and strategies (listening, speaking, reading, writing and graphic communications) to work with clients and colleagues.
9.3.12.AC-DES.3	Describe the requirements of the integral systems that impact the design of buildings.
9.3.12.AC-DES.4	Apply building codes, laws and rules in the project design.
9.3.12.AC-DES.5	Identify the diversity of needs, values and social patterns in project design, including accessibility standards.
9.3.12.AC-DES.6	Apply the techniques and skills of modern drafting, design, engineering and construction to projects.
9.3.12.AC-DES.7	Employ appropriate representational media to communicate concepts and project design.
9.3.12.AC-DES.8	Apply standards, applications and restrictions pertaining to the selection and use of construction materials, components and assemblies in the project design.