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**PHYS 2212L - Introductory Physics Lab II  
Course Syllabus – Fall 2022**

Individuals with disabilities who need to request accommodations should contact   
the Disability Resource Center, Edgewater Hall 255, (678) 466-5445, [disabilityresourcecenter@clayton.edu](mailto:disabilityresourcecenter@clayton.edu).

**Course Description:**

**Number and Title:**

PHYS 2212 (CRN 85399): Introductory Physics Lab II

**Credit Hours:**

1.0 semester credit hours

**Catalog Description:**

Laboratory accompanying PHYS 2212.

**Course Prerequisite / Corequisite:**

PHYS 2212 with a minimum grade of D (can be taken concurrently)

**Computer Requirement:**

Each CSU student is required to have “on demand access” throughout the semester to “an appropriate computing device” that meets faculty-approved hardware and software requirements for the student's academic program. Students will be required to sign a statement attesting to such access. For further information on CSU's Computer Devices Policy, see the [Academic Catalog and Student Handbook](https://www.clayton.edu/catalog-handbook/).

**Software Requirement:**

**To properly access the course content, you will need to download the following free software:** Adobe Reader (to open pdf files)

**Computer Skill Prerequisites:**

* Able to use the WindowsTM operating system
* Able to use Microsoft WordTM word processing
* Able to use Microsoft ExcelTM spreadsheet
* Able to send and receive e-mail using OutlookTM
* Able to attach and retrieve attached files via email
* Able to use a Web browser.
* Able to access Desire2Learn

Use only your CSU e-mail account or the e-mail system includedin D2L to communicate academic information to your instructor.

**In-Lab Use of Student Notebook Computers:**

Notebook computers will be used extensively in PHYS 2212L/1112L. In this lab course, notebook computers are required for virtually all lab meetings. Students will use notebook computers during lab to collect and analyze data, generate graphs, and other important tasks.

Remember to complete the lab waver in Duck.

**Desire2Learn (Online Classroom):**

On-line activities will take place in Desire2Learn Brightspace, the virtual classroom for the course. Posting of your work in D2L is a course requirement.

You can gain access to Desire2Learn by signing in to the SWAN portal.  If you experience any difficulties in Desire2Learn, please email or call The HUB at [TheHub@clayton.edu](mailto:TheHub@clayton.edu) or (678) 466-HELP. You will need to provide the date and time of the problem, your SWAN username, the name of the course that you are attempting to access, and your instructor's name.

**Course Delivery Impacts Statement**

Clayton State University reserves the right to move this course to remote instruction at any time during the semester due to potential impacts of COVID-19 or others. If this occurs, students will be expected to access all course materials and submit their assignments using D2L (or other approved course delivery platform) and/or Microsoft Teams using their own internet and Wi-Fi services.

**Major Student Activities:**

* Taking notes during lab.
* Answering and asking questions during lab.
* Taking measurements, collecting, and recording data.
* Participating in demonstrations of physical principles.

**Program Learning Outcomes:**

General education outcomes:

The Clayton State University Core Curriculum outcomes (see Area D) are located in the Graduation Requirements section of the [Academic Catalog and Student Handbook](https://www.clayton.edu/academic-catalog/).

**Course Learning Outcomes**:

* Course Outcome 1: Be able to identify and describe the basic laws of classical physics.
* Course Outcome 2: Be able to use the Excel spreadsheet program (or similar) for data analysis and graphing.
* Course Outcome 3: Be able to use scientific method in collecting data, formulate and test a hypothesis, reach an informed conclusion based on learned material.
* Course Outcome 4: Be able to read, analyze, and interpret data to draw valid scientific conclusions and communicate those conclusions in a clear and articulate manner.
* Course Outcome 5: Be able to relate knowledge of the other sciences, such as computational, to physical concepts and skills.

**Biology outcomes:**

PHYS 2212L/1112L supports outcomes 3 and 4 of the biology major:

* Biology Outcome 3:  Knowledge of physical science, mathematics, and statistics required to support an understanding of biology.
* Biology Outcome 4:  Ability to communicate orally and in writing in a clear concise manner.

**Instructor Information:**

**Instructor:**

Dr. Dmitriy Beznosko  
phone: (678) 466-4887; fax: (678) 466-4797  
e-mail: [DmitriyBeznosko@clayton.edu](mailto:DmitriyBeznosko@clayton.edu)

**Office:** LDSC, Room 235A

**Office hours:**

* MWF: 11am - 12pm
* TR: 1pm - 3pm

All times are over **Microsoft Teams** unless scheduled otherwise.

Other times by appointment

**Class Meetings:**

**Laboratory:** Lab Annex Building, Room 104

**Class times:** Mondays12:00 PM - 2:50 PM

**Textbook Information and Lab Supplies:**

**Text:** Required materials will be available in D2L or provided in class.

**Required lab supplies and personal protective equipment (PPE)**:

* Laptop or composition book to be used as a lab notebook
* Face mask, face shield, eye googles – highly recommended, depending on scheduled lab work
* Basic calculator (laptops and scientific calculators **may** be used)

**NOTE:** Students are required to abide by all laboratory safety rules and procedures provided to them by their instructors.

STUDENTS WHO DO NOT HAVE THE REQUIRED SAFTEY AND PERSONAL PROTECTIVE EQUIPMENT WILL NOT BE ALLOWED TO ENTER THE LAB ROOM OR PARTICIPATE IN ANY LAB ACTIVITIES ON CAMPUS.

**Evaluation:**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | **Item** | **Points** | | Lab Reports (up to 11 @ 50 points each) | 550 | |  |  | | **Total** | **550 (100%)** | |

**Grading:**

|  |  |
| --- | --- |
| **Grade** | **Percentage Range** |
| A | 90 - 100% |
| B | 80 - 89% |
| C | 70 - 79% |
| D | 60 - 69% |
| F | below 60% |

**Mid-term Progress Report:**

Because PHYS 2212L/1112L is a laboratory-based course, there will be too few grades to permit a meaningful grade to be established by midterm. Therefore, there will be no midterm grades assigned by the instructor. Students desiring academic feedback at any time should see their instructor to discuss their standing in the course. Based upon this feedback, students may choose to voluntarily withdraw from the lab and receive a grade of "W" at any time up to **deadline**. Students pursuing this option must fill out an official withdrawal form, available in the Office of the Registrar. [Instructions for withdrawing are provided at this link](http://www.clayton.edu/registrar/withdrawal).

**Course Policies:**

**General Policy**Students must abide by policies in the Clayton State University [Student Handbook](https://catalog.clayton.edu/student-handbook/student-policies/) and the [Basic Student Responsibilities,](https://catalog.clayton.edu/rules-regulations/basic-student-responsibilities/) including the [Code of Conduct](https://catalog.clayton.edu/student-handbook/student-policies/code-conduct/).

**University Attendance Policy**

Students are expected to attend and participate in every class meeting. Instructors establish specific policies relating to absences in their courses and communicate these policies to the students through the course syllabi. Individual instructors, based upon the nature of the course, determine what effect excused and unexcused absences have in determining grades and upon students’ ability to remain enrolled in their courses. The University reserves the right to determine those excessive absences, whether justified or not, are sufficient cause for institutional withdrawals or failing grades.

**Course Attendance and Tardy Policy**  
Students who do not attend regularly or are habitually tardy generally do not do well in a lab course. Attendance will be taken at the beginning of each lab period, a student who is late for more than 15 minutes will be counted as absent. If a student is absent from a lab, they are still responsible for the missed material for exams, quizzes, notebook, lab reports, etc. Students cannot get any points for any work pertaining to the lab that was missed. Any absence must be accompanied by a written excuse from a medical care provider or other competent authority.  Furthermore, since quizzes and lab exams begin at the start of class, missing a quiz due to tardiness will be handled in the same manner as if the student were absent. Once a quiz has begun, students may NOT enter the lab until the quiz is over.

**No Show Policy**It is imperative that students have a successful start of each semester by attending class during the first week and no later than the second week of the semester. A registered student who does not attend at least one (1) class session by **5 pm** **Aug 25** will be reported a “no show.” The consequences of being reported as a no show are significant: the student will be dropped from the class and may suffer significant financial hardship.

**No Phone Policy**Turn off all cell phones upon entering the laboratory. No electronic devices may be out or in use during laboratory class or exams unless told so by instructor. Casual cell phone use during lab is distracting to the instructor and other students. Any student using their cell phone during lab (ringing, talking, or sending/receiving text messages) **may be asked to leave** the area and forfeit their lab grade for that day.

**Missed Work**Missed laboratories cannot be made up. Without a valid excuse, a grade of zero points will be assigned for the missed work.  If a valid excuse is provided:

* The missed laboratory will not count in calculating the course grade. This means that other laboratory assignments will be responsible for a greater weight in determining the course final grade.
* Students with a valid excuse may attend another lab section with permission of both instructors. This is only available to those students who have a valid, written excuse and for classes that have more than one section.
* The only absences that are excusable are for illness (requiring a medical provider’s note), accident (requiring a police report), legal reasons (requiring a note from the judge), work obligations outside of the ordinary (requiring a note from your employer), and student-athletes who must travel off-campus for a competition (requiring advance notice from the Department of Athletics).
* If there is a final exam, there will be no make-up for the exam. If excused with a valid reason, the final grade will be calculated from the average of other course components submitted.
* **If more than half of the labs are not submitted, or missed even with the valid excuses, the student should apply for the ‘incomplete’ option, otherwise F grade will be assigned independent of the submitted reports quality.**

**Academic Dishonesty**  
Any type of activity that is considered dishonest by reasonable standards may constitute academic misconduct. The most common forms of academic misconduct are cheating and plagiarism. All instances of academic dishonesty will result in a grade of zero for the work involved. All instances of academic dishonesty will be reported to the [Office of Community Standards](https://www.clayton.edu/community-standards/). Judicial procedures are described in the section of the Academic Catalog and Student Handbook titled, [Adjudicating Alleged Academic Conduct Infractions](https://catalog.clayton.edu/student-handbook/student-policies/disciplinary-procedures/procedures-adjudicating-alleged-academic-conduct-infractions/).

**Plagiarism Detection Software.**  
Students agree that by taking this course all required papers may be subject to submission for textual similarity review to Turnitin.com for the detection of plagiarism. All submitted papers will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. You should submit your papers in such a way that no identifying information about you is included.

**Disruption of the Learning Environment**

Behavior which disrupts the teaching–learning process during class activities will not be tolerated.  While a variety of behaviors can be disruptive in a classroom setting, more serious examples include belligerent, abusive, profane, and/or threatening behavior.  A student who fails to respond to reasonable faculty direction regarding classroom behavior and/or behavior while participating in classroom activities may be dismissed from class.  A student who is dismissed is entitled to due process and will be afforded such rights as soon as possible following dismissal.  If found in violation, a student may be administratively withdrawn and may receive a grade of WF.   
  
More detailed descriptions of examples of disruptive behavior are provided in the [Academic Conduct Regulations](https://catalog.clayton.edu/student-handbook/student-policies/code-conduct/academic-conduct/) of the Academic Catalog and Student Handbook.

**COVID Health and Safety Statement**

Clayton State University is committed to providing and promoting a healthy and safe learning environment. Anyone who is feeling ill should refrain from coming to campus and should consult the symptoms related to COVID to determine if a visit to a physician or clinic is necessary. Any faculty, staff or student who has tested positive for COVID or has been potentially exposed to someone with COVID should report their case using the [COVID Reporting Form](https://claytonstate.qualtrics.com/jfe/form/SV_0Ar5gAZ0qF72D6B) before coming to campus. Once the report is submitted you will receive further instructions via your CSU email. Individuals on campus who choose to wear a face mask are free to do so at any time.

**Center for Academic Success**

The Center for Academic Success (CAS) provides personalized one-on-one peer and professional staff tutoring in over 100 core subjects. The Center is located in Edgewater Hall Suite 276. The CAS also offers moderated study groups, informal study sessions, a comfortable study environment, a student study lounge, *and it’s all free*! Use the CAS if you need help; become a tutor if you don’t. For more information you can e-mail the center at [thecas@clayton.edu](mailto:thecas@clayton.edu)

**Writing Assistance**  
 The goal of the Writers’ Studio is to give rise to better writers, not just to better writing. People who love to write, people who struggle mightily with it, and people who fall anywhere else on the spectrum can find a place at The Writers’ Studio—a place for students to come for writing guidance and feedback.

The Writers’ Studio’s contact information:

Location: Virtual (Available by email and on Microsoft Teams)

Phone: 678.466.4728

Email: [writers@clayton.edu](mailto:writers@clayton.edu)

Website: [https://www.clayton.edu/writers-studio](https://www.clayton.edu/writers-studio/)

Booking: [http://csu.campus.eab.com](http://csu.campus.eab.com.)

The Writers’ Studio offers two types of online writing consultations: *email consultations* and *online chat writing consultations.*

1. Email consultations are 60-minute sessions where writers submit their work for feedback from their CSU email account. Writers submit both a draft of their work and the assignment description. In turn, writing consultants provide revision-based comments within 24-48 hours through both 1) a feedback letter, and 2) a brief summative feedback video. Email consultations may be scheduled two-hours in advance.
2. Online chat consultations are virtual 60-minute sessions where writers and consultants meet on Microsoft Teams. Writers share their work on Microsoft Teams and review the work together with consultants through Microsoft Word Online or another software that is appropriate for the assignment format. Drop-ins and appointments are welcome.​

Scheduling is available through SSC Navigate ([http://csu.campus.eab.com](http://csu.campus.eab.com.)). Instructions on how to schedule email and online chat writing consultations are available [on our website](https://www.clayton.edu/writers-studio/how-to-schedule-an-appointment).

For help with scheduling or for general questions, call us 678-466-4728, email us at [writers@clayton.edu](mailto:writer@clayton.edu), or contact our [front desk assistants on Microsoft Teams](https://teams.microsoft.com/l/team/19%3a0df8c45950414996a9fccc8554ec81b0%40thread.skype/conversations?groupId=429f3142-41b8-42c2-944f-fcd9cc0c8fe9&tenantId=56b445ce-91ad-4e6b-af20-6439b7c7da9b) (the “Writers’ Studio Front Desk” team on Microsoft Teams). Additional information and updates are available on our website at <https://www.clayton.edu/writers-studio>.  
 **Weapons on Campus**Clayton State University is committed to providing a safe environment for our students, faculty, staff, and visitors. Information on laws and policies regulating weapons on campus are available here:

<http://www.clayton.edu/public-safety/Safety-Security/Weapons>

**Library Statement**

The Clayton State Library provides services and resources to support your academic success not only in this course, but throughout your career at Clayton State and beyond. Each academic department has an assigned [personal librarian](https://clayton.libguides.com/liaison) who is knowledgeable about resources in that subject area. You are encouraged to contact your department’s personal librarian to schedule a [one-on-one consultation](https://clayton.libcal.com/reserve/research) for help with any research assignments. You can also receive personalized research support through [chat](http://www.clayton.edu/library/askalibrarian/chat), email, phone, text, or in-person any time the library is open. You may also access online research guides, [LibGuides](https://clayton.libguides.com/), created by Clayton State Librarians directing you to the best resources in selected subject areas. All the information about these and other resources is available on the [library’s homepage](https://clayton.edu/library/). For further questions, contact the library using the information below:

Call: (678) 466-4346

Email: [library@clayton.libanswers.com](mailto:library@clayton.libanswers.com)

Research Support: [https://clayton.libanswers.com](https://clayton.libanswers.com/)

LibGuides: [https://clayton.libguides.com](https://clayton.libguides.com/)

Web: <https://clayton.edu/library>

Find your personal librarian: <https://clayton.libguides.com/liaison>

Clayton State Library YouTube: <https://www.youtube.com/user/claytonstatelibrary>

Library Hours: Monday – Thursday 8:00 am – 10:00 pm; Friday 8:00 am – 5:00 pm; Saturday CLOSED; Sunday 2:00 pm – 6:00 pm

*Library hours may vary during breaks and summer semester. Check the* [*Library's calendar*](https://clayton.libcal.com/hours/) *for details.*

**Personal/Emotional Concerns**

A range of issues can cause barriers to learning, such as stress, strained relationships, feeling down, difficulty concentrating, and lack of motivation. During the semester, if you find that life stressors are interfering with your academic or personal success, consider contacting Counseling and Psychological Services (CAPS.) All students are eligible for counseling services at no charge. CAPS is located in Edgewater Hall, Room 245. You can reach them by phone at 678-466-5406 or email to request an appointment at [counseling@clayton.edu](mailto:counseling@clayton.edu). Students can reach the 24/7 Support Line by calling 833-855-0084.

**Other Policies**

* The use of laptops is allowed for all quizzes and examinations.
* Use only CSU email (not Yahoo or Gmail, etc.) to email your instructor.
* Visitors, including children, are not allowed in the laboratory.
* Proper attire and footwear must be worn in the laboratory at all times. Inappropriate items include, but are not limited to: shorts or skirts above the knee and shoes that do not cover the feet (*e.g.,* sandals). Students should not wear hanging jewelry and long hair should be tied back during lab. Students who come to lab without appropriate clothing or footwear may NOT be permitted to take part in lab and will forfeit any points for that day.
* Students may not chew gum or eat in lab.

**NOTE**: Changes or additions to this syllabus, including reading, exam schedule, grading, and course policies can be made at the discretion of the instructor at any time. The instructor will inform students verbally and in writing of any changes. Students are responsible for keeping up with the changes and adjusting their schedules accordingly.

Last update: August 2, 2022

**Course Schedule (TENTATIVE):**

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| --- | --- | --- |
| **Week #** | **Date** | **Activity** |
| 1 | Aug 15 | No lab |
| 2 | Aug 22 | Organizational meeting. Safety presentation. No-show quiz. |
| 3 | Aug 29 | Lab 1 – Gaussian measurements, fitting, and refresher |
| 4 | Sept 5 | No lab (Labor Day) |
| 5 | Sept 12 | Lab 2 - Electric potential - mapping of equipotential lines |
| 6 | Sept 19 | Lab - 3 Resistivity and Ohms Law |
| 7 | Sept 26 | Lab 4 - linear combination of resistors |
| 8 | Oct 3 | Lab 5 - circuits, breadboards, Kirchhoff’s laws |
| 9 | Oct 10 | No lab |
| 10 | Oct 17 | Lab 6 - Capacitors |
| 11 | Oct 24 | Lab 7 - RC circuits |
| 12 | Oct 31 | Lab 8 - measurement (Tracker) |
| 13 | Nov 7 | Lab 9 – Helmholtz Coils (Tracker) |
| 14 | Nov 14 | Lab 10 – Water Index Refraction |
| 15 | Nov 21 | Lab 11 - Thin lenses (Wednesday - Thanksgiving) |
| 16 | Nov 28 | Lab 12 – Diffraction and Interference (opt) |
|  | Dec 5 | No lab |
|  |  |  |