

Bioengineering & World Health

HSPVA 2018-2019

Instructor: Nicole DiLuglio

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Class website: <http://destinationdiluglio.weebly.com/bioengineering-and-world-health.html>

Course Description.

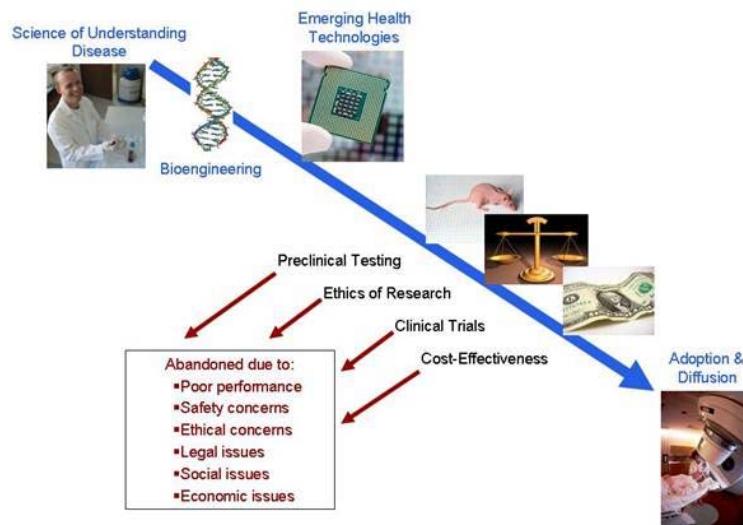
This course provides an overview of contemporary technological advances to improve human health. We will consider four questions throughout the semester:

1. What are the problems in healthcare today?
2. Who pays to solve problems in healthcare?
3. How can we use science and technology to solve healthcare problems?
4. Once developed, how do new healthcare technologies move from the lab to the bedside?

We will read two books over the course of the year:

1st semester: Behind the Beautiful Forevers by Katherine Boo

2nd semester: The Body Builders: Inside the Science of the Engineered Human by Adam Piore



We will compare and contrast answers to these questions throughout the developed and developing worlds. We will also consider legal and ethical issues associated with developing new medical technologies. During the semester, we will use case studies to examine a number of diseases and healthcare technologies. Students will complete two semester projects that will investigate new technologies to meet global health needs.

This course was developed by the Department of Bioengineering at Rice University. Many of the assignments and lessons were developed by Rice University but modified for use with high school students. I am excited to be offering this course and look forward to learning about global health and bioengineering with you!

Projects.

Projects are intended to support the development of higher-order thinking skills, research skills and logical reasoning. Projects require both independent work (early stage collaboration is encouraged, as long as the end results are **YOUR OWN** work) and collaborative work that will enrich your understanding and appreciation for the concept area. Projects are designed to be completed during class time if class time is used efficiently but some out of class work might be required.

Tutorials.

Tutorials will be offered during **lunch on Mondays and Tuesdays and on Tuesdays, Wednesdays, and Thursdays during advocacy if requested**. Any other tutorial time needs to be scheduled in advance.

Mid-term and Final Exams.

Your Mid-term Exam grade will be worth 25% of your grade for first semester and your Final Exam grade will be worth 25% of your grade for second semester. Both exams are cumulative.

Standards Based Grading (*IMPORTANT! PLEASE READ*)

I use a grading system called standards based grading (SBG). While SBG will feel very different (and probably confusing) at first, my hope is that it will result in helping you learn better. This method of grading has also been shown to help teachers, students, and parents identify which concepts students understand really well, and which concepts they have not yet mastered and need to work on a little longer. What this means is that students will receive a grade for a specific concept or skill in the gradebook rather than for a specific assignment.

Grading Break-down.

Unit tests and Projects: 50%

Classwork, Labs, and Lab reports: 30%

Quizzes, Homework, Participation: 20%

Late work policy.

I expect all upper level students to be able to complete all assignments on time. If work is not turned in by the deadline date and time (when class begins or by teacher discretion) a 50% deduction from the original grade will occur. Failure to turn in work by the beginning of the next class meeting will result in a grade of zero even when the student is absent from school. If absent

the day of a major exam or project, you are required to contact the teacher by the day you return to school. Makeup work can be done by appointment with the teacher. If you are absent for quizzes, lab exercises, or any class work, it is your responsibility to arrange make up within three calendar days upon your return or you will receive a zero.

Classwork or in class assignments are all turned in at the end of the class or at teacher discretion. If you want time to complete it outside of class, you must ask for an advocacy pass and attend advocacy to complete the assignment.

How can I improve my grade?

If you are not happy with your grade on a specific concept, then you can schedule a time to come in and show me that you completed additional work in this area (*i.e.*: reading and taking notes from class material, attending a tutorial, working on practice problems, studying from flash cards, etc...). Once evidence is shown of additional preparation for an objective, you can **reassess on the objective on Mondays or Tuesdays during lunch. If you reassess on a concept, then your recorded grade will be the average grade of the two assessments.** You can reassess as many times as you would like to before the end of the grading period.

Make up work.

Make up work is your responsibility. If you know that you will miss class due to school activities, be sure to get any assignments before you leave. If absent, you can check the assignment list posted on the class website to see what you have missed. Ask me for any documents required after class, or you can download them from my website or the HUB. Make up work must be turned in within THREE school days. Missed assessments must be taken during tutorial time or during a pre-scheduled time before or after school.

I realize that a major shift in grading will be uncomfortable at first, but I truly believe that by the end of the year you will feel as though this shift has made your grade a more meaningful representation of what you have learned from this class.

Sincerely,

Nicole DiLuglio

ATTENTION HSPVA BIOENGINEERING AND WORLD HEALTH STUDENTS AND PARENTS!!

Yes, we have read the B&WH Syllabus and Safety Contract together!

Please sign when you have had an opportunity to look through my (Ms. DiLuglio's) syllabus, standards-based grading policy, and the safety contract together. They can be found at:

<http://destinationdiluglio.weebly.com/bioengineering-and-world-health.html>

Thanks also for being involved with your child's education. With your help we will have an outstanding school year!

Please check the boxes to indicate that you have read the:

- ☐ B&WH syllabus
- ☐ Student Safety Contract

Student name: _____

Student signature: _____ Date: _____

Parent/Guardian signature: _____ Date: _____

*****IMPORTANT!*****

I FIRMLY BELIEVE THAT STUDENTS, TEACHERS, AND PARENTS ARE ALL ON THE SAME TEAM! PLEASE LET ME KNOW THE BEST WAY TO COMMUNICATE WITH YOU!!!!

Please contact me (parent/guardian) via (select 1-2 options):

- ☐ email (preferred): _____
- ☐ cell phone: _____
- ☐ work phone: _____
- ☐ home phone: _____
- ☐ text: _____

Also: If you are willing to volunteer in the classroom or be a guest speaker concerning a global health/bioengineering related topic, please check here and I will contact you regarding your interest and availability. Thanks so much!

☐ area of interest/expertise: _____

