

# Engineering Applications Syllabus

Academy of Richmond County High School - Room 407

**Instructor: Mr. Israel Butler, M.Ed.**

**Email: [Butleis@richmond.k12.ga.us](mailto:Butleis@richmond.k12.ga.us)**

**Office Hours:** Monday - Friday, 8:00AM - 9:00AM and 3:15PM - 4:00PM

---

## Course Description

Engineering Applications is a third-year engineering course designed to deepen students' understanding and application of the engineering design process. Students will develop solutions to technological problems using a combination of engineering software and prototype production processes. The course includes market research, cost-benefit analysis, and the creation of design, marketing, and business plans. A capstone project will demonstrate students' knowledge and prepare them for future opportunities in engineering.

## Required Materials

One-to-one laptops (required daily)  
Engineering notebook  
Pens, pencils, and a ruler  
Calculator

## Course Outline

### Semester 1:

1. **Unit 1: Advanced Engineering Design Process**
  - Introduction and review of the design process
  - Case studies and real-world applications
  - Hands-on projects and iterative design
2. **Unit 2: CAD and 3D Modeling**
  - Advanced CAD techniques and 3D printing
  - Design challenges and model testing
3. **Unit 3: Electronics and Circuit Design**
  - Principles of electronics and circuit design
  - Smart home sys2 Tf1 04 13A:jee

Semester 2: 5. Irrev. 1001 134.54 708.50

Looking forward to an exciting and productive year in Engineering Applications!

**Mr. Israel Butler, M.Ed.**