

Course: Physics II with Calculus (PHY 2049C: 11136)

Term/Year: Fall, 2019

Building: 1 Room: 153

Lectures: M,W 10:00–11:15 am (*attendance required*)

Recitation: M 11:30–12:20 pm (*attendance required*)

#### Text and Required Materials:

- **Text:** Young and Freedman, “*University Physics Volume 2*” 14<sup>th</sup> edition with “*Modified Mastering Physics*”, Pearson/Addison-Wesley, (ISBN: 1323145974)
- If your text *does not* include a “*Modified Mastering Physics*” access code, you must purchase it through the canvas course this will also give you access to Learning Catalytics for quizzes. You may also choose to buy an electronic version of the text (e-text) / Mastering Physics package online through Pearson My Lab and Mastering on Canvas.
- Scientific/Graphing Calculator
- **Wifi-enabled device such as a smartphone, tablet, or laptop to bring to class each day for *Learning Catalytics* Quizzes.**

**Course Objectives:** To familiarize students with the classical theory of waves and electromagnetism and to endow students with the mathematical and critical analysis skills necessary for their future courses and careers.

**Method of Instruction:** Lectures accompanied with demonstrations and in-class work. Instruction also includes laboratory experiments and online homework assignments.

**Attendance/Tardiness:** Punctuality and attendance throughout the entirety of each lecture are crucial aspects of subject mastery. Attendance will be taken each day and together with in-class “pop” quizzes which will be completed in groups.

#### Final Letter Grade:

A: >85  
B: 75 – 85  
C: 65 – 75  
D: 55 – 65  
F: <55

#### Grade Breakdown:

Final exam: (15%)

Midterm exams: (30%) – 3 exams at 10% each

Quizzes and Attendance: (15%)

Online Homework: (15%)

Labs/Lab Report: (25%)

**Exams:** There will be three midterm exams and one final exam. Final exam grades may replace *one* missed exam grade. **Students who fail to take the final exam will receive an ‘F’ in the course.**

Instructor: Dr. Richard Jerousek

Email: RJerousek@ValenciaCollege.edu

**(this is the *only* email address I check!)**

Phone: 407.582.5666

Office: Building 2, Room 231 (or Room 209–Physics Lab)

#### Office Hours:

Mon. 3:30 pm – 5:30 pm

Tues. 10:00 pm – 12:00 pm

Wed. 8:00 am – 10:00 am (email only)

Thurs. 2:00 pm – 4:00 pm

Fri. 10:00 am – 12:00 am (email only) (...or by appointment)

**Course Description:** Fundamental principles of electricity, magnetism, optics and waves. For physics, mathematics, chemistry and pre-engineering majors.

**Prerequisites:** PHY 2048C (Physics I with calculus) and MAC 2312 (Calculus II) with grade “C” or higher.

**Make-up Policy/Late Work:** Homework can be completed late with a penalty of 3% per day and a maximum penalty of 30%. **All homework must be completed before the final exam.** 1 quiz will be dropped. There will be no other make-ups.

**Labs:** Lab appointments must be scheduled and experiments will be conducted in the Valencia West Campus Open Physics Lab (Building 2, Room 209). Lab worksheets, schedules, and other lab materials can be found at [Science.ValenciaCollege.edu](http://Science.ValenciaCollege.edu). Lab grades will be based on the successful completion of the experiment (stamped and signed lab work–70%), and pre/post-lab work (30%). Lab schedule and due dates are provided in the *lab schedule* section of the syllabus. **Students who miss more than 3 labs will receive an ‘F’ grade in the course.** Exceptions may be made on a case by case basis.

**Quizzes:** Group problem solving sessions (“quizzes”) will be given at random during lectures or recitations and constitute a significant portion of your grade. Your attendance and participation is required for successful completion of the course. **Students who miss more than 3 quizzes will receive an ‘F’ grade in the course.** Exceptions may be made on a case by case basis. 1 quiz will be dropped from your final grade.

**Homework:** Weekly homework will be assigned in Pearson Mastering Physics through Canvas. Homework assignments must be accessed through Canvas only. Instructions to register for Mastering Physics are provided at the end of this syllabus. **Students who fail to attempt more than 3 assignments will receive an ‘F’ grade in the course.**

## Valencia Course Syllabus

**Lab Schedule:** Lab appointments can be made at [Science.ValenciaCollege.edu](http://Science.ValenciaCollege.edu). Lab groups must have no more than 3 members. Every group member needs to complete their own lab worksheet and pre/post-lab work. **Lab worksheets together with printed graphs and pre/post-lab work are *always* due at the *beginning* of class on the following class period after the lab closing date.**

Lab Number	Topic/Chapter	First Day Available	Last Day Available
S10a	Mechanical waves/sound (Ch. 15 – 16)	9/3	9/19
O19a	Interference and Diffraction (Ch. 36)	9/16	10/3
E2b	Electric field mapping using equipotential lines (Ch. 21 – 23)	9/23	10/11
E4b	Characteristics of simple DC circuits (Ohm's law) (Ch. 25 – 26)	9/30	10/17
E12c	Kirchhoff's laws (Ch. 26)	10/7	10/24
B5a	The magnetic force on a current carrying wire in a magnetic field (Ch. 27)	10/21	11/7
O2b	Determining the index of refraction of light (Snell's law) (Ch. 33)	10/28	11/14
O17a	Thin lenses (Ch. 34)	11/4	11/26
E15a	AC circuits with resistors, capacitors and inductors (Ch. 31)	11/12	12/5

### Reading Assignments and Tentative Lecture Schedule:

Dates/ College Closures	Reading Assignment	Lecture Topics
8/27, 8/29	Ch. 15, 16	Mechanical Waves (Ch. 15)
(College Closed 9/3) 9/5	Ch. 16, 21	Standing waves on a string/Sound waves (Ch. 15, 16)
9/10	Ch. 21	Resonance/Doppler effect (Ch. 16)
9/12, 9/17	Ch. 21	Charges, Coulomb's force law, and the electric field (Ch. 21)
9/19	Ch. 22	The electric field for continuous charge distributions/Electric dipoles (Ch. 21)
9/24	Review	Electric flux and Gauss' law (Ch. 22)
9/26	Ch. 22	<b>Exam 1</b>
10/1	Ch. 23	Applications of Gauss' law (Ch. 22)
10/3 -10/8	Ch. 25	Electric potential and electric potential energy (Ch. 23)
10/10	Ch. 26 pt. I	Current, resistance, and electromotive force (Ch. 25)
10/15, 10/17	Ch. 24	Simple DC circuits, Kirchhoff's laws (Ch. 26)
10/22	Ch. 26 pt. II	Capacitance and dielectrics (Ch. 24)
10/24	Review	RC circuits (Ch. 26)
10/29	Ch. 27	<b>Exam 2</b>
10/31	Ch. 28 pt. I	Magnetic forces on charges and current-carrying wires (Ch. 27)
11/5	Ch. 28 pt. II	The magnetic field/Law of Biot-Savart (Ch. 28)
11/7, 11/12	Ch. 29	Ampere's law (Ch. 28)
11/14	Review	Faraday's law of electromagnetic induction (Ch. 29)
11/19	Ch. 30	<b>Exam 3</b>
(College Closed 11/21) 11/26	Ch. 32	Inductance, RL and RLC circuits (Ch. 30)
11/28	Ch. 31	Electromagnetic waves (Ch. 32)
12/3, 12/5	Ch. 33-36	Overview of optics
12/10 10:00 – 12:30 pm		<b>Final Exam</b>

**Add/Drop Deadline: Sep. 6, 11:59 pm Withdrawal Deadline: Mar. 22, 11:59 pm**

Students are responsible for their own withdrawal. I will not withdraw anyone under any circumstances.

**Disclaimer:** As many factors affect the development and progress of a class, exceptions to the above stated policies or schedule may be made at the discretion of the instructor. Your continued participation in this course after the drop-add deadline period constitutes an agreement with and an acceptance of the conditions presented in this syllabus.

**MyLab and Mastering Registration Instructions: (You MUST register during the 1<sup>st</sup> week of class!)**



**Student Registration Instructions for Canvas**

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**First, enter your Canvas course**

1. Sign in to Canvas and enter your Canvas course.
2. Do one of the following:
  - » Select any Pearson link from any module.
  - » Select a MyLab and Mastering link in the Course Navigation. Next, select **Open MyLab and Mastering** or a content link.

**Next, get access to your Pearson course content**

1. Enter your Pearson account **username** and **password** to **Link Accounts**.  
You have an account if you have ever used a MyLab or Mastering product.
  - » If you don't have a Pearson account, select **Create** and follow the instructions.
2. Select an access option:
  - » Enter the access code that came with your textbook or that you purchased separately from the bookstore.
  - » If available for your course,
    - Buy access using a credit card or PayPal.
    - Get temporary access.
3. From the You're Done page, select **Go to My Courses**.

**Note:** We recommend you always enter your Mastering Physics course through Canvas.

**Get your computer ready**

For the best experience, check the system requirements for your product at <https://www.pearsonmylabandmastering.com/system-requirements/>

**Need help?**

For help with Mastering Physics for Canvas, go to [https://help.pearsoncmg.com/integration/cg/canvas/student/en/content/get\\_started.htm](https://help.pearsoncmg.com/integration/cg/canvas/student/en/content/get_started.htm)

# Valencia Course Syllabus

## Withdrawal Policy:

A student who withdraws from class before the withdrawal deadline will receive a grade of "W." A faculty member is permitted to withdraw a student from the faculty member's class up to the beginning of the final exam period, for violation of the faculty member's attendance policy, as published in the faculty member's syllabus. A student is not permitted to withdraw from this class after the withdrawal deadline; if you remain in the class after the withdrawal deadline, you can only receive a grade of A, B, C, D, F or I. An I grade will only be assigned under extraordinary circumstances that occur near the end of the semester. If you receive an I, the work missed must be made up during the following semester, at which time you will get an A, B, C, D or F. Failure to make up the work during the following semester will result in you getting a grade of F in the course. Any student who withdraws from this class during a third or subsequent attempt in this course will be assigned a grade of "F." The professor will not withdraw any student for any reason; it is the responsibility of the student to withdraw themselves before the withdrawal deadline and to be aware of the date of the withdrawal deadline.

Students on financial aid should consult an advisor or counselor before withdrawing from a course; there may be financial implications to the student which he or she must know about to make an informed decision before withdrawing from a course. Students with some scholarships who withdraw or are withdrawn from a class must pay the college for the cost of the class. Other scholarship sponsors may also require repayment.

To maintain financial aid, students must meet all of the following requirements:

- Complete 67% of all classes attempted, and
- Maintain a Valencia GPA of 2.0 or higher, and
- Maintain an overall GPA of 2.0 or higher, and
- Complete degree within the 150% timeframe

Detailed information about maintaining satisfactory academic progress (SAP) can be found at: [http://valenciacollege.edu/finaid/satisfactory\\_progress.cfm](http://valenciacollege.edu/finaid/satisfactory_progress.cfm)

## Course attempts/Course Withdrawals:

Agencies and organizations which provide financial assistance/scholarships (federal and state government, businesses, etc.) may have requirements relative to withdrawal, course repeats and grade forgiveness which are more stringent than those described below. It is your responsibility to verify the effects of enrollment and/or withdrawal upon your financial assistance (financial aid, scholarships, grants, etc.).

According to State Rule 6A-14.0301, you may attempt the same course only three times at Valencia including the original grade, repeat grades and withdrawals at any point in the term. Students in Bachelor's degree programs are limited to two attempts. The same course usually means the subject prefix and course number are the same when posted on a Valencia transcript. Courses that have been deemed equivalent will all count as attempts even if the current course number is not the same as your previous attempt(s). Being enrolled in a course for credit beyond the Drop/Refund Deadline counts as an attempt. The Drop/Refund Deadline for each term is listed in the Academic Calendar in the online official catalog.

## Notice to students seeking to withdraw from a course(s)

Before you withdraw from a course, you should be aware of some of the consequences of withdrawal:

- Will increase the cost of your education
- May affect your financial aid status
- May affect your transfer grade point average
- May result in your having to pay the full cost of instruction fee to retake the course
- May affect your anticipated graduation date
- May result in your being denied access to limited access programs
- May affect your eligibility for the Honors Program
- May affect your immigration status if you are attending Valencia on a nonimmigrant visa
- Will result in your required repayment of course fees paid by a Bright Futures scholarship.

To withdraw from a course(s) you must access registration on Atlas. The Withdrawal Deadlines for each term are published in the Academic Calendar in the online official catalog. All requests for withdrawals must be submitted by 11:59 p.m. on the Withdrawal Deadline date.

## Before you withdraw:

- Talk with me to discuss your progress in the course.
- See a Student Services staff member to discuss how a withdrawal will affect your career and education plans and/or the status of
- your financial aid

## Conditions that apply to a first or second attempt in a course:

On or Before the Withdrawal Deadline:

During a first or second attempt in the same course at Valencia, if you withdraw, or are withdrawn by the professor, you will receive a W (Withdrawn). You will not receive credit for the course, and the W will not be calculated in your grade point average; however, the enrollment will count in your total attempts in the specific course. Following withdrawal, you may, with my approval, continue to attend the course for the remainder of the term.

After the Withdrawal Deadline:

A student is not permitted to withdraw after the withdrawal deadline. A professor may withdraw you up to the beginning of the final exam period for violation of the class attendance policy, as published in the faculty member's syllabus, in which case you will receive a grade of "W". If the professor does not withdraw you, your grade will be what you had earned. For a complete policy and procedure overview on Valencia Policy 4-07 please go to:

[http://valenciacollege.edu/generalcounsel/policy/default.cfm?policyID=75&volumeID\\_1=4&navst=0](http://valenciacollege.edu/generalcounsel/policy/default.cfm?policyID=75&volumeID_1=4&navst=0)

## Valencia College core competencies:

The faculty of Valencia College has identified four core competencies that define the learning outcomes for a successful Valencia graduate. These competencies are at the heart of the Valencia experience and provide the context for learning and assessment at Valencia College. You will be given opportunities to develop and practice these competencies in this class. The four competencies are:

- Think - think clearly, and creatively, analyze, synthesize, integrate and evaluate in the many domains of human inquiry
- Value - make reasoned judgments and responsible commitments
- Communicate - communicate with different audiences using varied means
- Act - act purposefully, effectively and responsibly.

## Additional classroom information:

**SECURITY STATEMENT** (This statement comes from our chief of security):

We want to reassure you that our security officers are here around the clock to ensure the safety and security of the campus community. It's important to remain alert and aware of your surroundings, especially during the early morning or evening hours. Remember that you can always call security for an escort if you feel uncomfortable walking alone on campus. White security phones can also be found in many of our buildings; simply pick up the phone and security will answer. Finally, report any suspicious persons to West Campus Security at 407-582-1000, 407-582-1030 (after-hours number) or by using the yellow emergency call boxes located on light poles in the parking lots and along walkways.

## FACULTY/STUDENT COMMUNICATION

The best way to reach me for issues that are not of upmost importance is face-to-face, before/after class or during my office hours. If you send an email, I will respond within 2 business days (if a response is required). You should also check your atlas email every other day, at least.

Valencia College is committed to providing each student a quality educational experience. Faculty members have set high standards of instruction for themselves and for you. If you have a problem in a class, your first step is to talk to me. If you are still dissatisfied, you may talk with the academic dean of the division for your class. We will work together to resolve any issues that arise.

## ACADEMIC HONESTY STATEMENT

Each student is required to follow Valencia policy regarding academic honesty. All forms of academic dishonesty (cheating, plagiarism, forgery, misuse) are prohibited as stated in the Student Code of Conduct and will be disciplined or penalized accordingly. All work submitted by students is expected to be the result of each student's individual thoughts, research, and self-expression unless the assignment specifically states "group work." With the first occurrence of academic dishonesty, in any form, a student will receive a failing grade for that single assignment/assessment. Proof of a subsequent event of academic dishonesty will result in a failing grade in the course along with a referral to the Dean of Science and the Dean of Students.

## CLASSROOM RULES OF STUDENT BEHAVIOR

Student Code of Conduct in the current Valencia Student Handbook:

<http://valenciacollege.edu/studentdev/CampusInformationServices/>

Disciplinary action could include withdrawing a student from class or initiating a disciplinary warning, probation, suspension, expulsion, or other appropriate and authorized actions. Any student who engages in any prohibited or unlawful acts or disrupts the class will be asked to leave. No Food or Drink in the Lecture or Lab Rooms (Except snacks in the lounge in the back of the physics lab: 2-209).

## STUDENT FEEDBACK ON INSTRUCTION (SFI)

Each term students taking courses are asked to complete the electronic Student Feedback on Instruction survey to let us know more about their experiences. It is used at Valencia by faculty members to improve the teaching and learning experience. Faculty cannot access your student feedback until after final grades are posted. Through this link you can find answers to other commonly asked questions about the SFI.

## Mental health and wellness:

### BAYCARE BEHAVIORAL HEALTH'S STUDENT ASSISTANCE PROGRAM

Valencia is committed to making sure all our students have a rewarding and successful college experience. To that purpose, Valencia students can get immediate help that may assist them with psychological issues dealing with stress, anxiety, depression, adjustment difficulties, substance abuse, time management as well as relationship problems dealing with school, home or work. Students have 24 hour unlimited access to the BayCare Behavioral Health's confidential student assistance program phone counseling services by calling (800) 878-5470. Three free confidential face-to-face counseling sessions are also available to students.

If you need to contact the Victim Service Center's Sexual Assault Hotline: 407-497-6701 or <http://www.victimservicecenter.com/>.

# Valencia Course Syllabus

## Students with disabilities information:

Students with disabilities who qualify for academic accommodations must provide a Notification to Instructor (NTI) form from the Office for Students with Disabilities (OSD) and discuss specific needs with the professor, preferably during the first two weeks of class; accommodations will not be applied retroactively. The Office for Students with Disabilities determines accommodations based on appropriate documentation of disabilities.

Office for Students with Disabilities (OSD): West Campus SSB, Room 102 Phone: 407-582-1523 Fax: 407-582-1326

**West campus testing center:**

***Please let me know before requesting to take an exam in the testing center. You must have documents from OSD.***

West Campus Testing Center: Building 11, Room 142 Phone: 407-582-1323 Hours: Monday-Friday 8:00 am-8:00 p.m.

## Weather emergencies:

In the case of weather emergencies, you can find out about school closings by signing up to update your information for Valencia Alerts.

## College Policies, Procedures and other References

### Resources on the above policies:

- A full description of all College policies can be found in the College Catalog at <http://www.valenciacollege.edu/catalog/>
- Information about maintaining satisfactory academic progress can be found at [http://valenciacollege.edu/finaid/satisfactory\\_progress.cfm](http://valenciacollege.edu/finaid/satisfactory_progress.cfm)
- The Student Handbook can be found at <http://valenciacollege.edu/pdf/studenthandbook.pdf>
- The Policy Manual can be found at <http://valenciacollege.edu/generalcounsel>
- The college calendar can be found at <http://valenciacollege.edu/calendar>
- Information about the Office for Students with Disabilities can be found at <http://valenciacollege.edu/osd/CurrentStudents.cfm>
- Final exam schedule can be found at <http://valenciacollege.edu/calendar/FinalExam.cfm>
- Information about Valencia's Skillshop which offers a variety of topics on student success and goals can be found at <http://valenciacollege.edu/studentervices/skillshops.cfm>

### Learning support services:

Disclaimer: As many factors affect the development and progress of a class, exceptions to the above stated policies or schedule may be made at the discretion of the instructor. Your continued participation in this course after the drop-add deadline period constitutes an agreement with and an acceptance of the conditions presented in this syllabus.

Valencia offers free services outside of the classroom to assist your learning. The Tutoring Center (7-240) provides math tutoring in a walk-in basis and tutoring for languages, science, business, and many other subjects by appointment. Study rooms are open for reservations and math materials are also available for check out with your Valencia ID card. You can also get tutoring online 24 hours a day, 7 days a week through Smarthinking. Click the Tutoring (Online) link in the Course tab in Atlas to access the full schedule of Smarthinking subjects such as various math, writing, business, nursing and allied health, science and computer technology.

The Computer Access Lab (first floor of the Library, Building 6) is an open lab with computers, project spaces, printing, scanning, and equipment check out. One-on-one training is also available for Microsoft Office products, Photoshop, OneDrive, and Blackboard. The Testing Center (11-142) is where you go to make-up exams arranged with your professor, take exams for online classes, or receive pre-arranged special accommodations. Make sure you have your Valencia ID card or a state driver's license when you when you go to take your test.

### Study tips:

LEARNING IS AN ACTION VERB: Most students need to do more than just sit through lectures and reread their notes. Spend 1-2 hour blocks of time EVERY DAY actively writing, discussing concepts, or solving problems to make them a part of your memory. Use the words you learn frequently and they will sink in better.

MAINTAIN A GROWTH MINDSET: If you feel that you can't understand a concept, tell yourself: "I can't understand this yet." With some effort, you will understand it.

Here are some additional study and classroom time management tips that have assisted former students:

- Familiarize yourself with the concepts of the lecture *before* the lecture. You will be better prepared to ask questions.
- Attend class daily and don't be tardy. The introduction to each lecture often explains the purpose of the entire lecture. Students who follow this rule won't miss important information.
- Rewrite your notes soon after the lecture; tape record lectures and replay to refresh your memory when you rewrite your notes.
- Use mnemonic devices and other games to remember concepts; go to Google images, YouTube and Khan Academy for additional pictures and videos to clarify concepts.
- Make lists of confusing topics from your studying and ask questions.
- Take advantage of the professor's office hours.
- Join a study group and predict what questions the professor could ask on the test.
- Get the telephone number/email of one or more other students in the class so you can get their notes if you are absent from a class.