

Montclair High School

Course Syllabus

Department: Science

Course: STEM PBL (Project-Based Learning)

Level: Honors

Credits: 4

Course Description:

The MHS STEM small learning community offers an educational choice for academically able and motivated students interested in rigorous and relevant studies in science, technology, engineering and mathematics. The MHS STEM courses are designed so that students have the opportunity to develop multi-cultural relationships within teams to solve problems collaboratively and to develop leadership skills. The curricula and course sequence not only improves the academic component of the students' lives, but also provides valuable life lessons that can be applied to solve tomorrow's problems in the real world.

Standards:

NGSS HS-ETS1-1/2/3/4

Units of Study:

- Engineering Design Process
- 3D Printing
- Coding
- Theme-Based Projects (changes each marking period)

Proficiencies:

By the end of this course, students will:

- Use advanced technology and equipment in their STEM courses
- Investigate a wide variety of STEM related fields such as robotics, biotechnology, renewable energy and sustainable living, assistive technologies, structural engineering, biomechanical engineering, computer science and many more.
- Interact with professional scientists and engineers through the MHS STEM lecture series.
- In the future, collaborate with local businesses and industry through job shadows and internships.
- Develop 21st century high tech communication skills.
- Develop and broaden presentation and workplace skills.
- Possess international awareness and perspectives.
- Develop a global social consciousness.
- Forester a commitment to lifelong learning.

Evaluation & Assessment:

- Marking Period Grade:

Projects	40%
Performance	30%
Tests & Quizzes	30%
- Final Grade:

The Final Grade will consist of each marking period (22.5% each), the midterm exam (5%) and the final exam (5%)

Prior to beginning any lab activities, all students must have submitted a Safety Contract which has been duly signed by both the student and their parent/guardian. This contract will be kept on file by the teacher for the duration of the course.