MythBusters

Course Overview:
What are MythBusters? It's a tough job separating truth from legend, but that is the purpose of the MythBusters. In this exciting class, students will perform hands-on experiments to test popular scientific myths and distinguish between what is real and what is fiction. Students will be guided through the scientific method to hypothesize, research, and conduct precise tests to "prove" or "bust" myths. This class helps students understand how applying the scientific method to problem-solving can be fun, exciting and really cool.

Course Description:
Can an Opera singer (or a very loud pre-teen) really shatter glass by hitting just the right note? Is it really impossible for even the greatest Origami master to fold a piece of paper in half more than seven times? Could a child really be carried away by a bunch of helium balloons?
We'll tackle these myths and more in MythBusters.

Course Goals and Objectives

1. Goal: To develop and practice an understanding of the nature of science.
   - Objective: Pose inquiry based questions regarding scientific myths.
   - Objective: Answer inquiry based questions by performing precise tests to determine the validity of the scientific myth/claim.
   - Objective: Communicate findings to a group of peers.

2. Goal: To utilize a variety of laboratory skills from many sub-disciplines in the sciences.
   - Objective: Create models to represent large-scale phenomena.
   - Objective: Gather and use everyday items from home to help problem-solve.

Course Schedule and Assignments

The pace and direction of this course will be largely determined by the student’s ability and interest. For each investigation question, the student will view portions of an episode from the television show “MythBusters,” design and conduct a similar experiment, and then compare his/her results to those shown in the remained of the “MythBusters” episode.
Possible investigation questions include:

- “Did ancient warriors create a ‘death ray’ using only their metallic shields?”
- “Can candy and soda make your stomach explode?”
- “Will enough helium balloons carry away a human?”
- “Is it possible to escape from Alcatraz…and survive?”
- “How dirty is your toothbrush?”
- “Can a builder holding plywood be swept away by the wind?”
- “What makes for a sturdy bridge?”

Course Materials:

1. **Required daily:**
   - a. Pencil, pens, and colored pencils.
   - b. Notebook for a reflective journal. (Composition or spiral notebooks recommended.)
   - c. Calculator
   - d. Ruler.

2. **Additional items:**
   - a. Digital camera (may be shared with other students): There will be times when the student will want to use a digital camera to capture images of his/her work. **If the student wishes to bring in his/her own camera, they will do so at their own risk.** Further, the student should only use a camera (including a camera phone) when the instructor designates a time for such an activity.
   - b. Everyday items from home: Some projects may require the student to bring in everyday items from home. The details of these assignments will be provided when we reach these assignments.

3. **Additional lab experimental materials:** As a result of the course laboratory fee, additional lab experimental materials will be provided for the student as often as possible.

**Course Grading**

Student work will be evaluated based on the following criteria:

- Quality of written work.
- Quality of lab performance.
- Contributions to the class environment.

Graded assignments will include:

- Laboratory notebooks, including planning and reflection.
- Blueprints or sketches.
- Construction of physical items necessary to experiment.
- Myth Summary Reports
- Final project and presentation (see below).
There will be no letter grades assigned in this course. In place of letter grades, a developmental level will be assigned based upon the stated course objectives throughout the program. Students will receive a final assessment of: beginning, emerging, developing, capable, experienced, or exceptional.

**Final Project:**

During the final days of the course, the student will be asked to identify and attempt to “bust” a myth of his/her own. This assignment will allow the student to select a topic of personal interest, develop an original experiment, and present findings to the class. Each student is asked to keep this assignment in mind as s/he works through the course and makes observations in everyday life, as an idea may strike her/him at any time. Some class time will be provided for this project, but the student will also have to complete some of the work at home. The use of technology and family collaboration is encouraged. Detailed information will be provided later in the course.

**Classroom Behavior:**
The student is expected to demonstrate mature, polite behavior and extend courtesy to everyone at all times:

1. Actively participate, and respectful verbal and non-verbal interaction with all opinions must be shown at all times.
2. Since differing views will be expressed, the teacher and the student(s) will mutually maintain a safe environment for courteous dialogue.
3. Respect is to be shown for all CSUN property.
4. No food or beverages will be permitted in the classroom. Snacks must be eaten outside between the designated breaks.
5. Warnings for behavior / discipline problems will be given once. Any further problems will result in a phone call to the parent(s) or guardian(s) and possible dismissal from the program.

**SAEP Electronics Policy**

**Cell phones, music players and headphones are not permitted to be used during class hours.**

a. Please put your cell phone on silent (NOT vibrate).
b. No texting is allowed during class.

You will be given one verbal warning if the above is not followed. Should a second warning be necessary, your cell phone, music player and/or headphones will be confiscated and held by the teacher until after class. If a third time occurs, your cell phone, music player and/or headphones will be confiscated and held in the SAEP office and MUST BE PICKED UP BY A PARENT.
MythBusters

After reading through the syllabus, please sign and date and have your student return it to class. The signature constitutes your commitment to the class as we partner to make the next five weeks a life-long educational experience for your student.

**Student/ Parent Agreement:**
Please bring this signed and dated MythBusters syllabus agreement to class tomorrow. If you do not understand any portion of this syllabus, or if you have any questions regarding this class, please do not hesitate to email the teacher.

We have read and understand the contents of this syllabus.

Student name ______________________________________________________

Student signature____________________________________________________

Date__________________

Parent/ Guardian name _______________________________________________

Parent/ Guardian signature_____________________________________________

Date_________________

Phone _____________________________________________________________

E-mail______________________________________________________________