

Physics Introductory Labs General Notes – S21

During the pandemic period, labs require cleaning and disinfecting the equipment in the beginning and end of the lab sessions. To compensate for this extra time, **students must watch prelab videos** (~20 min each) before they come to lab. This will replace the 10 min introduction to the lab that was given in previous years. In order to satisfy NY state social distancing requirements, **the number of students per lab section is reduced from 20 students to 10**. There is also a spare 11th setup in case a piece of equipment is broken. *Note: Each of the 10 students has his/her own equipment on a separate lab table, and each student performs the lab experiments on their own.* Print a copy of this **general information** and bring it and copies of **lab manual** and **brief-notes** for each lab with you.

Read Carefully: Students do the following preparations before they arrive at the lab.

- **Lab Manual:** Read the lab manual for the experiment and print a copy to bring to lab. The manual contains tables for recording data and blank spaces to answer questions as you complete the lab, so you must have a printed copy with you. Upload the prelab assignment to blackboard, bring a hard copy with you.
- **Video:** Watch the video of TAs explaining how to do the experiment in great detail. Your Lab TA will not give any pre-lab presentation in the beginning of the lab because it has already been done in the video. **Bring a laptop: You may want to replay parts of the video in lab. TURN CC ON FOR CAPTIONS.**
- **Brief-notes.** Read the brief-notes and look at the **picture of the setup** and **sample data** in its appendix. The brief-notes is an additional document detailing the modifications made to each lab in order to comply with the social distancing guidelines, as well as a written reminder about some of what has been shown in the video. It addresses **what to do in a situation where the standard lab manual calls for two students to work together. It also has color pictures of how the experiment is set up at the beginning of the lab and sample data from previous years. The sample data is not to be used by students in their lab reports unless they are participating in the class remotely.**
- **Prelab:** Complete the prelab assignment and upload it to Blackboard before showing up to the lab. Please format the file name as: **Last Name_First Name -PHYXXX-Prelab-Exp#XX** (where the X's should be filled in with your course number and the experiment number, respectively.)
- **Printed copy of manual:** Students should bring a printed copy of the lab manual to the lab.

In the laboratory (TA may show a 2 min video if needed)

- **Stamping:** In the beginning of lab, have the TA stamp the date on the data pages of the printed copy of the lab manual for each student. At this time, drop the paper copy of the prelab assignment in the marked box. (The uploaded copy of the prelab assignment on blackboard is backup in case the box becomes contaminated)
- **Tables:** Students use the equipment at their pre-assigned lab table. One student per table (see drawings).
- **Attendance:** The TA will take attendance.
- **Cleaning:** *Students should disinfect the lab equipment and the table before starting.*
- **Equipment:** *The lab manual sometimes assumes that there are two lab partners sharing the same equipment on one lab table. We have not changed the lab manual and some of the lab videos show two TAs. Do not be confused. Now each student has his/her own equipment and does the lab alone. For cases in which the lab manual calls for the lab partners to work together, the brief-notes address how the lab can be done alone but may require coordination with the paired student in the adjacent lab bench (“partner”). For example, Mechanics Labs 1 and 5 require collaboration with a “partner”. See attached diagram of paired lab benches.*
- **Lab Pairs (partners):** Sometimes (lab 1& Lab 5) it is less time consuming to collaborate with a student in the adjacent table as follows. The student at the first table takes data and reads it to the student in the adjacent lab bench, who records it. Then they switch roles and the student in the adjacent lab bench takes the data and the student in the first lab bench records. These special situations are addressed in the brief-notes. Students who ask to be paired with a friend in the beginning of the semester will be assigned to adjacent lab benches.
- **End of lab** The equipment must be disinfected and put back together to its original configuration. Otherwise, there will be a grade penalty. Drop the completed postlab report in the marked box.

MECHANICS LABS 121, 113, 181:

Statistics/data analysis: Slides: <http://www.pas.rochester.edu/~physlabs/manuals/L2C-StatisticsForWeb-AB5-short.pdf>

Video: <https://rochester.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=f320519a-2d9d-40b0-b859-abe60105930c>

All Mech Labs Folder: <https://rochester.hosted.panopto.com/Panopto/Pages/Sessions/List.aspx?folderID=fecel69-2f55-47c7-8d1b-abe500e68a55>

Lab 1: <https://rochester.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=5bdc1b28-30d1-412a-a76e-ac0500499e6b>

Part of Lab 1 requires pairing with a student in the adjacent lab Table/Bench

Lab 2: <https://rochester.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=576777fd-42ed-4ea7-bbf1-ac0500499e9c>

Lab 3: <https://rochester.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=dd8e6cbc-48de-4f25-8f64-ac05005034e7>

Lab 4: <https://rochester.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=b9766a7f-9b52-40ac-a5d3-ac0500802d2c>

Lab 5: <https://rochester.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=0dc4dd14-4b16-49da-a81e-ac05008ab0f8>

Part of Lab 5 requires pairing with a student in the adjacent lab Table/Bench

E&M LABS 122, 142, 114, 182: (P114 Spring do EM labs 6,8,9 and Modern labs 12,13)

All E&M Labs **Folder:** <https://rochester.hosted.panopto.com/Panopto/Pages/Sessions/List.aspx?folderID=8311262e-7cd9-471d-81f6-abe50140eb02>

Lab 6: <https://rochester.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=132ec518-02ae-447c-aa6a-abfa0161c70d>

Lab 7: <https://rochester.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=c1073479-d200-499f-ab3b-abfa0161d8dc>

Lab 8: <https://rochester.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=55e90526-cc7a-498e-a281-ac05004579eb>

Lab 9: <https://rochester.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=aa9dabf7-073e-459b-8402-ac0500497d90>

Instructional video - General Multimeters

<http://www.pas.rochester.edu/~physlabs/manuals/IntroToMulti.mp4>

Instructional video on Multimeters for Lab 9

<http://www.pas.rochester.edu/~physlabs/manuals/Lab9.mp4>

Lab 10: <https://rochester.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=dfcec750-a88e-4688-80bf-ac0100de3e52>

Digital Oscilloscope (For Lab 10) Instructional Video

<https://rochester.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=00a7b093-db11-4023-8e94-ac050098cac8>

MODERN PHYSICS LABS 114, 123, 183: (P114 Spring do EM labs 6,8,9 and Modern labs 12,13)

Experiment #11: <https://rochester.hosted.panopto.com/Panopto/Pages/Sessions/List.aspx?folderID=adc3db27-f099-447e-b301-acc20100c581>

Experiment #12: <https://rochester.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=74a9e9e6-640c-4d5b-9be8-abe500f0ace3>

Experiment #13: <https://rochester.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=a290a03c-148e-47f9-aecce-abe50105dba3>

Experiment #14: <https://rochester.hosted.panopto.com/Panopto/Pages/Sessions/List.aspx?folderID=e362a8b0-0ee4-45a0-95b9-acc20100d0d1>

Experiment 15: <https://rochester.hosted.panopto.com/Panopto/Pages/Sessions/List.aspx?folderID=96ec3da2-4ace-4d81-a981-acc20100dd2a>

Spring 2021 - LABS START Mon. FEB 8th

WEEK LAB CYCLE

PHY 113/121/121P, 114, 123

www.pas.rochester.edu/~physlabs

DATE	WEEK	LAB #		
		113 (P)/121(P),	114,	123
2/8/21	A	1,	6,	11
2/15/21	B	1,	6,	11
2/22/21	A	2,	8,	12
3/1/21	B	2,	8,	12
3/8/21	A	3,	9,	13
3/15/21	B	3,	9,	13
3/22/21	A	4,	12,	14
3/29/21	B	4,	12,	14
4/5/21	A	5,	13,	15
4/12/21	B	5,	13,	15

PHY 113 (F,S), 121(S), 181 (F,S)

– B&L 267

PHY 114 (S,F), 122(F), 182 (F,S) , 184 (F,S)

– B&L 268

PHY 123(S), 183 (S)

– B&L 165



