

Physics 7B Syllabus, Fall 2020

Prof. Birgeneau, Lecture 1, via Zoom (M, W, F 11:00am – 12:00pm)

| <u>Week</u> | <u>Dates</u> | <u>Topics</u> | <u>Reading</u> | <u>Labs/Exams</u> |
|-------------|---------------------|---|------------------------|------------------------------|
| 1 | 8/26, 8/28 | Intro, thermal expansion, ideal gas law | 17 | |
| 2 | 8/31, 9/2, 9/4 | Kinetic theory, phase diagrams, First law | 18 | |
| 3* | 9/9, 9/11 | First law, Specific heat, adiabatic processes | 19 | |
| 4 | 9/14, 9/16, 9/18 | Second Law | 20 | |
| 5 | 9/21, 9/23, 9/25 | Electric charge, force, field, dipole | 21 | Heat engine |
| 6 | 9/28, 9/30, 10/2 | Electric flux, Gauss's law | 22 | Midterm 1 |
| 7 | 10/5, 10/7, 10/9 | Electric Potential | 23 | |
| 8 | 10/12, 10/14, 10/16 | Capacitors | 24 | Equipot. lines & E. field |
| 9 | 10/19, 10/21, 10/23 | Current, Ohm's law, resistors | 25 – 26 | |
| 10 | 10/26, 10/28, 10/30 | DC circuit, Magnetic force | 26 - 27 | DC circuits |
| 11 | 11/2, 11/4, 11/6 | Magnetic dipole, torque, Hall effect | 27 | Midterm 2 |
| 12* | 11/9, 11/13 | Ampère's law | 28 | |
| 13 | 11/16, 11/18, 11/20 | Biot Savart Law, Electromagnetic induction | 28 - 29 | e/M |
| 14* | 11/23 | Inductance, Faraday's law | 29 | |
| 15 | 11/30, 12/2, 12/4 | LR and LC circuits; Maxwell's equations | 30 | O-scope & time dep. Circuits |
| 16 | 12/7 – 12/11 | <i>Reading/Review/Recitation Week</i> | <i>No new material</i> | |
| 17 | 12/14 | Final examination | --- | --- |

***Holidays – no class:**

September 7 – Labor Day

November 11- Veterans Day

November 26, 27 – Thanksgiving Break

Sections covered per chapter:

Ch 17.1 – 17.9
Ch 18.1 – 18.3, 18.5-18.6
Ch 19.1 – 19.10
Ch 20.1 – 20.6
Ch 21.1 – 21.11
Ch 22.1 – 22.3
Ch 23.1 – 23.8
Ch 24.1 – 24.6
Ch 25.1 – 25.5, 25.7 – 25.9
Ch 26.1 – 26.5
Ch 27.1 – 27.5, 27.8
Ch 28.1 – 28.7
Ch 29.1 – 29.4, 29.6 – 29.7
Ch 30.1 – 30.5

Exam Schedule

MIDTERM 1

Review Session 1: TBA

Review Session 2: TBA

Midterm 1, Lecture 1: Monday, September 28, 7:00 -9:00 PM, Virtual

MIDTERM 2

Review Session 1: TBA

Review Session 2: TBA

Midterm 2, Lecture 1: Monday, November 2, 7:00-9:00 PM, Virtual

FINAL EXAM: Monday, December 14, 11:30 AM - 2:30 PM

Please check on bCourses for any updates or further information.