*RETURN THIS SIGNED COPY TO THE TEACHER. IF YOU NEED A COPY, PLEASE REFER TO THE GOOGLE CLASSROOM OR THE SCHOOL WEBSITE.*

**COURSE DESCRIPTION**

During the first semester, students will participate in the Innovative Student Project for the Increased Recruitment of Engineering and Science Students (InSPIRESS) outreach program to develop and design a scientific payload for a real NASA mission. Students will work in conjunction with senior design students from UAH. Students will also be connected with engineers from NASA, JPL (Jet Propulsion Lab) and UAH. These individuals will serve as resources and mentors to aid in the completion of the course objectives.

This course also incorporates the Project Lead the Way engineering curriculum entitled “Aerospace Engineering.” Aerospace Engineering ignites students’ learning in the fundamentals of atmospheric and space flight. A summary of the curriculum is below:

| **Unit 1 Introduction to Aerospace**(Evolution of Flight, Physics of Flight, Flight Planning and Navigation) | **Unit 3 Propulsion**(Space Travel and Orbital Mechanics) |
| --- | --- |
| **Unit 2 Aerospace Design** (Materials and Structures, Propulsion and Flight Physiology) | **Unit 4 Alternative Applications**(Alternative Applications, Remote Systems and Aerospace Careers) |

Second semester activities will also include topics of student interests and needs. Students will have the opportunity to work on several potential projects. Current possible options include College and Career Prep, Rocketry, Greenpower Electric Car, college freshman Engineering labs, and Biodiesel production. Students may also have the opportunity to participate in competitions as a part of the TSA Convention.

**COURSE OBJECTIVES**

* Understand and practice the engineering design process
* Understand and practice the importance of “soft skills” (leadership, teamwork, presentation, reporting, critical thinking, etc.)
* Understand and practice how to apply technical principles to solve problems that are real-world, industry-relevant, and multi-disciplinary

**STUDENT EXPECTATIONS**

You can expect to be challenged in this class. As with anything in life, you will get out of this class only what you put into it.

* Students are REQUIRED TO ATTEND ALL EVENTS ASSOCIATED WITH THE INSPIRESS’ PROJECT and the TSA CONVENTION. This may include presentations, open house, community outreach and physical testing, among others. Failure to attend these events will result in a significant decrease in the student’s grade.
	+ Please note that all required InSPIRESS’ events will take place during scheduled school time.
	+ Dates for other events are not currently available but the students will be informed as soon as dates are set.
* Most importantly, students are REQUIRED TO ATTEND THE NASA REVIEW which will occur on **December 6, 2024.** THIS IS NOT OPTIONAL! **Failure to attend this event will result in a failing grade for the semester.**

**COURSE FEES:**

The total fee for this course is $40 which is the sum of $20 for course materials, $5 for membership in the Technology Student Association (TSA), and $15 for an Engineering Academy t-shirt. All other required materials will be provided.

**FUNDRAISERS:**

We will conduct fundraisers during the school year so that each student has the opportunity to earn enough to pay for field trips. Additional funds that are earned will go directly into the program to purchase lab materials for student benefit.

**SOCIAL MEDIA:**

The Engineering Program has two social media accounts - “Hartselle High Engineering” on Facebook and “hartsellehighengineering” on Instagram. As the teacher, Mrs. Pittman and Mrs. Roy will post pictures about classroom activities throughout the year. IF YOU DO NOT WANT YOUR (OR YOUR CHILD’S) PICTURE and/or NAME TO BE POSTED ON SOCIAL MEDIA, please inform Mrs. Pittman or Mrs. Roy using the contact information above. Otherwise, your signature on this form acts as consent for your child’s image to appear on social media.

**GRADING:**

Students will receive grades based mainly on participation, teamwork and projects. Final project grades will depend on scientific thought and problem solving more than the success/failure of the project attempt.

**COURSE RULES:**

1. Academic Honesty – All students are expected to do their OWN work as well as participate in groups
2. Respect others and other people’s property at all times
3. Speak at appropriate times, using appropriate voice and language
4. Follow directions
5. No food or drink allowed in labs
6. Adhere to all computer and internet policies
7. No cell phones unless the use is approved by teacher for educational purposes
8. Adhere to all safety rules
9. Students are responsible for cleaning up after themselves
10. **Have fun…and learn great things!**

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**STUDENT NAME STUDENT SIGNATURE DATE**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_**

**PARENT/GUARDIAN NAME PARENT/GUARDIAN SIGNATURE DATE**