Physics 352

Class Structure and Overview

Class Goals

Experiments

Design experiment to investigate a physical phenomena.
Use conceptual understanding of physics to produce a mathematically driven theory.
Make graphs. Love graphs. MORE GRAPHS.
Visually and mathematically interpret graphs.
Identify sources of error AND evaluate their effect on the measured values.
Not hate experiments.

Groups

Work together towards on a single project.
Contribute to a group in different capacities with different goals.
Not hate working in groups.

Class Activities

Dailies

Tutorial exercises to be completed in groups.
Instructor will answer questions and provide guidance.

Project Days

A single day at the end of each section where your group will produce one component of a lab report.

Big Labs

Three week lab exercises completed in groups.

MatLab Homework

Four assignments at the beginning of the semester.
Basic tutorial to using variables and graphing in MatLab

Weekly Reflections

A chance for you to examine your own work and the work of your groupmates.

Schedule

Week		Tuesday		Thursday	
1	Basics	14-Jan	Intro to LaTeX	16-Jan	Experiment Overview
		Day 1		Day 2	Measurements show principles
2	Experiment Planning	21-Jan	Measurements show principles	23-Jan	Survey of Measurement Techniques
		Day 3	Prelab Document	Day 4	Intro Precision
3		28-Jan	Intro to Flowcharts	30-Jan	Flowcharts Case 1
		Day 5		Day 6	
4		4-Feb	Flowcharts Case 2	6-Feb	Project Day
		Day 7		Day 8	Static Friction as a function of weight
5	Recording Data	11-Feb	Case 1	13-Feb	Case 2
		Day 9	Calibration of Sensors	Day 10	Multiple Runs to Decrease Error
6		18-Feb	Case 3	20-Feb	Project Day
		Day 11	Technique Comparison	Day 12	Static Friction as a function of weight
7	Analysis	25-Feb	Chooseing Appropriate Axes Type	27-Feb	Extracting parameters
		Day 13		Day 14	
8		3-Mar	PhysEngineering Day	5-Mar	Project Day
		Day 15		Day 16	Analysis / Final Paper
	Spring Break	10-Mar		12-Mar	
9	Pendulum Lab	17-Mar	Flow Chart	19-Mar	Writeup
		Day 15		Day 16	
10		24-Mar	Measurement	26-Mar	Measurement
		Day 17	No Class	Day 18	No Class
11		31-Mar	Analysis	2-Apr	Analysis
		Day 19		Day 20	
12	e/m ratio	7-Apr	Flow Chart	9-Apr	Writeup
		Day 21		Day 22	
13		14-Apr	Measurement	16-Apr	Measurement
		Day 23	No Class	Day 24	No Class
14		21-Apr	Analysis	23-Apr	Analysis
		Day 25		Day 26	
15		28-Apr	Wrap-up	30-Apr	
		Day 27			

Lab Groups

All work will be done in groups of three.

Groups will change three times through the semester.

Weekly Self and Peer reflections

Attendance will be taken.
Tardy if more than 30 mins late.

First	Last	Group #
Dana	Coleman	1
Victoria	Davis	
Kayla	Gorniak	

First	Last	Group #
Matthew	Culbertson	5
Bailey	Harding	
Rebecca	Haws	

First	Last	Group #
William	Melton	2
Robert	Morrow	
Ben	Pfingstler	

First	Last	Group #
Evan	Farner	6
Chloe	Keller	
Melanie	Mullikin	

First	Last	Group #
Justin	Henry	3
Brandon	Holladay	
Justin	Holladay	

First	Last	Group #
Willie	Ferguson	7
Heston	Neal	
Camryn	Perry	

First	Last	Group #
Scott	Kobos	4
Jose	Lopez	
Avery	Price	

First	Last	Group #
Kove	Lambert	8
Ian	Tokofsky	
Maxwell	Tollefson	

Grading

Dailies, MatLab HW, Reflections

- Every assignment will have a list of requirements for passing.
- If all requirements are met, the assignment is considered “acceptable” (A)
- If any requirement is not met, the assignment is “unacceptable” (U)
- Assignments can be resubmitted throughout the semester.

Project Days and Lab Reports

- Each section will have a list of requirements as well as a rubric for writing clarity and quality.
- Letter grade will be determined based on completion of requirements and result of the rubric.

Final Grading

Grade	Maximum allowed…		Project Days	Final Labs (on each)
	Unexcused Tardies	U Reflections + Dailies + MatLab HW		
A	3	3	B+ average	B+ or better
B	5	5	C+ average	C+ or better
C	7	7	D+ average	D+ or better
D	10	10	F average	F or better
F	>10	>10	F average	F or better

Software

Need Immediately

Overleaf.com Account

MatLab Student License

Discord: https://discord.gg/swypjWv

Need Later

Draw.io

LoggerLite

More Info in the Software Overview

Let’s Get Going!

Go To Moodle!