PHYS 252 UNIVERSITY PHYSICS II

Fall 2018

Instructor: Deyan Mihaylov
Email: deyan.mihaylov@ndsu.edu
Time: M,Tu,W,F 11:00 – 11:50 a.m.
Place: AGHILL CTR Building, 112

Office Hours: M,Tu,W 1:00-2:30 p.m. in South Engineering, 322


Objectives: Integrate and apply principles of electricity and magnetism (charge, field, potential, current, circuits, waves, etc.) to solve conceptual and practical problems and to explain fundamental physics underlying EM technologies.

Prerequisites: PHYS 251 or ME 222 Corequisite: MATH 166

Tentative Course Outline:

- Electric Charge ................................................... Aug. 21-24
- Electric Fields ..................................................... Aug. 27-31
- Gauss’s Law ....................................................... Sept. 4-7
- Electric Potential ................................................ Sept. 10-14
- Capacitance ...................................................... Sept. 17-25
- Midterm Exam 1 ............................................... Sept. 26
- Current and Resistance ................................. Sept. 28 - Oct. 5
- Electric Circuits ................................................ Oct. 8-12
- Magnetic Fields .................................................. Oct. 15-19
- Magnetic Fields Due to Currents ..................... Oct. 22-23
- Midterm Exam 2 ............................................... Oct. 24
- Induction and Inductance ............................ Oct. 26 - Nov. 2
- EM Oscillations and AC Current ................ Nov. 5-7
- Maxwell’s Equations ....................................... Nov. 9-14
- Electromagnetic Waves ................................. Nov. 16-20
- Midterm Exam 3 ............................................... Nov. 21
- Geometrical Optics: Images ....................... Nov. 26 - 30
- Wave Optics: Interference, Diffraction .......... Dec. 3 - 7
- Final Exam (Comprehensive) .............. Friday, December 14, 8:00 a.m.

Grading Policy: A: 90-100%, B: 80-89%, C: 70-79%, D: 60-69%, F: < 60%

Evaluation:

- Homework Assignments ....................... 200 pts.
- Midterm exam 1 ................................. 100 pts.
- Midterm exam 2 ................................. 100 pts.
- Midterm exam 3 ................................. 100 pts.
- Final Exam (Dec. 14) ......................... 200 pts.

No Make-up exams will be scheduled
Communication:
Weekly homework will be posted on the LON-CAPA homepage: http://www.ndsu.edu/physics/lon_capa. Follow the log-in instructions to access our course and mind the assignment deadlines. Announcements and notes will be posted on our Blackboard course homepage https://bb.ndsu.nodak.edu.

Correct responses to 90% of the homework problems will earn the maximum 200 pts. To best prepare for exams, however, I recommend attempting all homework problems. Your final grade will be based on your homework score (200 pts. max.), your best 2 out of 3 midterm exams (200 pts. max.) and your score on the final exam (200 pts. max.). Total available points: 600.

Tutoring:

- http://www.ndsu.edu/physics/current_students/ta_office_hours
- http://www.ndsu.edu/studentsuccess/tutoring_schedule

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Any students with disabilities or special needs, who need accommodation in this course, are encouraged to speak with the instructor as soon as possible to make appropriate arrangements.