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| **TEXAS CTE LESSON PLAN**  [www.txcte.org](http://www.txcte.org) | |
| **Lesson Identification and TEKS Addressed** | |
| **Career Cluster** | Science, Technology, Engineering, and Mathematics |
| **Course Name** | Engineering Design and Presentation |
| **Lesson/Unit Title** | Portfolio – Part 1 |
| **TEKS Student Expectations** | **130.410 (c) Knowledge and Skills**  (2) The student gains knowledge of and demonstrates the skills necessary for success in the workplace. The student is expected to:  (E) identify and use appropriate work habits  (4) The student develops skills for managing a project. The student is expected to:  (A) implement project management methodologies, including initiating, planning, executing, monitoring, and controlling, and closing a project  (B) develop a project schedule and complete work according to established criteria  (7) The student uses engineering design methodologies. The student is expected to:  (F) use an engineering notebook and portfolio to record the final design, construction, and manipulation of finished projects.130.410 (c) (8) (D)  (9) The student designs products using appropriate design processes and techniques. The student is expected to:  (D) produce engineering drawings to industry standards |
| **Basic Direct Teach Lesson**  (Includes Special Education Modifications/Accommodations and  one English Language Proficiency Standards (ELPS) Strategy) | |
| **Instructional Objectives** | **Specific Objectives:**   * Research two types of portfolios - traditional print and ePortfolio * Complete the Portfolio Scavenger Hunt handout * Explain and defend what a portfolio is and what it is used for during class discussion * Compare and contrast traditional print and ePortfolio * Gather artifacts needed for the portfolio as outlined in the Portfolio Planning Checklist and the Gather Artifacts for your Portfolio Rubric * Print artifacts and organize into a three-ring binder or a “scrap book” binder |
| **Rationale** | Upon completion of this lesson the student will be able to apply all of the knowledge and skills they have learned about two types of portfolios (traditional print and ePortfolio) that meets the criteria given in the rubrics and/or examples given. |
| **Duration of Lesson** | Two to three 45-minute class periods |
| **Word Wall/Key Vocabulary**  *(ELPS c1a,c,f; c2b; c3a,b,d; c4c; c5b) PDAS II(5)* | Portfolio, Research, Portfolio rubric, Artifacts, EPortfolio |
| **Materials/Specialized Equipment Needed** | **Instructional Aids:**   * Internet   **Materials Needed:**   * Portfolio Scavenger Hunt handout for each student * Portfolio Planning Checklist for each student * Gather Artifacts for your Rubric for each student * A manila folder for 3 ring binder for every student to store items for their portfolio * 1” 3 ring binders for each student (provide for those students who can’t get one) * Writing utensil for students who don’t have any   **Equipment Needed:**   * Computer with internet access and printer * Data projector |
| **Anticipatory Set**  (May include pre-assessment for prior knowledge) | **Teacher Preparation:**  Have a copy of the Portfolio Scavenger Hunt handout, Portfolio Planning Checklist handout, and the Gather Artifacts for your Portfolio Rubric for every student. Before the students start collecting their work, have them research and find portfolios they like. They need to explain what it is that they liked about them, what they would change.  **Learner Preparation:**  None required since this is the introduction to the unit.  **Introduction (LSI Quadrant I):**  **SAY:** Today we are going to start a new lesson on two portfolios – a traditional print one and anePortfolio.  **ASK:** Does anyone know what is a portfolio? (Not the finance type)  **SAY:** It is an organized presentation of an individual's education, work samples, skills, a sampleof an artist's work or a case used to display artwork, photographs etc.  **SHOW:** An example of a traditional print portfolio and an ePortfolio.  **SAY:** Today you will complete the Portfolio Scavenger Hunt handout to begin to learn about thetwo types of portfolios and will be able to compare and contrast two that you have selected to research and learn about.  **SAY:** Tomorrow we are going to have a class discussion that covers information you completedin the Portfolio Scavenger Hunt handout and you will be expected to explain and defend the choices you made.  **ASK:** Everyone please take out your handout, so you can use it today.  **SAY:** Explain the components of the Portfolio and have students take notes. |
| **Direct Instruction \*** | Outline as Attachment  *Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*  None |
| **Guided Practice \*** | **Guided Practice (LSI Quadrant III):**  The teacher guides the students through classroom discussion questions regarding Porfolios. Have the class secretary record the discussions. Make changes to the Portfolio Planning Checklist or Gather Artifacts for your Portfolio Rubric per discussion as needed.  *Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*  None |
| **Independent Practice/Laboratory Experience/Differentiated Activities \*** | **Independent Practice (LSI Quadrant III):**  Complete the Portfolio Scavenger Hunt and gather artifacts to use. Print the artifacts and store them in the folder/binder.  *Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*  None |
| **Lesson Closure** | **Review (LSI Quadrants I and IV):**  **Question:** What is a portfolio? (Not the finance type)  **Answer:** It is an organized presentation of an individual's education, work samples,skills, a sample of an artist's work or a case used to display artwork, photographs, etc.  **Question:** Are there different types?  **Answer:** Yes, they are traditional print and ePortfolio. |
| **Summative/End of Lesson Assessment \*** | **Informal Assessment (LSI Quadrant III):**  Class discussion.  **Formal Assessment (LSI Quadrant III, IV):**  Portfolio Scavenger Hunt handout is a daily grade. Gathering the artifacts, printing them out, and storing them in the folder/notebook per the Portfolio Planning Checklist and the Gather Artifacts for your Portfolio Rubric are counted as a major grade.  *Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*  None |
| **References/Resources/**  **Teacher Preparation** |  |
| **Additional Required Components** | |
| **English Language Proficiency Standards (ELPS) Strategies** |  |
| **College and Career Readiness Connection[[1]](#footnote-1)** |  |
| **Recommended Strategies** | |
| **Reading Strategies** |  |
| **Quotes** |  |
| **Multimedia/Visual Strategy**  **Presentation Slides + One Additional Technology Connection** |  |
| **Graphic Organizers/Handout** | * Portfolio Planning Checklist * Portfolio Scavenger Hunt * Portfolio Artifacts Rubric * Outline |
| **Writing Strategies**  **Journal Entries + 1 Additional Writing Strategy** |  |
| **Communication**  **90 Second Speech Topics** |  |
| **Other Essential Lesson Components** | |
| **Enrichment Activity**  (e.g., homework assignment) | Ask how this can be adapted once they finish their post-secondary studies and are looking for employment using their portfolios? Start to make the traditional print portfolio during week 2 and the ePortfolio in week 3. |
| **Family/Community Connection** |  |
| **CTSO connection(s)** | **Occupational Correlation:** (reference: O\*NET – http://www.onetonline.org)  Mechanical Engineer 17-2141.00  Similar Job Titles: Design Engineer, Product Engineer, Mechanical Design Engineer |
| **Service Learning Projects** |  |
| **Lesson Notes** |  |

1. Visit the Texas College and Career Readiness Standards at <http://www.thecb.state.tx.us/collegereadiness/CRS.pdf>, Texas Higher Education Coordinating Board (THECB), 2009. [↑](#footnote-ref-1)