

PHY 2131 Online Syllabus & Schedule

Winter 2021

Week	Dates	PHY 2131
	1/11 (M) - 1/15 (F)	NO LAB**
	1/18 (M)	NO CLASSES - MARTIN LUTHER KING DAY
1	1/19 (T) - 1/25 (M)	Excel Intro
2	1/26 (T) - 2/1 (M)	#1 - ImageJ Introduction (Part 1)
3	2/2 (T) - 2/8 (M)	#1 - ImageJ Introduction (Part 2)
4	2/9 (T) - 2/15 (M)	#2 - Motion Analysis (Part 1)
5	2/16 (T) - 2/22 (M)	#2 - Motion Analysis (Part 2)
6	2/23 (T) - 3/1 (M)	#3 - Brownian Motion (Part 1)
7	3/2 (T) - 3/8 (M)	#3 - Brownian Motion (Part 2)
8	3/9 (T) - 3/12 (F)	#4 - Brownian vs. Directed Motion (Part 1)
	3/15 (M) - 3/19 (F)	NO CLASSES - SPRING BREAK
8	3/22 (M)	#4 - Brownian vs. Directed Motion (Part 1)
9	3/23 (T) - 3/29 (M)	#4 - Brownian vs. Directed Motion (Part 2)
10	3/30 (T) - 4/5 (M)	#5 - Motion in Living Systems (Part 1)
11	4/6 (T) - 4/12 (M)	#5 - Motion in Living Systems (Part 2)
12	4/13 (T) - 4/19 (M)	Final Presentations
	4/20 (T) - 4/26 (M)	NO LAB**

**Other classes meet these days.

Software Requirement

Success in this course will require you to analyze data using ImageJ and Microsoft Excel. You will need to download ImageJ onto your own personal computer (laptop or desktop –Chromebooks, tablets, and phones will not support ImageJ). Instructions for installing ImageJ are available on Canvas. You have access to Microsoft Excel through WSU.

Assignment Details

Prelab Quizzes: Quizzes are due at 11:59 PM the day before the start (part 1) of a new experiment. These quizzes are designed to prepare you for the contents of the lab, including the data analysis. You should read the lab manual for the upcoming experiment before taking the quiz. Each question is worth a maximum of 1 point and will be graded as follows: 1 point if your answer is correct, 0.5 points if you made a valid attempt (even if it's wrong), 0 points for skipped questions (or typing things like "I don't know").

Participation: We will be using Microsoft Teams for group work this semester. You will be assigned a group channel where you can communicate with your group members and your TA. During the scheduled class times, you are required to join online meetings with the whole class and with your group, and your participation in these meetings will be recorded. You are encouraged to use video and voice features to communicate during these meetings, especially when you are meeting with only your group members, but you can participate by sending text messages in your group's channel on Teams. Your TA will join your group meetings to observe your progress on the labs and verify that every member of the group is participating. Your TA will be able to answer any questions and provide guidance to your group. Participation in class is worth a maximum of 2 points per week. Also added to your total participation points is the "Signed statement for cooperative classroom" assignment on Canvas which is worth 20 points; this assignment is due before the first day of class. The participation points will replace the "Leading a discussion" portion of your lab grade that is described in the syllabus; participation will be worth 10% of your grade.

Data Analysis: Your data analysis will be similar to your group members' analysis, so you are encouraged to work together in your group during class time. Each member of the group, however, is responsible for submitting their own data analysis file on Canvas. Excel sheets will be due at the end of class after the first part of each experiment. This is worth 10 points and will be graded individually.

Lab Reports: You will write your lab reports for experiments 2-5 as a group (you can create a shared Word file in your group channel on Microsoft Teams by clicking on the "Files" tab), and lab reports will be submitted as a group on Canvas (only one person from the group needs to upload the lab report to the Canvas assignment). Each member of your group should work on a separate section of the lab report, and you should take turns writing the different sections of the report so you do not write the same section for every experiment. See the [Lab Report Rubric](#) for what to include in your lab report—you can also find more details about what to include in each section at the beginning of the Lab Manual. Reports should contain an Introduction/Methods, Graphs/Analysis, and Conclusion section. Lab reports are due at the end of class during the second part of each experiment. Lab reports are a group grade and will be graded out of 45 points; thus, each experiment will be worth a total of 55 points (10 for the individual data analysis + 45 for the group lab report). The Excel introduction and Lab 1 do not have lab reports, but there are instructions provided on what you need to submit for these weeks. The Excel introduction submission is worth 15 points, and the Lab 1 submissions are worth a total of 25 points. These points will be added to your total points for all the experiments. Altogether, the total points for the experiments (data analysis, lab reports, and so on) are worth 40% of your final grade.

Final Presentation: Your TA will assign your group to virtually present one of your lab reports from experiments 1-5. You will create a PowerPoint from your lab report with your group. Since we are doing this completely online, you should include all your "speech" either as text on the slides or in notes for both your TA and classmates to read. A revised rubric is available on Canvas to support the limitations of virtual presentations. The PowerPoint is worth 60 points towards your final presentation grade. Your final presentation is worth a total of 30% of your final grade.

Final Presentation Questions/Answers: Presentations will be posted in a discussion board on Canvas. You will be required to post a question on another group's presentation and to answer one question that was posted on your own presentation. Question guidelines are as follows:

1. To ensure that everyone has a question to answer, TAs will assign you a presentation to ask a question to. Make sure that you only answer one question on your own group's presentation so that your group members also can answer!
2. Questions should be unique and specific to the presentation you are viewing – you will not receive credit for asking questions like “what was your favorite part about this lab” or “what would you do differently next time”.
3. Answers should be 2-3 sentences in length (around 50 words). Consider that when asking your questions!

Questions/answers are worth 20 points towards your final presentation grade.

Grading

Prelab quizzes	20%
Participation	10%
Experiments (data analysis and lab reports)	40%
Final presentation	30%

Grading Scale

Percent	Letter Grade
85-100	A
75-85	B
65-75	C
55-65	D
0-55	F