GEORGIA | PEACH STATE PATHWAYS

Career, Technical, & Agricultural Education

ACCT—ARCHITECTURAL DRAWING

PATHWAY: Architectural Drawing and Design

COURSE: Introduction to Engineering Drawing and Design

UNIT: Engineering Drawing and Design Professions – Unit 2

INTRODUCTION

Annotation:

Students will research various design professions and learn the preparation and job future for those professions.

Grade(s):

X	9th
X	10th
X	11th
X	12th

Time: Ten (10) 50- minute periods

Author: Liz Pharr

Additional Author(s):

Students with Disabilities:

For students with disabilities, the instructor should refer to the student's IEP to be sure that the accommodations specified are being provided. Instructors should also familiarize themselves with the provisions of Behavior Intervention Plans that may be part of a student's IEP. Frequent consultation with a student's special education instructor will be beneficial in providing appropriate differentiation.

FOCUS STANDARDS

GPS Focus Standards:

ACT-IED-1. Students will identify the disciplines related to engineering drawing and design professions.

Identify the professional and/or trade associations related to the engineering drawing and design profession.
Identify areas of specialization and related occupations within the engineering drawing and design profession.
Identify the employment opportunities in the engineering drawing and design profession.
Match engineering drawing and design occupational job titles with qualifications and responsibilities.
Identify education and training required to work in the various engineering drawing and design careers.

GPS Academic Standards:

SCSh9. Students will enhance reading in all curriculum areas.
ELA9W3. The student uses research and technology to support writing.
ELA9RL5. The student understands and acquires new vocabulary and uses it correctly in reading
and writing.
ELA10C1. The student demonstrates understanding and control of the rules of the English language, realizing that usage involves the appropriate application of conventions and grammar in both written and spoken formats.

National / Local Standards / Industry / ISTE:

ADDA: Employability skills

UNDERSTANDINGS & GOALS

Enduring Understandings:

- All design professionals share similar traits and skills. Even though what is designed is different, there is a commonality about how designers and engineers reach solutions.

Essential Questions:

- Why is licensing important for professional engineers?
- What skills do designer professionals share?

Knowledge from this Unit:

- Identify main work done by professionals in major engineering fields.

Skills from this Unit:

- Prepare written or visual presentation of a design field.

ASSESSMENT(S)

Assessment Method Type: Select one or more of the following. Please consider the type(s) of differentiated instruction you will be using in the classroom.

____ Pre-test
_x_ Objective assessment - multiple-choice, true- false, etc.
  _x_ Quizzes/Tests
  __ Unit test
_x_ Group project
_x_ Individual project
____ Self-assessment - May include practice quizzes, games, simulations, checklists, etc.
  _x_ Self-check rubrics
  __ Self-check during writing/planning process
  __ Journal reflections on concepts, personal experiences and impact on one's life
  __ Reflect on evaluations of work from teachers, business partners, and competition judges
  __ Academic prompts
  __ Practice quizzes/tests
_x_ Subjective assessment/Informal observations
  __ Essay tests
  __x Observe students working with partners
  __ Observe students role playing
____ Peer-assessment
  __ Peer editing & commentary of products/projects/presentations using rubrics
  __ Peer editing and/or critiquing
_x_ Dialogue and Discussion
  __ Student/teacher conferences
  _x_ Partner and small group discussions
  _x_ Whole group discussions
  __ Interaction with/feedback from community members/speakers and business partners
____ Constructed Responses
  __ Chart good reading/writing/listening/speaking habits
  __ Application of skills to real-life situations/scenarios
____ Post-test

Assessment(s) Title:

Design Professions project or Career Research project
Design Professions quiz

Assessment(s) Description/Directions:

Attachments for Assessment(s):

Design Professions project or Career Research project
Design Professions quiz
Design Professions quiz – key

Various rubrics to choose as appropriate to the assignment:

- Presentation rubric 1
- Presentation rubric 2
- Project rubric
- Rubric for research
- Rubric on originality

LEARNING EXPERIENCES

Instructional planning: Include lessons, activities and other learning experiences in this section with a brief description of the activities to ensure student acquisition of the knowledge and skills addressed in the standards. Complete the sequence of instruction for each lesson/task in the unit.

Sequence of Instruction

1. Identify the Standards. Standards should be posted in the classroom for each lesson.

2. Review Essential Questions.

- Why is licensing important for professional engineers?
- What skills do designer professionals share?

3. Identify and review the unit vocabulary.

- Professional engineers
- Licensure
- Structural engineer
- Mechanical engineer
- Electrical engineer
- Architect
- Civil engineer

4. Read "Notes for Engineering Drawing and Design Professions" for sequence of activities.

5. Read "Prep. notes for Engineering Professions". (May be used as a handout also.) See" Additional notes" also for Autodesk resources.

6. Assign a research project.

Attachments for Learning Experiences:

- Additional notes for Drafting and Design Professions
- Career Paths
- Career Research project
- Design Professions project
- Design Profession key
- Design Professions quiz
- Examples of Drafting Work
- IEDD - Engineering Drawing and Design Professions - Unit 2
- Notes for Engineering Drawing and Design Professions
- Prep. notes for Engineering Professions
- Presentation rubric 1
- Presentation rubric 2
- Project rubric
- Rubric for research
- Rubric on originality for PowerPoints

Notes & Reflections:

CULMINATING PERFORMANCE TASK (Optional)

Culminating Unit Performance Task Title:

Design Professions project or Career Research project

Culminating Unit Performance Task Description/Directions/Differentiated Instruction:

Attachments for Culminating Performance Task:

Design Professions project or Career Research project

UNIT RESOURCES

Web Resources:

Attachment(s):

Materials & Equipment:

What 21st Century Technology was used in this unit:

x	Slide Show Software		Graphing Software		Audio File(s)
	Interactive Whiteboard		Calculator		Graphic Organizer
	Student Response System		Desktop Publishing		Image File(s)
	Web Design Software		Blog		Video
	Animation Software	x	Wiki		Electronic Game or Puzzle Maker
	Email	x	Website		