

**Course: Architectural Design**  
**Unit #1: Architectural Terminology, Concepts, and Styles**

**Year of Implementation: 2019-2020**

**Curriculum Team Members: Jason Pitner [jpitner@lrhsd.org](mailto:jpitner@lrhsd.org), Carl Kralik [ckralik@lrhsd.org](mailto:ckralik@lrhsd.org), Stefani Kirk [skirk@lrhsd.org](mailto:skirk@lrhsd.org)**

### **Stage One - Desired Results**

**Link(s) to New Jersey Student Learning Standards for this course:**

<https://www.state.nj.us/education/cccs/2014/career/CareerReadyPractices.pdf>

<https://www.state.nj.us/education/aps/cccs/career/>

#### **Unit Standards:**

8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

A. Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations.

B. Creativity and Innovation: Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.

C. Communication and Collaboration: Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others

D. Digital Citizenship: Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.

E. Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.

F. Critical thinking, problem solving, and decision making: Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources

8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

A. The Nature of Technology: Creativity and Innovation Technology systems impact every aspect of the world in which we live

B. Technology and Society: Knowledge and understanding of human, cultural and societal values are fundamental when designing technological systems and products in the global society.

C. Design: The design process is a systematic approach to solving problems.

D. Abilities for a Technological World: The designed world is the product of a design process that provides the means to convert resources into products and systems.

## 9.2 Career Awareness, Exploration, and Preparation

9.2.4.A.1 Identify reasons why people work, different types of work, and how work can help a person achieve personal and professional goals.

9.2.8.B.1 Research careers within the 16 Career Clusters® and determine attributes of career success.

9.2.8.B.6 Demonstrate understanding of the necessary preparation and legal requirements to enter the workforce.

9.2.12.C.1 Review career goals and determine steps necessary for attainment.

## 9.3.AR Visual Arts (AR-VIS)

9.3.12.AR-VIS.1 Describe the history and evolution of the visual arts and its role in and impact on society.

9.3.12.AR-VIS.2 Analyze how the application of visual arts elements and principles of design communicate and express ideas.

9.3.12.AR-VIS.3 Analyze and create two and three-dimensional visual art forms using various media.

## 9.3.ST Engineering & Technology Career Pathway (ST-ET)

9.3.ST-ET.1 Use STEM concepts and processes to solve problems involving design and/or production.

9.3.ST-ET.2 Display and communicate STEM information.

9.3.ST-ET.3 Apply processes and concepts for the use of technological tools in STEM.

9.3.ST-ET.4 Apply the elements of the design process.

9.3.ST-ET.5 Apply the knowledge learned in STEM to solve problems.

9.3.ST-ET.6 Apply the knowledge learned in the study of STEM to provide solutions to human and societal problems in an ethical and legal manner.

## Career Ready Practices:

CRP2. Apply appropriate academic and technical skills.

CRP4. Communicate clearly and effectively and with reason.

CRP6. Demonstrate creativity and innovation.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP9. Model integrity, ethical leadership and effective management.

CRP10. Plan education and career paths aligned to personal goals.

CRP11. Use technology to enhance productivity.

**Transfer Goal(s):** Students will be able to independently use their learning to effectively communicate various architectural styles through architectural terminology and drawings.

*Enduring Understandings*

Students will understand that. . .

EU 1

location, climate and available material affect building design.

EU 2

effective communication and collaboration by professionals is essential to successfully build a structure.

*Essential Questions*

EU1

- How does the environment influence design and construction?
- How does the time period affect the construction of a home?

EU2

- What professional input is necessary when building a house?
- How do various professionals communicate their design intent to each other when building a structure?
- Why is scale important?

*Knowledge*

Students will know. . .

EU1

- how environmental factors influence design.
- how location influences design.
- common historical styles of architecture.

EU2

- common architectural terminology such as dormers, roofing styles, facade, etc.
- common architectural symbols such as symbols for doors, windows, walls, lights, furniture, etc.
- the types of drawings such as floor plans, wall plans, roofing plans, elevations, etc.
- the careers related to architecture.

*Skills*

Students will be able to. . .

EU1

- analyze environmental factors relating to design.
- analyze illustrations for various influences and historical styles.
- identify historical styles.

EU2

- use architectural terms and symbols in a drawing and presentation.
- name and explain the purpose of the main types of drawings.
- demonstrate the use of an architectural scale.

- how to read an architectural scale.

## Stage Two - Assessment

### *Other Evidence:*

- Quizzes/Tests on architectural terminology and symbols.
- Observation of the student during the learning activities.
- Self-Assessment by student of their learning activities.

## Stage Three - Instruction

***Learning Plan:* Suggested Learning Activities to Include Differentiated Instruction and Interdisciplinary Connections: Each learning activity listed must be accompanied by a learning goal of A= Acquiring basic knowledge and skills, M= Making meaning and/or a T= Transfer.**

- Identify architectural terms and symbols. **(A, EU2)**
- Identify architectural styles from given pictures. **(M, EU1)**
- Compare and contrast architectural styles from two diverse geographical areas and determine why those styles are suited for that area. **(A, M, EU1)**
- Research careers and discuss the different perspectives that each has in the construction of a house. **(A, M, EU2)**
- Compare and contrast different building materials and their uses in construction. **(A, M, EU1, EU2)**
- Sketch a house showing features of a specific architectural style. **(A, M, T, EU1)**
- Review CAD commands and functions. **(A, EU2)**
- Complete scale worksheets. **(A, M, EU2)**
- Sketch and measure classroom. **(M, EU2)**
- Using the classroom sketch, create scaled drawing on graph paper. **(M, T, EU2)**
- Complete a CAD floor plan of the classroom using the scaled graph paper drawing. **(M,T, EU2)**
- Review and analyze a classmates drawing for inaccuracies in scale. **(M, T, EU2)**
- Create a model displaying a specific architectural style. **(M, T, EU1, EU2)**

