

STEM II: Applications

Teacher: Ms. Kasi Dishman

Email: kdishman@jocoed.net

Phone: 423-727-2620

Course Description:

STEM II: Applications

is a project-based learning experience for students who wish to further explore the dynamic range of STEM fields introduced in STEM I: Foundation. Building on the content and critical thinking frameworks of STEM I, this course asks students to apply the scientific inquiry and engineering design processes to a course-long project selected by the instructor with the help of student input. Instructors design a project in one of two broad pathways (traditional sciences or engineering) that reflects the interest of the class as a whole; the students then apply the steps of the scientific inquiry or the engineering design process throughout the course to ask questions, test hypotheses, model solutions, and communicate results. In some cases, instructors may be able to design hybrid projects that employ elements of both the scientific inquiry and the engineering design process. Upon completion of this course, proficient students will have a thorough understanding of how scientists and engineers research problems and methodically apply STEM knowledge and skills; and they will be able to present and defend a scientific explanation and/or an engineering design solution to comprehensive STEM-related scenarios.

Objectives:

1. Differentiate between the Scientific and Engineering/Design Process
2. Investigate multiple STEM related fields and people that have made significant contributions to science and engineering.
3. Incorporate and build Problem-Resolution Skills in application settings.
4. Increase students' critical thinking in context
5. Investigate Cause and Effect Relationships in STEM fields.

Grading:

Grades will be based on a point system, in which each assignment will be worth a given number of points, and the percentage of points obtained throughout each quarter (9 weeks) will determine the student's grade for the nine weeks. At the end of the semester both 9 weeks grades will be combined with a final exam to determine the final semester grade.

Safety: While individual safety guidelines will be addressed with each unit or applicable activity, all students will be required to show 100% proficiency on a general lab and workplace safety assessment before progressing through the course.

Late/Missed Assignments:

All assignments are due at the beginning of class on the due date. Assignments will be accepted 1 day late only if a student has submitted a green MISSED ASSIGNMENT page at the time the original assignment was collected. If no Missed Assignment page is submitted, the late assignment will not be accepted. Late assignments will only be eligible to receive 80% of the original credit offered for the assignment. No assignments will be accepted more than one day late unless it is related to an absence in which case the assignment will be accepted under the school policy of 5 days. If a student was PRESENT on the day an assignment was given, then the assignment is due the day that student returns to school, there will be no exceptions and no late assignments accepted in that case. A student that is released for a field trip or school related athletic event is considered present and is therefore expected to complete their assignments on the same schedule as if they had been in class or make other arrangements with Ms. Dishman **prior** to missing class.

STEM II: Applications

If an assignment is missed, or not completed because the student has to be removed from the classroom to spend the period in ISS, the assignment may or may not be made up at the discretion of the teacher. Some assignments cannot be sent to ISS for students to work on and they will therefore forfeit their chance to complete that assignment during the normal class time.

Attendance: Students are required to maintain a 95% attendance rate for their course; therefore, in accordance with school policy, a student will lose credit for the course if their number of absences exceeds four. Absences may be made up in the following ways through the Time for Time program:

1. Regular after school time for time or working on the project at school after regular school hours.
2. Community Service (Must be PRE-approved by Ms. Dishman, and will only be accepted if all missing work has been made up.)

**Before school Time for Time, community service, and Time for Time hours completed with other teachers are only accepted if pre-approved by Ms. Dishman and will be handled on a case by case basis.