

# PHYS 262 – Term Syllabus – Spring 2019

Department of Engineering, Physical & Computer Sciences  
Montgomery College, Rockville

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## PHYSICS 262 - GENERAL PHYSICS II

**Course Description:** Second of three related courses (with PHYS 161, which must be taken first, and PHYS 263). A calculus-based general physics course, required for students majoring in engineering or one of the physical sciences. This sequence is planned as a unified course of study with continuity of presentation across the semester boundaries. It is strongly recommended that students plan to complete the sequence in consecutive semesters. PHYS 262, Electricity and Magnetism, covers Coulomb's Law, electric fields, Gauss' Law, direct current and alternating current circuits, magnetic fields, the laws of Ampere and Faraday, and electromagnetic waves. Laboratory exercises also develop familiarity with electrical measuring instruments. (NSLD)

**PREREQUISITES:** A grade of C or better in both PHYS 161 and MATH 182 and concurrent enrollment in MATH 280 or MATH 282, or consent of department. Three hours lecture, three hours laboratory, one hour discussion each week.

### **Course Outcomes:**

*Students will be able to:*

- Demonstrate a conceptual understanding of physical principles associated with electricity and magnetism.
- Solve physics problems involving electricity and magnetism using both mathematical and physical principles.
- Apply the scientific method to investigations of physical concepts associated with electricity and magnetism.
- Clearly communicate the results of investigations of physical concepts associated with electricity and magnetism.

### **Instructor Coordinates:**

Instructor: Dr. Arya Akmal  
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Instructor: Dr. Palmyra Catravas  
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Instructor: Dr. Catalina Cetina  
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Instructor: Dr. Richard Szwerc  
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Instructor: Dr. Helio Zwi  
Office/Phone: SC 436P, (240)567-4395  
Office Hours: MW 11–12 at SW 314, M 2–3 at SC 436P, W 2–4 at SC 436P  
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### Required Course Materials:

- **Website:** access to [FlipItPhysics.com](http://FlipItPhysics.com) — The access code for this course is **PH262S19RV**
- **Textbook:** One of the following is required:
  - *Sears and Zemansky's University Physics, Vol.II, 13th or 14th Ed.* by Young & Freedman
  - [\*Openstax University Physics, Volume II\*](#)

**Grading:**(4 Credits): A, B, C, D, F, I (P, AU, S, U, W)

Note that this policy is intended as a guide and is subject to change with notification

(1) **36%** Exams: three 90-minute tests, 12% each: **Fri 2/15, 3/8, 4/26** **2:00–3:30 pm**

- Make-up exams will **not** be administered following each of these dates.
- Must bring MC ID and signed printout of exam cover page to examination hall.

(2) **24%** Final Exam (comprehensive): **Fri 5/10** **2:00–4:00 pm**

(3) **10%** Quizzes/HW: 10 homework-based quizzes @ 1% each (most Fridays):

(4) **5%** Online Exercises (FlipItPhysics): Due each week, with additional partial credit deadlines before each exam.

(5) **5%** Classroom activities: Attendance, class participation, FlipItPhysics pre-lectures and checkpoints

(6) **20%** Laboratory:

- 4% lab notebook, checked weekly
- 6% Three Formal labs @2% each
- 10% Laboratory Exam: individual practical lab exam on last scheduled lab period

Grading scale: A >90%, B >80%, C >70%, D >60%, F <60%

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