

Syllabus for  
PHYsics Ii

4 Credits  
PHY 154  
Spring 2024

Instructor: [Include Name and Title (Aligns with OSCQR standard [1.10](https://oscqr.suny.edu/standard10/)). **Remove this text.**]  
Instructor Phone:  
Instructor Email:   
Office Hours:  
Course Format: Online (Aligns with OSCQR standard [1.7](https://oscqr.suny.edu/standard7/)). **Remove this text.**)  
Meeting Times/Location: [For online courses, list any required synchronous meeting times before the beginning of the course (Aligns with OSCQR standard [6.48](https://oscqr.suny.edu/standard48/)). **Remove this text.**]   
Semester Start Date:  
Semester End Date:

# Course Description

This course uses algebra, trigonometry and geometry to describe fluids, electricity, magnetism and optics. The following topics are covered: electric force and field, potential, capacitance, current, resistance, DC circuits, magnetic force and fields, AC circuits, reflection, refraction, mirror lenses and gratings.

# Basic Needs Statement

To learn effectively you must have basic security: a roof over your head, a safe place to sleep, enough food to eat. If you’re having trouble with any of those things, please contact XX and/or me. Together we can work to make sure those needs are met.

[Customize this statement, and add your appropriate campus contact for these student support services. (Aligns with OSCQR standard [1.1](https://oscqr.suny.edu/standard1/)). **Remove this text.**]

# Learning Objectives

Students who have successfully completed this course will:

* test scientific hypotheses by obtaining and analyzing experimental data using statistical and computational techniques;
* demonstrate scientific communication and analysis skills through written lab reports;
* use appropriate mathematical principles to analyze the laws of electricity and magnetism, and apply them to real-world examples; and
* use the basic laws of electromagnetism to think critically and qualitatively in order to describe phenomena observed in nature.

# Co/Prerequisites

MAT 118 or MAT 154 or higher or eligible to enroll in MAT 167

# Course Materials

Representative Texts:

Giambattista, A., Richardson, B.M., & Richardson, R.C. (Current Edition) College Physics. New York, NY: McGraw-Hill.  
Loyd, D.R. (Current Edition) Physics Laboratory Manual. Boston, MA. Cengage Learning.

# Technology Requirements

[Include all technology requirements, including information on mobile and tablet access. Include links to all technology tools and software used in the course, as well as links to their privacy policies. Check with your campus to confirm that tools are supported and meet accessibility standards. Be sure to include information on available technical support for the specific tools used, as well as campus help desk information. (Aligns with OSCQR standards [1.8](https://oscqr.suny.edu/standard8/), [2.11](https://oscqr.suny.edu/standard11/), [2.14](https://oscqr.suny.edu/standard14/), [2.15](https://oscqr.suny.edu/standard15/)). **Remove this text.**]

Campus Tech Support Phone: [Tech help desk phone (Aligns with OSCQR standard [1.6](https://oscqr.suny.edu/standard6/)).]  
Campus Tech Support Website: [Campus tech help desk website link (Aligns with OSCQR standard [1.6](https://oscqr.suny.edu/standard6/)).]

# Regular and Substantive Interaction

As your instructor, I plan to interact and engage with each of you on a regular basis throughout the term to support your learning. I will provide direct instruction related to the course’s learning objectives, respond to your questions, grade and/or provide feedback on your submitted coursework, post regular announcements, and engage in the course discussion areas regarding academic course content when appropriate.

[Customize this statement. (Aligns with OSCQR standards [1.3](https://oscqr.suny.edu/standard3/), [4.29](https://oscqr.suny.edu/standard29/), [5.38](https://oscqr.suny.edu/standard38/), [5.39](https://oscqr.suny.edu/standard39/), [5.41](https://oscqr.suny.edu/standard41/), [5.43](https://oscqr.suny.edu/standard43/)). **Remove this text.]**

# Course Expectations and Learning Activities

[Include a list of all course learning activities, such as readings, videos, audio, presentations, discussions, reflections, assignments, projects, assessments, etc. Below are some common and suggested learning activities for you to adapt to your course activities.[Provide a list of expectations and activities. (Aligns with OSCQR standard [4.29](https://oscqr.suny.edu/standard29/), [4.30](https://oscqr.suny.edu/standard30/), [4.31](https://oscqr.suny.edu/standard31/)). **Remove this text.**]

## Discussions

[Discussions are important for learner-to-learner interaction, online learning engagement, and instructor-to-learner interaction, which is a required element of the Regular and Substantive Interaction federal regulation that distinguishes an online distance learning education course from a correspondence course for financial aid purposes. Online discussions/interactions help learners develop and feel a sense of class community as they interact, collaborate, and share ideas about course topics. Provide a description of the online discussions in the course and expectations for these activities.(Aligns with OSCQR standard [5.41](https://oscqr.suny.edu/standard41/), [5.42](https://oscqr.suny.edu/standard42/), [5.43](https://oscqr.suny.edu/standard43/)). **Remove this text.**]

## Journals

[Journals provide an opportunity for learner self-reflection, which can be used to encourage deeper thinking and metacognition to improve learning. Provide a description of any journaling activities in the course and expectations for these activities.(Aligns with OSCQR standard [5.47](https://oscqr.suny.edu/standard47/)). **Remove this text.**]

## Assignments/Projects

[Assignments, projects, and small group collaborative activities provide opportunities for learners to apply what they are learning and to demonstrate their thinking and understanding of course concepts/ materials/ topics. Assignments and projects provide opportunities for feedback, peer- and self-assessment, and evaluation. Provide a description of any assignments or projects in the course and expectations for these activities.(Aligns with OSCQR standard [5.45](https://oscqr.suny.edu/standard45/)). **Remove this text.**]

## Readings/Lectures

[Engagement with content (Learner-Content interaction) presented in an online course presents learners with information sources that they can refer to as they actively engage in other course activities, such as online course discussions, written assignments, projects, reflections, and assessments. Provide a description of any content, e.g., readings, lectures, presentations, videos, audio podcasts, etc., in the course, and expectations for the use of these materials and activities around them.(Aligns with OSCQR standard [4.29](https://oscqr.suny.edu/standard29/)). **Remove this text.**]

## Quizzes/Tests/Assessments

[Quizzes/Tests/Assessments can assist in understanding learning progress, comprehension, and mastery, and can inform future teaching. Quizzes/Tests/Assessments can also be used formatively via self-assessments and peer evaluations. Provide a description of any quizzes/tests/assessments in the course and expectations for these activities.(Aligns with OSCQR standard [5.45](https://oscqr.suny.edu/standard45/)). **Remove this text.**]

## Learning Activity (Template for Copy and Paste)

[This is a templated section for you to use for any additional types of learning activities you may have, e.g., labs, studio sessions, simulations, performances, etc. Simply copy and paste section as needed. It is important to copy the title along with this text, and then edit the text for your added learning activities. This keeps built-in accessibility framework in place. (Aligns with OSCQR standard [4.29](https://oscqr.suny.edu/standard29/)). **Remove this text.**]

## Participation Expectations

[Include specific expectations regarding course discussions and interaction. Include communication expectations here, including your response times to communications and grading turnaround time. (Aligns with OSCQR standards [5.38](https://oscqr.suny.edu/standard38/), [1.8](https://oscqr.suny.edu/standard8/), [5.39](https://oscqr.suny.edu/standard39/), [6.48](https://oscqr.suny.edu/standard48/)). **Remove this text.**]

## Feedback and Suggestions

[Include specific ways students can provide you with course feedback and suggestions, and report issues. (Aligns with OSCQR standards [6.50](https://oscqr.suny.edu/standard50/)). **Remove this text.**]

## Evaluation and Grading Scale

[Below are example course grading weights and a grading scale. Edit the tables below according to your course evaluation scheme and college/department scales. Map your course learning activities to your course objectives and list the weights of each type of activity. There is a section below specifically for your late-work policy. To maintain the accessibility of this table, do not merge cells. Be sure to check the accessibility of the table if you alter them. (Aligns with OSCQR standards [5.39](https://oscqr.suny.edu/standard39/), [6.44](https://oscqr.suny.edu/standard44/)). **Remove this text.**]

## Grading Weights:

| **Category** | **% Of Grade** | **Grade Items**  **(Learning Activities)** | **Associated Learning  Objectives/Outcomes** | |
| --- | --- | --- | --- | --- |
| **Discussions** | 20% | 1. List related tasks (Activities, Assignments, Assessments) | * List related course objective(s). | |
| **Written Assignments** | 20% | 1. List related tasks (Activities, Assignments, Assessments) | * List related course objective(s). | |
| **Projects/ Group work** | 15% | 1. List related tasks (Activities, Assignments, Assessments) | * List related course objective(s). | |
| **Labs/ Studios** | 20% | 1. List related tasks (Activities, Assignments, Assessments) | * List related course objective(s). | |
| **Quizzes/ Tests** | 10% | 1. List related tasks (Activities, Assignments, Assessments) | * List related course objective(s). | |
| **Final** | 15% | 1. List related tasks (Activities, Assignments, Assessments) | * List related course objective(s). | |
| **TOTAL** | **100%** |  | |  |

## SUNY Schenectady Grading Scale:

|  |  |
| --- | --- |
| Letter Grade | % Grade |
| A | 93%-100% |
| A- | 90%-92% |
| B+ | 87%-89% |
| B | 83%-86% |
| B- | 80%-83% |
| C+ | 77%-79% |
| C | 73%-76% |
| C- | 70%-72% |
| D+ | 67%-69% |
| D | 63%-66% |
| D- | 60%-62% |
| F | <60 |

[Adjust these tables to the course/department/campus weights/scales. **Remove this text.]**

## Course Schedule

Course Outline:

|  |  |
| --- | --- |
| Week | Topics |
| 1 | Electric Force |
| 2 | Electric Field |
| 3 | Electric Potential and Capacitance |
| 4 | Electric Current, Resistance, DC Circuits |
| 5 | Magnetic Force |
| 6 | Magnetic Field |
| 7 | Magnetic Induction and Inductance |
| 8 | Electric Generators and Motors |
| 9 | Resistor, Capacitor, and Inductor in AC Circuits |
| 10 | Electromagnetic Waves |
| 11 | Light Rays – reflection and refraction |
| 12 | Mirrors, Lenses, and Optical Instruments |
| 13 | Light Waves |
| 14 | Light Interference and Diffraction |
| 15 | Review |
| 16 | Final Exam |

Laboratory Outline:

|  |  |  |
| --- | --- | --- |
| Lab | Topics | Lab # |
| 1 | Equipotentials and Electric Fields | 26 |
| 2 | Measurement of Electrical Resistance | 28 |
| 3 | The Wheatstone Bridge | 29 |
| 4 | Potentiometer and EMF | 32 |
| 5 | Parallel and Series DC Circuit | Handout |
| 6 | Magnetic Field inside a Coil | 35a |
| 7 | Magnetic Induction | Handout |
| 8 | Oscilloscope Measurement | 38 |
| 9 | Alternating Current – LR Circuit | 36 |
| 10 | Alternating Current – LRC Circuit | 37 |
| 11 | Reflection and Refraction | 40 |
| 12 | Focal Length of Lenses | 41 |
| 13 | Interference and Diffraction of light | Handout |
| 14 | Diffraction Grating | 42 |

]

## Printable Schedule

[This is a templated section for you to use for each of the course modules in the course. Creating this as a separate page in an LMS to be downloaded and kept as a tangible reminder of important dates will assist many students in managing their time wisely and successfully completing the course. **Remove this text and add a page section break to keep this schedule on one page.**]

|  |  |  |  |
| --- | --- | --- | --- |
| Module Name/Reading | Start | End | Assignments |
| 1. Old men and whales  Read: Moby Dick   Online article:  <http://www.shmoop.com/moby-dick/summary.html> | Week 1 | Week 3 | **Assignment:**  Discussions  Written Assignment on Queequeg's coffin    **Due:** **Monday February 20, 2020** |
| 2. Women Driving Cars    Read: The Great Gatsby  Online article:  <http://www.shmoop.com/video/el-gran-gatsby> | Week 4 | Week 6 | **Assignment:**  Discussions  Written Assignment on designated drivers  **Due: Monday March 23, 2020** |

# Course Policies

## Late Work/Make-up Policy

[Include policy on late work and make-up work here. (Aligns with OSCQR standard [6.44](https://oscqr.suny.edu/standard44/)). **Remove this text.**]

## Online Attendance Policy

[Include information or a link to campus policy for online attendance. Include expectations for logging in, checking email, and notifications, etc. Include any policy on missing synchronous sessions. (Aligns with OSCQR standards [1.3](https://oscqr.suny.edu/standard3/), [1.5](https://oscqr.suny.edu/standard5/)). **Remove this text.**]

## Netiquette

[Add your own course netiquette expectations. Include a link to your campus code of conduct information. Consider co-creating agreed upon standards for interactions in the course with course participants. (Aligns with OSCQR standard [5.39](https://oscqr.suny.edu/standard39/)). **Remove this text.**]

## Additional Course Policies and Procedures

[Include additional course-specific policies and procedures not covered in other parts of the syllabus. Remove this section, if not applicable. Make sure you adapt the title of this section to fit your course-specific needs. (Aligns with OSCQR standard [1.5](https://oscqr.suny.edu/standard5/)). **Remove this text.**]

# Campus Policies

## Student Handbook

[Include a link to Campus Academic Bulletin. (Aligns with OSCQR standard [1.5](https://oscqr.suny.edu/standard5/)). **Remove this text.**]

SUNY Schenectady's 2021-2022 Student Handbook can be viewed [through Issuu](https://issuu.com/sunysccc/docs/studenthandbook_2021-2022)  and by clicking on the image below. It may also be found [here as a PDF](https://sunysccc.edu/PDF/Current%20Students/StudentHandbook_2021-2022.pdf). The Handbook includes the Academic Code.

## Withdrawal and Drop Date Policy

[Include the link to the Withdrawal and Drop Date campus policy/information. Include course-specific information, if applicable. (Aligns with OSCQR standard [1.5](https://oscqr.suny.edu/standard5/)). **Remove this text.**]

SUNY Schenectady’s policies for dropping or withdrawing from courses can be found [on the College's Add/Drop/Withdrawals webpage](https://sunysccc.edu/Current-Students/Academic-Advisement/Add-Drop-Withdrawals.html).

## Academic Integrity and Plagiarism

[Include a link to campus integrity and plagiarism policies/information. Add your own course-specific policy, or expectations, if applicable. (Aligns with OSCQR standards [1.5](https://oscqr.suny.edu/standard5/), [6.44](https://oscqr.suny.edu/standard44/)). **Remove this text.**]

SUNY Schenectady’s policies and information regarding campus integrity and plagiarism can be found in the [Student Code of Conduct](https://sunysccc.edu/Current-Students/Student-Life-and-Resources/Student-Code-of-Conduct.html)  under Section IX – Violations, Part B – Behavior Subject to Discipline, No.8 – Dishonesty; and Section X – Disciplinary Procedure.

## Technology Acceptable Use Policy

[Include a link to the campus Acceptable Use (AU) Policy. (Aligns with OSCQR standard [1.5](https://oscqr.suny.edu/standard5/)). **Remove this text.**]

The College’s [Acceptable Use Policy for Technology](https://sunysccc.edu/About-Us/Policies-and-Procedures/Facilities-Policies-Technology.html) is posted on the College website.

## Copyright Policy

[Include a link to campus Copyright Policy. Add your own course-specific policy, or expectations, if applicable. **(**Aligns with OSCQR standards [1.5](https://oscqr.suny.edu/standard5/), [4.33](https://oscqr.suny.edu/standard33/)). **Remove this text.**]

## Procedures for Resolving Academic Grievances

[Include a link to campus information on the process for initiating and resolving Academic Grievances. (Aligns with OSCQR standard [1.5](https://oscqr.suny.edu/standard5/)). **Remove this text.**]

If you feel you have not received an appropriate grade or you have not been treated fairly, the College has procedures you can follow to address your grievances. The policies for addressing [academic grievances](https://sunysccc.edu/Current-Students/Student-Life-and-Resources/Student-Complaint-Procedures.html) are posted on the College website.

## Reasonable Accommodations

[Include a link to campus Reasonable Accommodation Statement. Include ADA/504 compliance statement and link, as well as campus Disability Center contact information. (Aligns with OSCQR standard [1.5](https://oscqr.suny.edu/standard5/)). **Remove this text.**]

SUNY SCCC respects and welcomes students of all backgrounds and abilities. In the event you encounter any barrier(s) to full participation in this course due to the impact of disability, please contact the Office of ADA Transition Services. The Coordinator in the Office of ADA Transition Services can meet with you to discuss the barriers you are experiencing and explain the eligibility process for establishing academic accommodations. You can reach the Office of ADA Transition Services at: [adamssj@sunysccc.edu](mailto:adamssj@sunysccc.edu); 518-381-1345; Elston Hall, Room 222.

If you are already registered with the Office of ADA Transition Services and have a faculty accommodation notification letter, please send your letter early in the semester so that we have adequate time to arrange your academic accommodations. If you need an immediate accommodation for equal access, please speak with me after class or send me an email message.

You can obtain more information about ADA Transition Services from the College’s [Disability Resources](https://sunysccc.edu/Current-Students/Student-Life-and-Resources/Wellness-and-Support-Services/Disability-Resources.html) webpage.

## Code of Conduct

[Include a link to campus Code of Conduct Policy and any additional related information. (Aligns with OSCQR standard [1.5](https://oscqr.suny.edu/standard5/)). **Remove this text.**]

Please refer to SUNY Schenectady’s [Student Code of Conduct](https://sunysccc.edu/Current-Students/Student-Life-and-Resources/Student-Code-of-Conduct.html) for further information regarding academic standards, policies, procedures, rules and regulations of the College and its entities.

## Additional Policies

[Include links to additional relevant Campus Policies here. Duplicate this section as need to accommodate any additional relevant policies. (Aligns with OSCQR standard [1.5](https://oscqr.suny.edu/standard5/)). **Remove this text.**]

# Resources

## Department and Program InfoRMATION

Department Phone Number: [(Aligns with OSCQR standard [1.10](https://oscqr.suny.edu/standard10/)). **Remove this text.**]

Department Email Address: [(Aligns with OSCQR standard [1.10](https://oscqr.suny.edu/standard10/)). **Remove this text.**]

Program Phone Number: [(Aligns with OSCQR standard [1.10](https://oscqr.suny.edu/standard10/)). **Remove this text.**]

Program Email Address: [(Aligns with OSCQR standard [1.10](https://oscqr.suny.edu/standard10/)). **Remove this text.**]

## Other Resources

* [Office of ADA Transition Services](https://sunysccc.edu/Current-Students/Student-Life-and-Resources/Wellness-and-Support-Services/Disability-Resources.html)
* [Testing Center and ADA Transition Services Resources](https://sunysccc.edu/Academics/Online-Learning/Student-Resources/Testing-Center-and-ADA-Transition-Services-Resources.html)
* [The Learning Center](https://sunysccc.edu/Academics/Learning-Center/index.html)
* [In-person Tutoring Options](https://sunysccc.edu/Academics/Learning-Center/Meet-the-Tutors.html)
* [Online Tutoring Options](https://sunysccc.edu/Academics/Learning-Center/Access-Online-Tutoring.html) with [UpSwing](https://sunysccc.upswing.io/):
* [Library Resources](https://libguides.sunysccc.edu/begleylibrary)
* [Counseling and Personal Needs](https://sunysccc.edu/Academics/Online-Learning/Student-Resources/Self-Care-and-Personal-Needs.html)
* Technology Supports can be found on the [Student Success Center Resource Page](https://sunysccc.edu/Current-Students/Student-Success-Center/My-Survey-to-Success-Resources.html)
* [The SUNY ONLINE Helpdesk](https://online.suny.edu/help/) can answer many of your online questions and the SUNY Schenectady helpdesk can help you get your username, connect to WiFi and more. You can contact the SUNY Schenectady IT Helpdesk with: this email: [ithelpdesk@sunysccc.edu](mailto:ithelpdesk@sunysccc.edu), 518-381-1487, Begley Learning Commons, 1st Floor.
* [Office of Diversity, Equity and Inclusion](https://sunysccc.edu/About-Us/Diversity-Equity-and-Inclusion/index.html)