



Phone: 713-688-1361 Website: www.houstonisd.org/waltrip

Engineering Design and Presentation I

Instructors: Mr. Rakha and Ms. Witherspoon “Spoony”

Email: swithers@houstonisd.org or adel.rakha@houstonisd.org

Room: 1106 and 1108

Off Periods: Rakha 1st and 4th / Spoony 3rd and 4th

Course Content

Engineering Design and Presentation I is a continuation of knowledge and skills learned in Principles of Applied Engineering. Students enrolled in this course will demonstrate knowledge and skills of the design process as it applies to engineering fields using multiple software applications and tools necessary to produce and present working drawings, solid model renderings, and prototypes. Students will use a variety of computer hardware and software applications to complete assignments and projects. Through implementation of the design process, students will transfer advanced academic skills to component designs. Additionally, students explore career opportunities in engineering, technology, and drafting and what is required to gain and maintain employment in these areas.

Text

The textbooks for the course is Core Curriculum: Introductory Craft Skills Trainee Guide 5th Edition

About the Teacher

Stephanie “Spoony” Witherspoon is a certified CTE instructor, a graduate of California Polytechnic State University in San Luis Obispo, CA with a BS in Agricultural Sciences and a Masters in Science Education for Northeastern State University in Tahlequah, OK. In addition to teaching courses in the Engineering and Fabrication Program of Study I coach the Waltrip robotics team and sponsor the Texas Technology Student Association. You will usually find me in the Waltrip FabLab making something cool or a mess.

4Adel Rakha is a mechanical engineer and mechanical technologist, certified CTE instructor, an Indiana State University graduate, Alexandria University faculty of

engineering graduate.

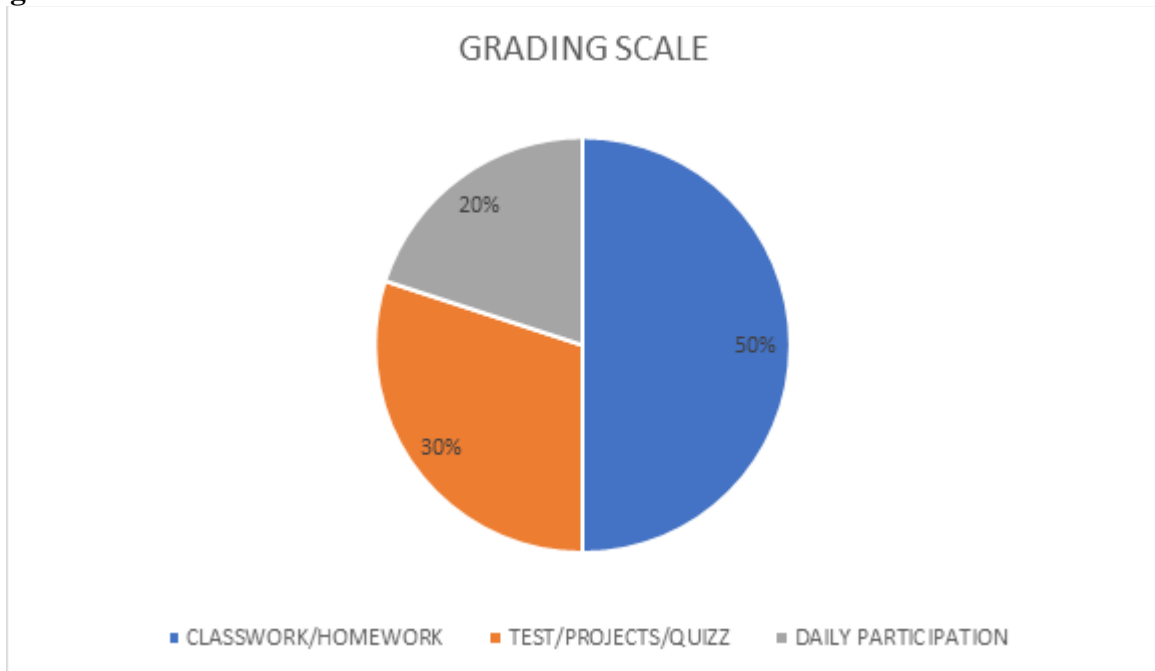
Ongoing Objectives

- Become a Certified SolidWorks Associate (CSWA) and Certified SolidWorks Associate (CSWP)
- Become certified in Autodesk
- Earn Core NCCER Certification
- Developed Hard and Soft Skills for Employment

Portfolio

Students are required to maintain an organized digital portfolio for the course. It will be submitted as a grade during each project cycle. Portfolios are digital and are created on Google Site here is a [sample portfolio](#)

Grading Scale



Attendance and Participation

Attendance and participation are required; it is difficult to learn the content if you are not present in class. Class participation and attendance can be a deciding factor if your class average straddles two grades. Be sure to see me about any missed work if you are absent. In the event of an unexpected absence (i.e. illness, emergency, etc.), the student is responsible for ensuring that the absence is excused before assignments (available on the HUB) can be turned in and graded. Students will have three (3) days to turn in completed late work due to an excused absence. Students will be given at least one opportunity to submit late work following an absence. Grade penalties and the amount of time allowed to complete the assignment are as follows:

Late Work related to an absence:

3 days to turn in the assignment no points deducted full credit eligible for an excused absence

Late Work NOT related to an absence:

For each day late for an assignment or check point missed on a project 10 points will be deducted from potential points possible until a 50% reduction is met. At the point that 50% credit is lost the student will need to email an explanation to their instructor concerning the assignment and 50% will be scored for the grade.

ASSESSMENT RETAKE POLICY

A student will be permitted to retake any major test. The retest must occur within five (5) school days of the date the grade was received. The higher of the two test grades will be recorded. This does not apply to final exams. CSWA retakes must wait at least 30 days per SolidWorks policy.

Online Teams Meeting Norms

Camera on (preferred)
Dressed for class
Microphone muted when not speaking
Raise hand for questions
Participate in chat – on task / on topic
Attentive – Sitting upright

Classroom Norms

Dressed for class
Follow all school rules
Keep volume level appropriate
Professional language only
Raise hand for questions
Participate in class discussions
Stay on task / on topic
Attentive – Sitting upright
Cell phones out of site

Daily Required Materials

1.laptop with charger 2.Laptop wireless or wired mouse (needed for CAD) 2.Writing Utensils 3.Project materials 4.Homework (late work by 11:59 PM)

Course Overview

- (1) The student demonstrates professional standards/employability skills as required by business and Industry.
- (2) The student gains knowledge of and demonstrates the skills necessary for success in the workplace.
- (3) The student participates in team projects in various roles.
- (4) The student develops skills for managing a project.
- (5) The student practices safe and proper work habits.
- (6) The student applies the concepts of sketching and skills associated with computer-aided drafting and design.
- (7) The student uses engineering design methodologies.

- (8) The student applies concepts of engineering to specific problems.
- (9) The student designs products using appropriate design processes and techniques.
- (10) The student builds a prototype using the appropriate tools, materials, and techniques.