

Midwood High School at Brooklyn College
Mechatronics (STM) Syllabus – Fall 2008
Mr. Reilly

Course Description: Mechatronics integrates electronics, computer science, control theory, and mechanical engineering to design and create smart machines that we use in our everyday lives. It focuses on developing an understanding of circuit components, PBASIC programming, open-ended problem solving methods, and mechanical systems in a kinesthetic classroom setting. Emphasis is placed on successful completion of activities, creativity and functionality of design, and ability to effectively communicate logical reasoning behind a design.

Grading Policy: Grades will be based on the following assessments:

MP 1 + 2:

Activities	50 %
Quizzes	20 %
Portfolio	20 %
Midterm Project	10 %

MP 3:

Activities	40%
Quizzes	20%
Portfolio	20%
Final Project	10%
Midterm Project	5%

Activities: The largest portion of your grade will be determined by in-class activities. Most activities will be done in groups of two or three, with groups changing each unit. These activities will both introduce and challenge you to the concepts we cover. Oftentimes, I will ask you to explain what you did in an activity and the reasoning involved. Grades on these activities will be based on their successful completion, a demonstration of understanding, and group dynamics. Participation will count for half of each activity grade. One activity grade will be dropped each marking period.

Quizzes: Quizzes will be given on a regular basis and will cover the material learned in class. Some questions will be short answer (a word or a number), and some will be long answer questions (sentences). I am more concerned with your application of concepts than simply your ability to recall them. There will be four or five quizzes total, one of which will be dropped in the third marking period.

Portfolio: You will be required to maintain a portfolio of your work throughout the semester. The portfolio will contain activities, quizzes, journal entries, project descriptions, and self-assessment summaries. It is documentation of your learning experience in this class. Detailed guidelines explaining the writing and grading of the portfolio will be distributed separately.

Projects: There will be a midterm and final project, each of which will give you the opportunity to apply your knowledge of mechatronics to create more complex designs. The projects will be done in groups of three, with each group member being assigned a particular task: builder, programmer, or project manager. These projects are meant to simulate real life engineering experience. Grades on these projects will be based on your personal effort, and how well you work with others.

Absences: Missed assignments and quizzes can only be made up if an absence is excused with a note from a parent, guardian, or doctor. This note must be brought in on the day you come back. Failure to show documentation of your absence will result in a zero on an activity, assignment or quiz. If you are absent from class, you are responsible for obtaining any of the work/assignments you may have missed. Unexcused absences during projects will result in point deductions.

Academic Honor: I believe that you are all capable of completing the work in this course and succeeding academically. However, if any student decides to disrespect his/her own intelligence by plagiarizing an assignment or cheating on a quiz, a grade of '0' will be given for the work.

Lateness: You are expected to come to class and take your seat in a timely manner. Lateness will result in point deductions from your activity grades. Lateness will affect your grades on projects, and will prevent you from receiving handouts or hearing announcements given at the beginning of the period. Also, it is disrespectful to the class.

Classroom Rules: The following rules provide a guideline for what is expected in your classroom behavior. It also defines the classroom culture I look to create.

- Respect everyone's chance to speak.
- Respect other people's property and space.
- Come to class on time and prepared to do work everyday.
- Put away hats, doo rags, and electronic devices before class begins.

Materials: All students are required to bring the following supplies with them every day:

- Pens/Pencils
- ½" (or more) binder
- Calculator

Email: mr.reilly@yahoo.com

Website: <http://www.midwoodscience.org/reilly>

Office Hours: You can meet with me to discuss anything periods 3, 4, 6 in Room 380 or A317.