Research and Design

Syllabus

Instructors:
Mr. Ryan  NNHS Science Teacher (Science)
Mr. Murawski  NNHS Technology teacher (Applied Technology)

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.

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.
Quizzes: Varies per project
Journal: Varies per project (daily Journaling a must)
Competition: 10pts/project
**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. This will be utilized on a daily basis on an individual basis. 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.

**Journals:** Journals will be an individual assignment that must be completed daily. The late policy applies to this assignment as well. Journals will need several things entered every day in order to be considered completed. *What do I need to accomplish today, What I was able to accomplish today, What do I need to accomplish tomorrow.* In addition to these there may also be times when pictures and inventor drawings need to be uploaded to show the progress that has been made that day. There should also be a statement about what the rest of the group was able to accomplish and whether or not everyone in the group was participating/present.

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. Mr. Ryan is at school very early in the morning and is available to help students or to let them into the room starting at 7:00am. Mr. Ryan is usually in room 150 (The Physical Science office) in the mornings.

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