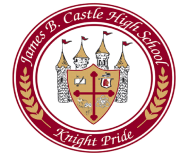




James B. Castle High School

Vision: We are global citizens who positively contribute to society.
Mission: Build character. Strive for competence. Instill commitment.



School Year 2019-20 Engineering Tech 2

Teacher Contact Information

Malia Vaughn
vaughnm@knights.k12.hi.us
808-305-0875

Rm. 50/51 or FF302
Box 86

Required Classroom Supplies

Pencils - 2
Blue or Black Ink Pens - 2
Scientific Calculator (recommended)
Covered shoes (on occasion)

Course Objectives for the Year

Students will

- Use the Engineering Design Process (EDP) to create innovative solutions to real-world scenarios.
- Develop their collaboration, communication, and presentation skills.
- Investigate engineering innovations and their effect on society, the environment, and the economy.
- Engage in technical reading and writing.
- Use science and math to support their designs.

Classroom Expectations

1. Be present and on time to class; ready to work and learn.
2. Complete assignments to the student's full potential.
3. Persevere.
4. Ask for assistance when needed.
5. Respect yourself and others.
6. Collaborate with others.
7. Use appropriate language at all times.
8. Keep the work areas clean and safe.
9. Keep cell phones out of sight.
10. Eat or drink (except water) during recess or lunch, not during class time.

Work Area Expectations

1. Follow safety guidelines.
2. Inside voices.

Safety

Students are expected to follow the safety guidelines for the materials and tools that they will use. They will be required to wear safety glasses while they work with certain materials and tools. On occasion, students may be asked to wear covered shoes in the work area.

Infinite Campus

Infinite Campus is the school's on-line grade calculating and reporting program. I will update grades by 3 p.m. every Monday.

CHS implements standards-based curriculum, instruction, and assessment. Grades will be based on proficiency scales along with multiple pieces of evidence that demonstrate a student has attained the concepts/skills required in the grade level standards for this particular course.

Knight Pride
Demonstrating

*Relationships by being Respectful, Responsible, Resourceful and Resilient.
Character, Competence and Commitment*

Participation Grade

The Engineering Academy has an exhibition of the students' work in April 2019. There will be a grade for participation for this event.

Semester and Year Grades

Semester grades will be based on the average of the two quarter grades.

Year grades will be based on the average of both semesters, except for courses with End of Course (EOC) exams. EOC exams will account for 15% of the student's year grade, if applicable.

Firm Deadlines

Firm deadlines for large projects and finals can be established if communicated at the start of the project or quarter and reiterated often. Most EDP projects are firm deadlines and therefore would not be able to be redone. Students will be constantly informed of the deadline for the project.

Unexcused Absence

Work will be given to students and students will have the opportunity to turn in the work for a grade. Students may have up to but no longer than two weeks after the due date to submit work. **Maximum grade for an unexcused absence is a 4. No re-takes allowed** for work turned in from an unexcused absence.

Finals Week

A final exam may be given at the end of each semester. A final exam schedule will be distributed early in the semester. Students should take every opportunity (A-period tutoring, re-takes, etc) to keep up with academic work throughout the semester to be prepared for each course's final exam. Taking children out of school during finals week may be detrimental to their overall grades.

Scope and Sequence

Throughout the year: Science and Engineering Fair

Quarter 1:

Engineering Notebook Requirements

Forces of Flight

- Understand the forces of flight and apply them to paper airplanes.
- Prepare for the elementary school collaboration.

Introduction to Environmental Sustainability

Quarter 2:

Renewable Fuels

- What resources do we have to reduce our dependence on fossil fuels?
- Create biofuel
- Create bioethanol

Collaboration with He'eia Elementary School

- Coordinate and execute a paper airplane engineering design process with elementary school students.

Quarter 3:

Food Security

- Discuss the use of GMO (genetically modified organisms) in providing nutritious foods for the world's population.
- Understand how the food DNA is changed.
- Run gel electrophoresis on DNA.

Quarter 4:

Prepare for Hoike Presentations

Water Quality

- Conduct water quality tests.
- Design and build a portable water filter.

Machine Control Design

- Design and build a machine to solve a simple task.
- Use ROBOTC Coding to program the machine.

Engineering Tech 2 Syllabus Turn-in Sheet SY2019-20
M. Vaughn

Please sign and turn in by _____

I have read and understood the attached syllabus for Engineering Tech 2 class. I also agree to follow the safety guidelines.

Date: _____

Student Print Name: _____

Student Signature: _____

Parent/Guardian Print Name: _____

Parent/Guardian Email Address: _____

Parent/Guardian Signature: _____

Parent/Guardian Phone Numbers:

Home: _____ Work: _____ Cell: _____