**Mr. Fatsy’s Expectations, Grading Policy, & Course Info for Fluid Physics**

**I. COURSE INTRODUCTION.** Mr. Fatsy’s Fluid Physics course is a “core” course for students in the Aero/Hydrospace Engineering School at Fairchild Wheeler. It will largely introduce a student to the physics within the main “fluids” on Earth; solid, liquid, and gas (air). Core physics principals will be covered through the immersion in projects as well as an exposure to key algebraic equations to further promote understanding. This course will be challenging and great fun along the way. Students will be required to perform at their best as well as learn how to become independent and self-reliant problem solvers.

**II. REQUIRED COURSE MATERIALS:** Each student MUST have the following materials upon arrival to every EVERY Fluids class.

1. A 1” 3-ring binder that contains **ONLY FLUID PHYSICS WORK** (**COMPOSITION NOTEBOOKS OR SPIRAL BOUND NOTEBOOKS ARE NOT ACCEPTABLE**). You are required to place all work in this binder (you can use Mr. F’s 3-hole hole punch for this)
2. 100 sheets of 3-ring lined notebook paper for your notebook (you will go through nearly all of it!).
3. A calculator (phones are not an acceptable replacement for not having a calculator)
4. A pencil and eraser to perform algebraic calculations
5. A pen to take notes with (if you prefer to take notes in pen)
6. A metric ruler (it can also have inches on the other edge, that’s fine)
7. A “Fluid Physics” folder created on the student’s Google drive within which all electronic work is saved.

**IIIA. HOMEWORK POLICY:** Homework is assigned multiple nights a week. Due to the accelerated pace due to our semester schedule, some nights will have multiple hours of homework. Homework will be announced during class and will be posted on the homework board on Mr. F’s website ([www.birdmanscience.weebly.com](file:///%5C%5Cbptps.net%5Cfileshares%5Cteachershare%5Clfatsy%5CDownloads%5Cwww.birdmanscience.weebly.com)). I do flip a number of my classes whereby students will watch podcasts or videos and take notes on those materials; and the next day will consist of doing the “homework” in class with me present. There is no excuse for missed homework. You are expected to do homework **even when you are absent! Extensions will be given with a doctor’s note.** In the pace with which we cover material, you cannot afford not to fall behind. Make sure to turn in work when you return to class (if paper format) or submitted online (if e-homework). Homework is valuable, use it as such! There will be homework quizzes that I may or may not tell you about which is another reason why homework is a valuable tool to your learning.

**IV. TEST POLICY:** You will be quizzed on every unit’s material. The quizzes will take roughly an hour to complete and you will be allowed to use a single sided note sheet that you make specifically for the quiz; no cramming sentences, regularly sized handwriting. **The purpose of this note sheet is to encourage you to review the course material before the quiz,** so you may not use photocopies, worksheets, class notes, handouts, or any page you have previously used for homework credit. Well-written note sheets will also be a great resource when you begin studying for the final exams.

**V. CLASSWORK POLICY:** Anything that we do during class is part of your class work (or project) grade. Class work includes, therefore, labs, text pages done at the end of a lesson, a mini-lab, enrichment activities, group activities, and presentations. Classwork is due at the end of class, when applied as such. If absent, it is a student’s responsibility to check with Mr. F for work. The expectation is that students will take ownership over their education and claim all missed work when they are absent. **No credit will be given for work that has already been handed back to the rest of the class.**

Sometimes you will complete class work/lab assignments in groups; however, **each student** must turn in their own completed assignment. If this is different for a particular lab, I will let you know. If you are uncertain, it is your responsibility to ask. Again, take ownership of your education! Projects can be messy, it is every group’s responsibility to make certain their work stations are immaculate before leaving the physics lab. Points are deducted from projects for each day a group’s area is not left spotless.

**VI. GRADING POLICY:** Semester grades are based on points received for homework, quizzes, exams, lab work, group work, projects, etc. I grade on a percent basis as follows:

Chapter Quizzes 35% HW 30% Class work/labs/projects 35%

Final grades are calculated using semester and final grades as follows:

1st semester 40%

2nd semester 40%

Final 20%

**VII. BE PREPARED:** **For every class, come prepared with your completed homework (if assigned), laptop, binder, blue/black ink pen, pencil, calculator, and metric ruler (if you choose). You must have a pencil for labs.** Work done in red pen or any color of glitter pen will not be accepted. Work is to be done in pencil or blue/black ink.

**VIII. CLASS ATTENDANCE:** Class attendance and participation is mandatory for success in my classes and is an important part of the learning process. BE ON TIME!!! I begin class promptly at the start of the class block time.

**X.** **SEATING ARRANGEMENTS:** I reserve the right to change seats at any time.

**XII. THE TEACHER:** *Background*: Former wildlife biologist, college professor, and middle school physical science teacher. I owned and operated an ice climbing guide/high altitude climbing business for 11 years and missed the sciences far too much during that time so I earned 2 Master’s degrees in avian ecology and bryophyte biology.

*THE METHOD of all methods:* I have been employing the scientific method for as long as I remember and find that it is applicable far beyond the classroom and even well beyond the realm of science. It is a means to solve problems and that’s my ultimate goal; to teach my students to become problem solvers. With opportunity, positive environment, and academic freedom; students can achieve great things. I want to help them push that envelope to achievements that amazes even themselves.

*What can you expect from me?* I am an incredibly firm but also an incredibly fair teacher. I challenge students with high expectations but give them the guidance to reach those expectations. In my classes, students have a responsibility for their education which is why my homework policy and assignment requirements are strict. **I want a student’s best work, every time. And for that, I will respond with being the best teacher and support system I can.** Let’s have an amazing semester!!

***Contact information:*** *Lucas M. Fatsy*

 *Email:* *LFatsy@bridgeportedu.net* *(best means of communication)*

 Website: <www.birdmanscience.weebly.com>

**XIII. MR. F’s NON-NEGOTIABLE CLASS RULES:** 

1. No entry into class without a lab coat on (and no, you cannot put it on inside…)
2. If late, no entry into class without a pass
3. Laptops are not taken out unless directed
4. Have all material with you when you get to class, if you forgot something in another class, you can pick it up after the lecture, or during non-lecture time.
5. ABSOLUTELY NO CELL PHONE USE IN CLASS (not even as a calculator). 1st offense = detention & parent contacted, 2nd = parent must physically pick up phone from Mr. F.
6. Earphones/earbuds will be taken away if you have them on at any time (*unless, Mr. F is assigning classwork in independent time, then they can be taken out of your backpack*)
7. Use the rest room before class, you will lose too much time using the rest room during tests. If you must, your cell phone must be left on Mr. F’s desk (no exceptions).
8. Class materials are your own responsibility.
9. Homework bins for all paper-based work is on the counter behind Mr. F’s desk
10. Packing up early is not allowed, if so, Mr. F will indicate, otherwise, we work to the bell!
11. During all projects, leave 5-10 minutes for “Mandatory Clean-up”. All work stations must be left spotless (no exceptions).

**XIII. COURSE CONTENT & SEQUENCING:**

|  |  |  |
| --- | --- | --- |
| **Day** | **Date** | **Topic** |
| R | 1 Sept | HALF DAY: Course defined and policies reviewed  |
| F | 2 Sept | Teacher introduction class policies. Physics demos Activity: The Random Question Session! |
| M | 5 Sept | Labor Day – NO SCHOOL |
| T | 6 Sept | Activity: What is physics? Station lab investigation |
| W | 7 Sept | Scientific Method vs. Engineering Method/Design Process, experimental design |
| R | 8 Sept | Writing scientific titles, questions, hypotheses, and conclusions |
| F | 9 Sept | The measurement lab – dimensional analysis |
| M | 12 Sept | Intro to bridge building challenge – research log day |
| T | 13 Sept | Bridge building challenge – finish research and start build |
| W | 14 Sept | Bridge building challenge – finish build |
| R | 15 Sept | Bridge challenge test day and data collection |
| F | 16 Sept | Introduction to scientific data presentation – Excel lab |
| M | 19 Sept | Unit review & challenge results |
| T | 20 Sept | Introduction to motion - scalar vs. vector, reference points |
| **W** | **21 Sept** | **UNIT ONE QUIZ** – scientific skills, experimental design, research methods, communicating results, bridges |
| R | 22 Sept | What is speed? Instantaneous vs. averageSpeed inquiry lab |
| F | 23 Sept | Introduce acceleration. Rendezvous video. Accelerometer lab. |
| M | 26 Sept | Graphing motion |
| T | 27 Sept | Introduce sail car challenge – research log day |
| W | 28 Sept | Sail car challenge – finish research and start build |
| R | 29 Sept | Sail car challenge – build |
| F | 30 Sept | Sail car challenge – build & test |
| M | 3 Oct | Rosh Hashanah – NO SCHOOL |
| T | 4 Oct | Sail car challenge test day and data collection |
| W |  5 Oct | Speed unit review |
| R | 6 Oct | **UNIT TWO QUIZ** – speed, accelerometer, graphing motion, physics of sails |
| F | 7 Oct | Introduction to freefall & calculationsFreefall free-body diagrams |
| M | 10 Oct | Italian Heritage Day – NO SCHOOL |
| T | 11 Oct | Coffee filter freefall lab |
| W | 12 Oct | Yom Kippur – NO SCHOOL |
| **R** | **13 Oct** | Introduction to forces |
| F | 14 Oct | Newton’s 1st law of motion |
| M | 17 Oct | Newton’s 1st law of motion continued - demonstrations |
| T | 18 Oct | Newton’s 3rd law of motion |
| W | 19 Oct | Newton’s 3rd law of motion continued – gallery walk |
| R | 20 Oct | Newton’s 2nd law of motion  |
| F | 21 Oct | Introduce rocket project – research log day |
| M | 24 Oct | Rocket project – research log completed |
| T | 25 Oct | Rocket project – start building |
| W |  26 Oct | School Improvement - HALF DAY |
| R | 27 Oct | Rocket project – continue building |
| F | 28 Oct | Rocket project – final day of building |
| M | 31 Oct  | Preliminary test flights  |
| T | 1 Nov | Redesign rockets |
| W | 2 Nov | Final launch and data collection |
| **R** | **3 Nov** | **UNIT THREE QUIZ** – Newton’s laws, forces, rocket physics |
| F | 4 Nov | Introduction to impulse and momentum |
| M |  7 Nov | Conservation of momentum calculations |
| T | 8 Nov | Election Day – NO SCHOOL |
| W | 9 Nov | Elastic & inelastic collisions PhET collisions lab |
| R | 10 Nov | Conservation of momentum and calculations |
| F | 11 Nov | Veteran’s Day – NO SCHOOL |
| M | 14 Nov | Tabletop collisions lab HW - PhET Lunar lander simulation lab |
| T | 15 Nov | Introduce Lunar lander challengeLunar lander challenge – research log day |
| W |  16 Nov | Report Card Conferences – HALF DAYLunar lander challenge – research log finished start build |
| R | 17 Nov | Report Card Conferences – HALF DAY |
| F |  18 Nov | Lunar lander challenge – build |
| M | 21 Nov | Lunar lander landings and data collection |
| **T** |  **22 Nov** | **UNIT FOUR QUIZ** – momentum, impulse, collisions, freefall |
| W |  23 Nov | HALF DAY – Review quiz & demos |
| R, F |  24, 25 Nov | Thanksgiving Break |
| M | 28 Nov  | Introduction to circular motion |
| T |  29 Nov | Circular motion lab – day 1 of 2 |
| W |  30 N0v | Circular motion lab – day 2 of 2 |
| R | 1 Dec | Kepler’s law of planetary motion and gravitational forcesKepler’s law lab |
| F | 2 Dec | Torque and center of mass Introduction to energy |
| M | 5 Dec | Energy PhET lab – energy skate park |
| T | 6 Dec | Work and power |
| W | 7 Dec | School Improvement – HALF DAY |
| R | 8 Dec | How much energy do you produce? Lab |
| F | 9 Dec | Conservation of energy – the swinging ball day |
| M | 12 Dec | Introduce roller coaster challenge Roller coaster physics pre-lab investigation |
| **T** | **13 Dec** | **UNIT FIVE QUIZ** – circular motion, torque, kepler’s law, center of mass, energy, work, power |
| W | 14 Dec | Roller coaster challenge – research log day |
| R | 15Dec | Roller coaster challenge – research log completed |
| F | 16 Dec | Roller coaster challenge – start building – cut pieces |
| M | 19 Dec | Roller coaster challenge – build – finish cutting, start assembly |
| T | 20 Dec | Roller coaster build – assembly completed |
| W | 21 Dec | Roller coaster challenge test day |
| R | 22 Dec | Roller coaster energy lab |
| F | 23 Dec | Pre-Holiday Travel Day – HALF DAY |
| -  | 26 D – 2 J | Holiday Recess |
| M | 3 Jan | Introduction to buoyant boat challenge - Buoyancy lab |
| T | 4 Jan | Buoyant boat challenge – research log day |
| W | 5 Jan | Buoyant boat challenge - build |
| R | 6 Jan | Three King’s Day – NO SCHOOL |
| F | 9 Jan | Buoyant boat challenge – finish build |
| M | 10 Jan | Buoyant boat challenge test day and data collection |
| T | 11 Jan | School Improvement – HALF DAY  |
| W | 12 Jan | Waves & electromagnetic spectrum |
| R | 13 Jan | Activity: building guitars |
| F | 16 Jan | Finish guitars and physics jam session! |
| M | 17 Jan | Martin Luther King Day –NO SCHOOL |
| T | 18 Jan | Finals Week |
| W | 19 Jan | Finals Week |
| R | 20 Jan | Finals Week  |
| F | 21 Jan | Finals Week |

**Parent/Student Information**

Dear Valued Fairchild Wheeler Parent,

It is the beginning of another great semester here at The Aerospace/Hydrospace Engineering School at Fairchild Wheeler. I look forward to a wildly engaging and indubitably fun semester with your child. I want to make certain I understand the best mode of communication for moments I may need to contact you to praise an effort your student gave, or to make you aware of ways we can help them improve. Please provide me with the information below with regards to the best, and preferred, means to contact you:

Student’s Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Mother’s Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Father’s Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Best E-Mail Address(es): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Best Contact Phone Number (Day): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Best Contact Phone Number (Night, if different): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Preferred Mode of Contact (please check one): □ E-mail □ Phone

**Family Acknowledgement Statement**

1. This school uses a semester schedule that moves at an accelerated pace. It must be understood that for the greatest success, students will require 360 degrees of support; from parents as well as school. There are a great many tools at parents’ disposal; the Edmodo class page as well as access to PowerSchool to monitor grades in a real time manner. In signing this page, the expectations and policies for Mr. Fatsy’s Fluid Physics course have been read and understood. If 2 parents present, it is appreciated that both will sign acknowledgement.

Parent 1 Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Parent 2 Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Students are assuming the primary role as the owner of their education and will be held to a high standard in Mr. Fatsy’s classes. They are assuming all accountability and will be the best student they can be, every day.

Student Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Thank you in advance for your support and collaboration as this semester, and year, continues. I look forward to meeting you all and having a great semester with your students at The Aerospace School!

Best regards,

Luke Fatsy (“Mr. F”)