Course Syllabus: Engineering Applications

Instructor: Mr. Israel Butler, M.Ed.

Room: 407

Email: Butleis@richmond.k12.ga.us

Office Hours: 8:00AM–9:00AM & 3:10PM–4:00PM

Course Description:

This capstone course is designed for students with prior engineering experience who are ready to apply their knowledge through advanced design challenges and real-world problem-solving. Emphasis will be placed on professional presentation, teamwork, and product development.

Curriculum Highlights:

- Capstone projects and engineering portfolios

- Professional-level 3D modeling and engineering documentation

- Advanced electronics and embedded systems

- Game publishing concepts (FlowLab.io and Unreal Engine)

- Real-world drone applications

- Engineering entrepreneurship and innovation

- Project-based learning aligned with industry expectations

Classroom Expectations:

- Students must bring their school-issued laptops daily to access Canvas and digital learning platforms.

- Be respectful, responsible, and ready to learn.

- Submit assignments on time via Canvas unless otherwise instructed.

- Participate actively in hands-on projects and discussions.

Grading Policy:

- Classwork & Participation: 25%

- Quizzes & Tests: 30%

- Projects & Presentations: 35%

- Final Exam: 10%

Materials Needed:

- School-issued laptop (charged daily)

- Notebook or engineering journal

- Pencils/pens

- USB flash drive (optional)

Extracurricular Opportunities:

Students will have the opportunity to join:

- FBLA (Future Business Leaders of America) for competitions and leadership development.

- #TeamMusketeer Esports Team to compete in Rocket League, Street Fighter 6, College Football 25, Madden 26, and NBA 2K26. Details will be provided during the first semester.

Communication & Support:

Students and parents are encouraged to contact Mr. Butler during office hours or via email for academic support, project guidance, or general questions.