



# Reynolds High School

## RC and Drone Manufacturing

Instructor: Mr. McClellan

Phone (503)667-3186

Email Address: mmcclellan@rsd7.net

**Course Title:** RC/Drone Manufacturing

**Required Textbooks/Materials:** Material will be provided in class.

### **Course Description:**

Are you ready to take your passion for remote-controlled vehicles and drones to the next level? Welcome to the RC and Drone Manufacturing class, where theory meets hands-on experience to equip you with the skills and knowledge necessary to design, build, and fly your own RC vehicles and drones. This course places a strong emphasis on practical real-world experience, CAD (Computer-Aided Design), teamwork, and engineering principles.

### **Course Objectives:**

**Hands-On Experience:** This course is designed to be immersive, providing you with ample opportunities to work on real-world projects. You'll gain practical experience in crafting parts, assembling components, and troubleshooting issues commonly encountered in RC and drone manufacturing.

**CAD Mastery:** Understanding the fundamentals of Computer-Aided Design (CAD) is crucial for designing precise and efficient RC and drone components. You will learn to use industry-standard CAD software to create 3D models of parts, test designs, and optimize for performance.

**Teamwork and Collaboration:** Successful RC and drone manufacturing often require collaboration among engineers, designers, and enthusiasts. You'll participate in group projects, fostering teamwork, communication skills, and the ability to contribute effectively to a team.

**Engineering Principles:** Develop a solid foundation in engineering concepts, including aerodynamics, material science, electronics, and control systems. Apply these principles to enhance the performance, stability, and reliability of your creations.

**Prototyping:** Transform your CAD designs into physical prototypes using a variety of materials and manufacturing techniques, including 3D printing, CNC machining, and traditional fabrication methods.

## Course Requirements:

The evaluation of projects will be on going and cumulative with the use of performance, engineering notebook, test, and self-report assessments. These assessments are check marks of how the students are meeting the standards set in the course and help direct the accomplishment of the project itself.

Project Assessment may include but is not limited to:

1. Presentation
2. Written/Oral Report
  - Engineering Notebook
  - Multimedia
3. Graphic Representation
  - Schematics
  - Sketches
  - Photos
  - Diagrams
  - Video Clips
  - Graphs and Charts
  - Statistical Analysis
4. Final Product
  - Constructed Models
  - Computer Models
  - Computer Simulations
5. Performance skills
  - Computer Applications (i.e., Word Processing, Spreadsheet, PowerPoint)
  - Measurement
  - Construction

## Course Expectations:

- Be on time, participate, have a positive work attitude
- Come prepared (materials, homework, ready to learn)
- Be Attentive! Listen in class and try your best, and always take notes!
- Demonstrate respect for yourself, fellow students, your instructor, and classroom equipment

**Extra Help:** If you do not understand a particular topic, ASK questions in class, and come in for help immediately! Don't wait until it is too late!

## **End of Class:**

1. Clean up after yourself – your desk and the floor around your desk
2. Return all materials to their proper places (this includes any books, classroom material, etc.)
3. Close applications and log out of the computer

## **Grading Policy**

### **Grades for this class will derive from the following sources:**

<b>Projects</b>	<b>60 %</b>
<b>Homework, Sketches, Worksheets, Engineer Notebook, Portfolio</b>	<b>30 %</b>
<b>Final Project</b>	<b>10 %</b>

### **Test Retake and Late Work Policy:**

Late work will be accepted for up to two weeks from the due date without any penalty. If work is going to be turned in after this time frame you will need to meet with me and we will find an appropriate plan of action to get you back on track with the course. This is excluding the final exam, if for any reason you need to miss the final exam you must meet with me before the exam.

### **Parent Vue**

Please take advantage of the Parent Vue option to track your student's progress.

