Research and Design

Syllabus

Instructors:
Mr. Ryan  NNHS Science Teacher (Science)
Mr. Egan  NNHS Technology Teacher (CTE)
Mr. Denio  NNHS Science Teacher (Science)
Mr. Fied  NNHS/NCHS Technology Teacher (CTE)
Mr. Kowalski  NNHS Technology Teacher (CTE)

Course description: Research and design (R&D) is for students who have an interest in pursuing a career in engineering or manufacturing. Students will be involved in a series of projects that they will research, design and build. The class will incorporate word working skills and software skills in the designing and building of the projects. Science concepts will be taught in conjunction with the projects. The students will be responsible for this material in the form of quizzes as well as demonstrating it in their reports.

Materials Needed
Student issued Chrome book, pad of paper, pencil. Other materials will be required during the course specific to the projects. Each project is an individual entity. We will provide the same material to everyone, enough to complete the project, but you may wish to purchase additional materials, this is not mandatory and no more than $5 should be spent.

Student accountability: This class is designed for the motivated and mature students who are responsible for the safety of themselves and those around them. Students who do not feel they possess or can not learn to possess these characteristics should see a counselor about dropping this course. Participation is a MUST in this class. Students will have points deducted from their total for being tardy, absent, misbehaving, and lack of safety to name a few.

Cell Phones and Computer Games: Students should never be playing games while in the classroom. There is always something that you can be doing. The only time that you might have your phone out is to take pictures of your progress on the project. People playing games on their phone will receive a referral.

Grading policy: The total number of points will be around 1400pts.

Participation: Varies per project (daily accountability)
Research: 10pts/project
Cad/Drawing: 10-20pts/project
Construction: 20-40pts/project
Report: 75pts/project
**Homework:** There is no homework in this course unless you are absent for any reason or are unable to complete the work in the time given in class.

**Quizzes:** Varies per project

**Engineering Share out:** Varies per project (every Friday)

**Competition:** 10pts/project

Projects: 1) Shop Safety, 2) Inventor, 3) Pin-hole cameras, 4) Card Board Boats, 5) launchers, First semester final, Second semester final project with presentation.

**Participation:** Students are expected to come to class on time prepared for work. The excuse “It’s in my partner’s locker and he/she is absent today.” will not work. If you are not ready to work on that day then you will lose points. Students will have access to their school issued chrome books. All materials will be turned in and passed out electronically. Students are expects to use the Google account that is given to them by district 203. All assignments will be available to students through Canvas and Google Drive.

**Late Work:** All late work will be graded, it will then be dropped a 10% for every day that it is late. An example would be: research turned in two days late. It is graded and awarded a grade of 8/10. It will then be lower 10% for every day it was late (2 days), so the final grade will be 6/10.

**Groups:** This is a group/project based course. As such you will have to work in groups throughout the year. Your groups will change with each project there are no exception. This is due to the fact that in the “real world” your groups will change according to the project you are working on. In this class you are graded on the construction and group interaction, therefore, you may not build the project at home. You may, as the time for completion draws near, bring the project home to “tweak” it, but not to build it.

**Engineering Share out:** Every Friday groups will present what they have been working on for the past week. Pictures, videos, charts, prototypes, data or anything else that helps show what you have accomplished as an individual within your group for that time period should be displayed. These should take no more than 2-3 minutes per group. Other students in the class should take this time to examine what is being presented and ask clarifying questions to help those groups see issues or mistakes in their design or approach.

Room 115 is open most of the day. You will usually be able to sit in on another class in the room and use the computers for working on your inventors.

*This syllabus is a living document and is subject to change at the instructor’s discretion.*