



Waltrip Engineering and Fabrication Program of Study
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 the 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.

Text

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

About the Teachers

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 terrific or a mess.

Adel Rakha is a mechanical engineer and mechanical technologist, certified CTE instructor, an Indiana State University graduate, and Alexandria University Faculty of engineering graduate.

Ongoing Objectives

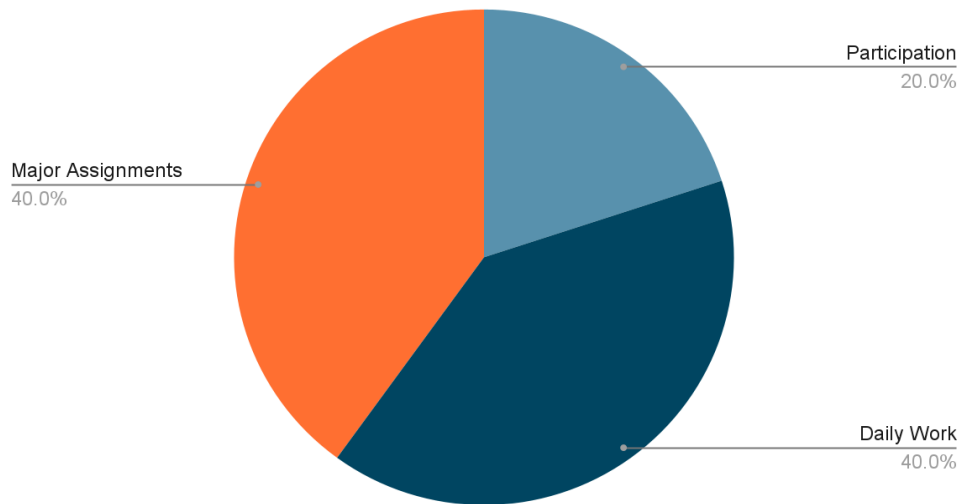
- Become a Certified SolidWorks Associate (CSWA) and Certified SolidWorks Associate (CSWP)
- Become certified in Autodesk
- Earn Core NCCER Certification
- Developed Hard and Soft Skills for Employment

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:

Grading Categories



Attendance and Participation

Attendance and participation are required; it is difficult to learn the content if you are not present in class.

Scoring policy:

Absent = 0

Present = 50

Assessment of work = 60-100

If you are present you and you turn an assignment in you will be scored starting at 60 and can earn points based on the quality of the assignment up to 100 points or more if the work is superior.

Late Work related to an excused absence

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

Late Work unexcused absence

For each day late for any graded assignment, 10 points will be deducted from potential points possible 50% will be scored for the grade. The lowest score on a completed and turned-in assignment is 60. Assignments will not be accepted three weeks after the due date or after the grading cycle ends whichever comes first.

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 14 days per SolidWorks policy.

Classroom Procedures

Classroom Norms

- Cell phones out of site
- Respect to all
- 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

Consequences

- Warning
- Written Warning
- Contact guardian
- Referral to office
- After referral, each following infraction is a

referral

Daily Required Materials

Laptop with charger*.Laptop wireless or wired mouse (Optional for CAD)*Writing Utensils*Project materials

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.

Students, please note that if at any time during your participation in the Engineering and Fabrication Program of Study you find that the teacher-selected project is not something you are interested in and you have an idea for a project that you would like to do and that project covers the same TEKS. You may request to complete an instructor-approved project.