



## **Honors Introduction to Engineering Design Course Syllabus**

- Credit Hours:** 1 Weighted Credit, meets CTE or elective requirement.
- Academic Term:** 1 Year: 1<sup>st</sup> and 2<sup>nd</sup> Semester (July 22<sup>nd</sup> 2019 – May 20<sup>th</sup>, 2020)
- Instructor:** Mr. Jason Sixkiller
- Office and Tutor Hours:** 2:20 – 3:30 M-W; Please notify instructor if you plan on attending office hours as I might have additional school responsibilities.
- E-mail:** [jason.sixkiller@husd.org](mailto:jason.sixkiller@husd.org) messages will be addressed within 24-48 business hours.
- Telephone:** 480-279-7422; incoming calls are directed to voicemail. Please leave a message and I will return your call within 24-48 business hours.

### **Deliverables – Please complete and submit by Friday July 26**

- 1) Parent Syllabus E-Receipt  
Upon reading through this syllabus, [click here](#) to access the parent syllabus E-Receipt.
- 2) Student Safety Agreement  
Two copies of the agreement will be provided. This must be signed by both you and a parent or guardian before you can participate in the laboratory.
- 3) Student Plagiarism Agreement  
Two copies of the agreement will be provided. This must be signed by both you and a parent or guardian.

## **Course Description:**

Honors Introduction to Engineering Design (IED) is a high school level course that is appropriate for high school students who are interested in design and engineering or another technical career. The major focus of the IED course is to expose students to a design process, professional communication and collaboration methods, design ethics, and technical documentation. IED gives students the opportunity to develop skills in research and analysis, teamwork, technical writing, engineering graphics, and problem solving through activity-, project-, and problem-based (APPB) learning. Used in combination with a teaming approach, APPB-learning challenges students to continually hone their interpersonal skills and creative abilities while applying math, science, and technology knowledge learned in other courses to solve engineering design problems and communicate their solutions. IED also allows students to develop strategies to enable and direct their own learning, an ultimate goal of education.

No previous knowledge is assumed, but students should be concurrently enrolled in college preparatory mathematics and science courses in order to facilitate the use and understanding of appropriate math and science concepts necessary for the successful completion of IED coursework. In addition, students will use industry standard 3D solid modeling software to facilitate the design and documentation of their solutions to design problems and challenges. As the course progresses and the complexity of the design problems increase students will learn more advanced computer modeling skills as they become more independent in their learning, more professional in their collaboration and communication, and more experienced in problem solving.

Honors Introduction to Engineering Design is one of the foundation courses in the Project Lead The Way high school pre-engineering program. The course applies and concurrently develops secondary level knowledge and skills in mathematics, science, and technology.

## **Course Materials:**

- Single subject notebook (Quad-ruled is preferred)
- Calculator - A calculator is highly recommended. At minimum, a scientific calculator is needed. I believe a calculator is an investment and may be used in all math and science subjects in high school and college. I suggest TI-84, TI-84 plus, or TI-Nspire CX (CAS models are not permitted for many tests like the ACT).
- Pencils with erasers and pens
- A valid email (appropriate address name)
- Recommended at home: Autodesk Inventor (Version TBA) Students may install the software, for free, with a 3-year education license. This is the software students will be using in class. Students will need to create an account and check to make sure their

computer meets the software requirements. [Click here](#) to begin the process of installing the software

**Grading:**

Formative Assessments	40%
Notebook, Labs, Assignments	
Summative Assessments	40%
Projects, Quiz, Midterm	
Final Exam	20%
Total	100%

**Grades**

Percentage	Grade
90 - 100	A
80 - 89	B
70 - 79	C
60 - 69	D
Below 60	F

**Formative Assessments (assessments for learning):**

Assignments:

Assignments will be done frequently and worked on in and outside of class. Assignments will typically be completed individually. Many assignments will require the use of resources from the classroom desktop computers. Students will be provided sufficient time when an assignment requires use of the computer lab.

Notebook:

All students will need to maintain a bounded notebook for IED exclusively. The notebook will contain sketches, project notes, key terms, brainstorming, and design procedures. Notebooks need to be organized and detailed. Notebooks will be checked frequently.

**Summative Assessments (assessments of learning):**

Project:

There will be a projects throughout each semester. Projects will be individual or team

assessments. Students are expected to use class time to successfully complete their projects because they will need to use classroom resources and peer collaboration. Students who fail to meet project milestones will need to meet with the instructor outside of class hours.

#### Quizzes:

Quizzes will be given for each unit that assesses a student's understanding of the course. Students are not permitted to use notes or assignments on quizzes. Calculators may be used.

#### Midterm:

A midterm exam will be given midway through each semester.

#### **Final Exams:**

Final exams will be given at the end of each semester. Final exam dates TBA. The semester 2 final exam is an End-of-Course exam.

Students will be provided with a reference sheet during final exams. Calculators can be used. Final exam re-takes are not permitted. Early final exams will not be administered.

**Make up final exams** - If you will be absent for a final exam, you will need to complete and submit the Higley High School Late Finals Request form to the main office. Failure to take a missed final exam will result in a zero.

#### **Late Work:**

- Excused Absence - students have the number of days absent plus one day to make up missed work.
- Unexcused absence - students have the number of days absent plus one day to make up missed work with a 50% deduction

#### **Retakes**

- Summative Assessments (including final exam) – No Retakes
- Formative Assessments – no retakes

#### **Behavior:**

Respect for teachers, students, the learning process, and our campus is expected at all times.

#### Classroom Rules:

- Cell phone use is permitted only for educational purposes
- No food or gum
- Only water is permitted
- Be on time
- Work to the bell. Do not line up at the door.
- Earbuds are permitted only during individual worktime
- 10-10-10: No one leaves the classroom the first **10** minutes of class, last **10** minutes of class, and student is absent if late more than **10** minutes.
- One person to the restroom at a time. Students must sign out/in.

All school rules outlined in the student handbook as they pertain to electronics, dress code, food and drink, language, and behavior will be strongly enforced in this class. Students who do not adhere to the school rules, classroom expectations or interrupt the educational process will first be given a verbal warning, then be assigned ASD, and finally receive a referral to administration.

### **Absences:**

A student will be considered absent from class if they enter the classroom more than ten minutes after the designated start time. If the student has a valid reason to be late to class, it will be an excused absence. The absence will be considered unexcused if the student is late without being excused by the school administration or the parent signing in the child late.

### **Tardy Policy**

If you are tardy to class, your entrance is disruptive to the learning process, and you miss information necessary for your success. After 3 tardies, students will be given after school detention. Students who are more than 10 minutes tardy will be marked absent.

### **Discipline**

The following consequences exemplify the order of actions taken by the instructor when a student violates the HHS Student Code of Conduct (includes tardies)

- 1. Student Conference**
- 2. Student Conference, Parent Phone Call, and After School Detention Warning**
- 3. After School Detention with teacher**
- 4. Discipline Referral**

### **Teacher Page:**

[Click here](#) to access my teacher website. The course information (syllabus) and contact information will be located here.

**Canvas:**

All of the course curriculum will be accessed through Canvas. [Click here](#) to access Canvas or go to [husd.instructure.com](https://husd.instructure.com). Students will access to the course site and parents will have access as well. Parents will need a 6 digit pairing code from their students.

**Grades:**

Parents and students may check their grades on Synergy. [Click here](#) to access Synergy. Contact the office if you do not have access to Synergy. Grades will be weekly.