

**SYLLABUS: PHYSICS III
PS228, SPRING 2019**

ERAU Daytona Beach Campus
T/TH, 8:15-9:30
Room: CoAS 501

Instructor: Jonathan B. Snively
Email/Web: snivelyj@erau.edu
<http://pages.erau.edu/~snivelyj/ps228/>
Phone: (386) 226-6306
Office: 319.21 (CoAS Building)
Office Hours: T-Th 9:30-11:00 (or by Appt.)

Choose your textbook: Young and Freedman: *University Physics*, ERAU Vol. 3 (or full text), 14th Edition, **plus** Mastering Physics.

Prerequisites: PS160 (or PS226) – Physics II, MA 243 – Calculus and Analytical Geometry III. *Canvas will be used only for announcement emails and occasional postings of problem solutions.*

Homework assignments are posted on the website. Please show all details of solutions (i.e., your own work, in legible form). Written homework should be submitted in class on the day it is due. Late submissions will not be graded, but will receive up to 50% credit for demonstrated effort if submitted before the next exam. Assignments in Mastering Physics are subject to similar policies of decaying credit by 2% each hour after the assignment becomes late, reducing to 50% credit (0.5 multiplier) after ~1 day.

Exams are closed book and closed notes; calculators will be allowed only if needed. Make-up exams are given only for for

University-approved absences with prior notice. The comprehensive **Final Exam** will be on Saturday, April 27, 10:15AM–12:15AM. A hand-written 3"x5" card is allowed for the final exam only. A handful of **Quizzes** will be given in class (typically without notice).

Grading: Note that exams are by far the most important contributors to your overall grade. Homework and quizzes represent critical opportunities to practice for these in-class exams! *I reserve the right to apply curves, to adjust grade scale brackets, or to adjust the weightings of the graded materials to maintain an appropriate and fair distribution of grades; any such adjustments will be beneficial and objective. Final grades will always be rounded to the nearest integer.*

Attendance will not be taken, but you are responsible for all materials presented in class. **Office Hours** are as posted, and individual appointments are encouraged if you will need to meet at a different time. I am here to help, so please remember: Seek assistance before your grade shows signs of trouble. Please note that the Physics/Chemistry Tutoring Lab offers free tutoring for any ERAU student in PS courses. *Please also note that SI instructors may at times provide additional office hours (TBD and subject to change).*

Weighting:	Quizzes	5%
	Homework (and MP)	10%
	3 Exams @20%	60%
	Comprehensive Final	25%

Total = 100%

**Probable
Grading
Scale:**

A	90 ≤ your grade
B	75 ≤ your grade < 90%
C	60 ≤ your grade < 75%
D	50 ≤ your grade < 60%
F	your grade < 50%

Technology Policies: iPads, tablets, or laptops are allowed only if used silently, without distractions (to you or others), and for purposes directly related to the class (such as note-taking). Audio recordings are allowed only if used in conjunction with a note-taking utility enabled by a Smartpen or tablet with stylus. Photographs or videos of demos or simulations (never of Dr. Snively, nor class members, nor guests) may be taken only *with* permission and *without* disruption on a case-by-case basis — an exception is that photos of Dr. Snively's whiteboard notes may be taken freely at the end of class. Google Glass (or similar) are never allowed. These rules are intended to protect our privacy and enable open discussions, while ensuring flexibility for those with different learning or note-taking preferences.

Academic Integrity: *Cheating, plagiarism, and fraud are unacceptable in all forms, constituting serious academic integrity violations.* In accordance with University policies they can result in a failing grade and/or dismissal from the University. I will expect and assume that you have read and understand these policies in detail, and hope that no further discussions are needed.

A Message From The Disability Support Services (DSS) Office:

ERAU is committed to the success of all students. It is University policy to provide reasonable accommodations to students with disabilities who qualify for services. If you would like to request accommodations due to a physical, mental, or learning disability, please contact the Disability Support Services Office at 226-7916 located on the West side of the Wellness center – Building #20. All discussions are confidential.

Course Learning Outcomes (From Official Master Course Outline):

1. Describe the interaction of static electric charges (*including electric forces*) utilizing the concept of electric field, and compute the electric field produced by simple charge distributions by direct integration and by employing Gauss's Law.
2. Define electric potential, potential energy, and capacitance (C), and solve related problems.
3. Analyze the behavior of simple direct-current (DC) circuits, including RC (*resistor + capacitor*) arrangements.
4. Describe the interaction of moving electric charges utilizing the concept of magnetic field (*including magnetic forces*).
5. Compute the magnetic field produced by simple current distributions employing the Biot-Savart Law and Ampere's Law.
6. Describe the creation of electric fields from changing magnetic fields (Faraday's Law) and the creation of magnetic fields from changing electric fields (Ampere's Law with displacement current) and solve problems involving electromagnetic induction and motional EMF.
7. Define inductance and analyze the behavior of RL (*resistor+inductor*) and LC (*inductor+capacitor*) circuits.
8. State Maxwells Equations and describe the interplay of oscillating electric and magnetic fields required for propagating electromagnetic waves.
9. Analyze the behavior of simple alternating-current (AC) circuits with resistive (R), capacitive (C), and inductive (L) elements.