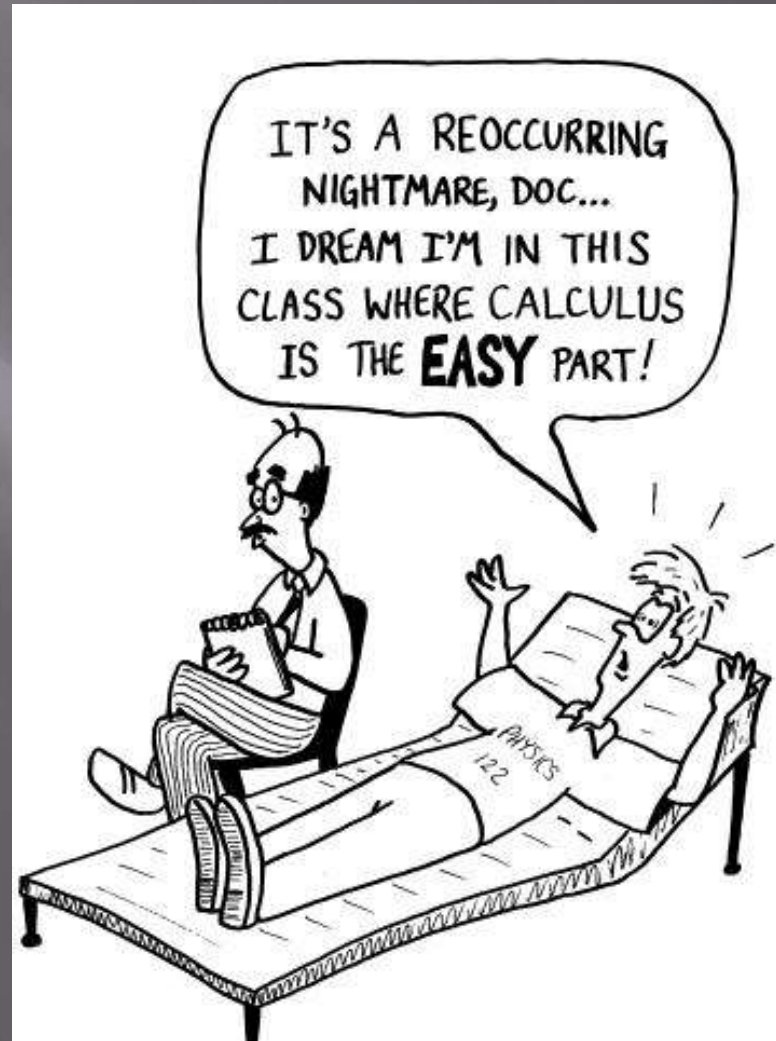


Physics



"Good morning, and welcome to
The Wonders of Physics."



Course Syllabus

HAMILTON TOWNSHIP HIGH SCHOOL

Physics
Avery

Email: javery@hamilton-local.k12.oh.us

Phone: 491-3330 Ext. 1847

Course Overview

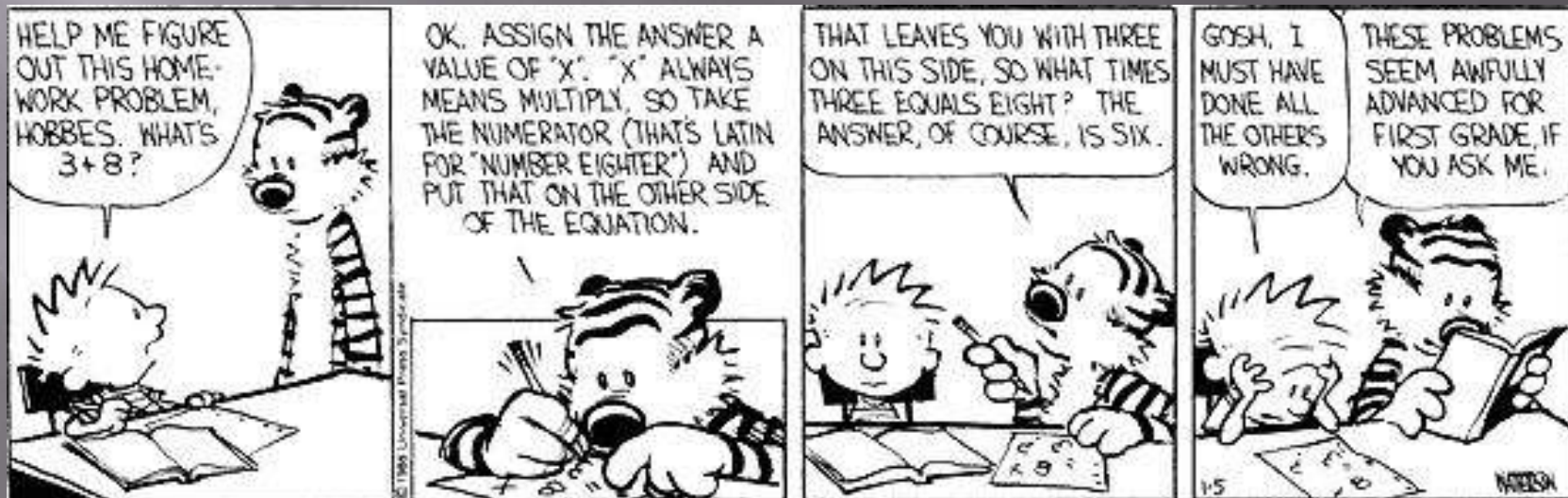
- ▣ This course deals in moderate detail with the physical science areas of graphing, vectors, mechanics, motion, waves, light, sound, electricity, and magnetism.
- ▣ Labs (which are more fun than a barrel of monkeys) stress problem-solving, experimental design, and help to reinforce the topics being studied.

Physics and Math

- ▣ Physics is a science that is both conceptual and mathematical
 - Concepts answer why an event happened
 - Math predicts how the event will or did happen
- ▣ Mathematics will be used to verify conceptual observations
 - It will be used every class
- ▣ Math Recommendations
 - Physics - Completion of Algebra II or current enrollment in Double Block
 - Calculus is highly recommended for students planning to take physics in college

Should I have enrolled in Physics?

- ❑ If you have a strong dislike of math, you will most likely have a strong dislike of physics
- ❑ [Math check](#)
- ❑ Alternative Science Courses
 - Chemistry II (Some math)
 - Biology II (No math)
 - AP Biology (Some math)



Math Check

1.	$4 = \frac{x}{2}$	8.	$4 = x^2 + 7x^2$
2.	$4 = \frac{2+x}{2}$	9.	$1 \times 10^2 = \frac{100x}{x^2}$
3.	$4 = \frac{x^2 - 8}{2}$	10.	$2 = \frac{50}{x^2}$
4.	$4 = 6 - \frac{1}{2}x^2$	11.	$a = \frac{b+x}{2}$
5.	$4 = 2 + \frac{1}{2}x^{1/2}$	12.	$\sin 90^\circ = \frac{x}{2}$
6.	$4 = \sqrt{2+x}$	13.	$\tan x = \frac{4}{4}$
7.	$4 = \sqrt{7+x^2}$	14.	$11 = 3x + \frac{1}{2}x^2$

Materials needed

- ▣ Three Ringed Binder
- ▣ Paper, Pencil, and Pen (Pencil is preferred)
- ▣ Graphing Calculator (Recommended)

Grading

Grades are based on points received from the following:

ASSIGNMENT TYPES

- Classwork/Homework
- Quizzes
 - Daily Quiz
 - Weekly Quiz
 - Unit Quiz
- Tests
- Labs/Lab Reports
- Projects
 - Daily Grades
 - Overall Project Grade

Projects

Continue to Grading Policy

▣ Motion

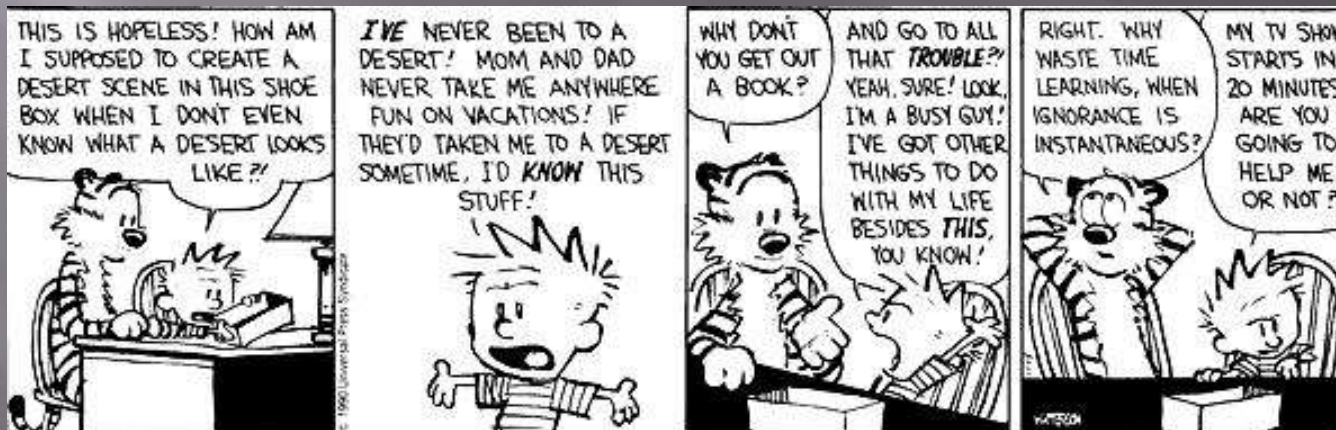
- ▣ Water Rockets
- ▣ Mouse Trap Cars
- ▣ Trebuchet

▣ Forces

- ▣ Spaghetti Bridges

▣ Simple Machines

- ▣ Rube Goldberg Machine



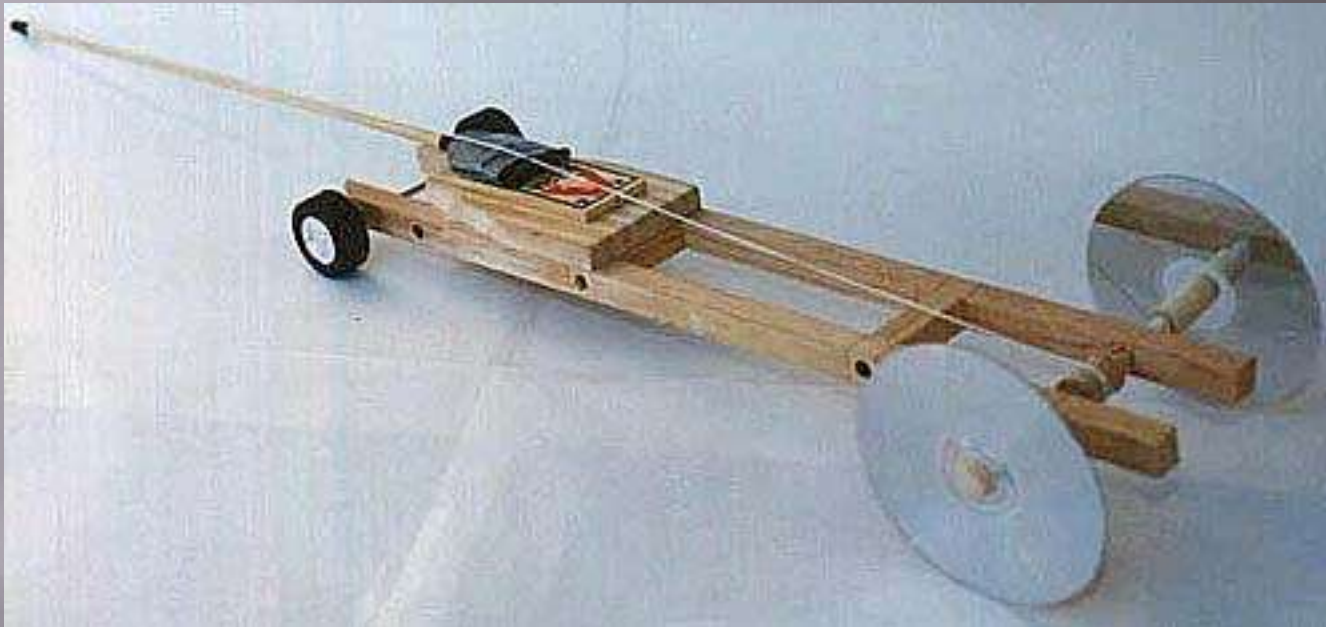
Water Rockets

[Return to Projects](#)



Mouse Trap Cars

[Return to Projects](#)



Trebuchet

Return to Projects



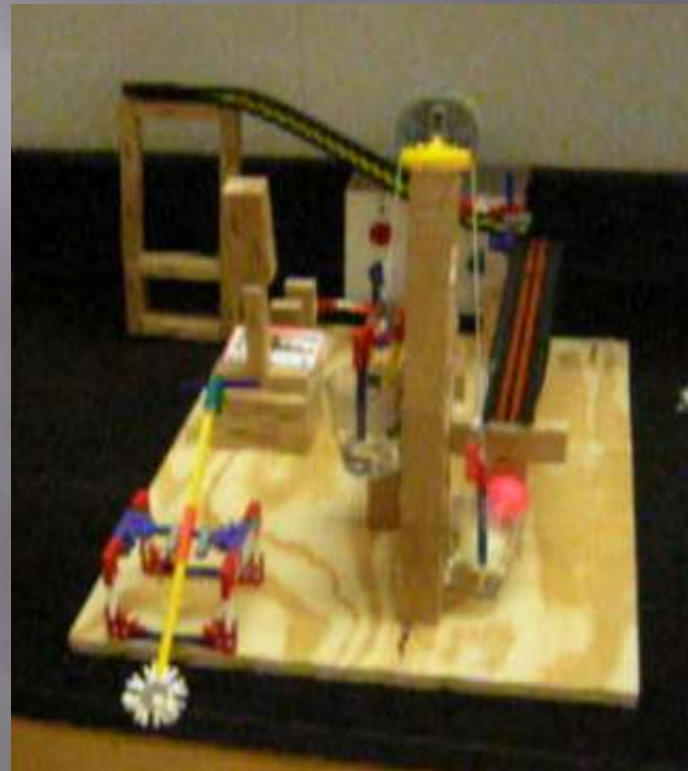
Spaghetti Bridges

[Return to projects](#)



Rube Goldberg Machine

[Return to Projects](#)



Grading Policy

- ▣ Grades are calculated using the following percentages:
 - 1st Semester Grades = 40% Quarter 1 + 40% Quarter 2 + 20% Midterm
 - 2nd Semester Grades = 40% Quarter 3 + 40% Quarter 4 + 20% Final
 - Final Grade = 50% 1st Semester + 50% 2nd Semester
 - ▣ 20% Q1 + 20% Q2 + 10% Midterm + 20% Q3 + 20% Q4 + 10% Final
 - ▣ Example:
 - $(85*.2) + (80*.2) + (73*.1) + (78*.2) + (65*.2) + (45*.1) = 73.4\% \text{ C}$

Classroom Expectations

1. Follow and listen to directions the FIRST time they are given, but do not be afraid to ask for clarification if it is needed. This is especially true during laboratory exercises.
2. Actively participate in classroom activities and discussions. This includes (but is not limited to):
 - a. Bring all required materials (book, pencil, paper, binder).
Permission will not always be granted to retrieve forgotten materials from locker and may result in late penalties for graded material or detention.
 - b. Complete all assignments on time in a legible manner.
 - c. Complete all reading before arriving to class and be ready to discuss.
 - d. Make reasonable attempts to answer questions when called on.
3. No sleeping during class time... this includes resting head on the table and daydreaming. Sleeping in class may result in a detention.
4. Be in class, seated, and ready to work on time.

Classroom Expectations

5. No food or drink allowed in class. This includes gum. Failure to comply will result in a detention.
6. Do not handle or open any equipment or containers without first asking permission.
7. Horseplay within the classroom (especially during labs) will not be tolerated and will result in removal from the classroom.
8. Students are expected to treat others with dignity and respect. Failure to do so will result in disciplinary action.
9. Cell phones, headphones, and other communication devices are not permitted.
10. You love physics.
11. No whining.

GROUP EXPECTATIONS

This course will require a significant amount of group work. I expect the following:

- Everyone will participate equally.
- Everyone will cooperate with each other in order to help each other succeed.
- Copying work from a group member will result in a zero for both students.
- No whining about who is in your group.

Student Absences

- ❑ It is the student's responsibility to obtain missed work. Do not interrupt classroom time to do this.
- ❑ Tests and quizzes will be made up outside of class. Schedule a time with me to make up your quiz/test. Failure to show up for your scheduled time without notice will result in a zero.
- ❑ All labs must be made up after school. Schedule a time with me to make up the lab. Failure to show up for your scheduled time without notice will result in a zero.

Always Remember

- ▣ There are two trash cans in the room. Use them.
- ▣ There will be a Recycling box. Mother Nature needs you.
- ▣ Physics is not required, therefore you chose to be here.
 - You love physics
 - No whining
 - Physics is not a class you can drool your way through
 - Now is the time to drop this course.
- ▣ Ask questions.
 - I am the only physics teacher