

# Plymouth Public Schools' Science and Technology/Engineering Program Biomedical Innovations Course Syllabus

## STE1062 Biomedical Innovation Capstone Course

Full year course intended for 12<sup>th</sup> grade students worth 5 credits

### Course Description

In the final laboratory course of the Biomedical Science sequence, students build on the knowledge and skills gained from previous courses to design innovative solutions for the most pressing health challenges of the 21st century. Students address topics ranging from public health and biomedical engineering to clinical medicine and physiology. They have the opportunity to work on an independent design project with a mentor or advisor from a university, medical facility, or research institution. The prerequisites include a minimum grade of C- in Medical Interventions and departmental recommendation.

### Instructional Objectives

Students will independently and collaboratively:

1. Engage in scientific inquiry and engineering design through the use of science and engineering practices.
2. Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to answer a question or solve a problem.
3. Draw evidence from literary or informational texts to support analysis, reflection, and research.
4. Produce clear and coherent writing in which the development, organization and style are appropriate to task, purpose and audience.
5. Demonstrate proficiency in phenomena related to the structures and process of living things from molecules to organisms; the interactions, energy, and dynamics of ecosystems; and engineering design.

### Themes and Topics

1. Designing effective emergency rooms
2. Exploring human physiology
3. Designing medical innovations
4. Investigating environmental health
5. Combating public health issues
6. Harnessing molecular biology
7. Investigating forensic pathology

## Text and Instructional Materials

[My PLTW](#) is used for communications and activities related to this course

## Cheating/Plagiarism

The excerpt from the Plymouth Public Schools' Student Handbook on plagiarism and copyright infringement states, "Existing copyright law will govern the use of material accessed through network. The user will not plagiarize works found on the Internet. Plagiarism is taking the ideas or writings of others and presenting them as if they were yours. All copyrighted material used must have the express written permission of the person or organization that owns the copyright. Any student who has cheated on any academic exercise will receive no credit for that exercise. Plagiarism is a form of cheating. A parent/guardian will be notified by the involved teacher in all instances of cheating. The investigation of the claim of cheating and plagiarism will involve the student, teacher, and administration."

## Grading Policy and Assessment

Levels of proficiency on various tasks and assignments determine student grades. During each grading term, students' grades will be based upon the following:

- 30% Homework
- 70% Assessments

The final year average will be calculated as follows:

- 22.5% Term 1 Grade
- 22.5% Term 2 Grade
- 22.5% Term 3 Grade
- 22.5% Term 4 Grade
- 10% Final Exam