

University of Montana

ScholarWorks at University of Montana

Syllabi

Course Syllabi

Fall 9-1-2000

PHYS 122N.01: General Physics II

Geraldean Fluke

The University Of Montana

Follow this and additional works at: <https://scholarworks.umt.edu/syllabi>

Let us know how access to this document benefits you.

Recommended Citation

Fluke, Geraldean, "PHYS 122N.01: General Physics II" (2000). *Syllabi*. 5365.

<https://scholarworks.umt.edu/syllabi/5365>

This Syllabus is brought to you for free and open access by the Course Syllabi at ScholarWorks at University of Montana. It has been accepted for inclusion in Syllabi by an authorized administrator of ScholarWorks at University of Montana. For more information, please contact scholarworks@mso.umt.edu.

PHYSICS
UNIVERSITY OF MONTANA

PHYSICS 122¹
5 Credits
Fall Semester 2000

GENERAL PHYSICS
Dr. Geraldean Fluke
Office: SC 226; Ph 243- 2906

- Office Hours: M 10 - 11 AM; Tu 11 - 12 AM; W 10 - 11 AM;
Th 10 - 11 AM; F 10 - 11 AM; and by Appointment
- Lecture: M, Tu, W, Th, & F
9:10 - 10:00 AM
SC (Science Complex), Rm 423
- Labs: Tu: 1:00 - 3:00 PM or 3:10 - 5:00 PM
SC Bldg, Rm 225
- Textbooks: Physics - Principles With Applications by D.C. Giancoli
(Chapters ≥ 16)
5th Edition (Prentice-Hall, 1998)
Lab Packet by the UM faculty
- Prerequisite: Physics 121 or equivalent
- Homework: Reading assignment (about one chapter per week).
Assignment (15 - 35 problems and questions per week).
Solutions to problems and answers to questions will be made available.
Three ring binder that contains notes, all homework, quizzes, worked problems, handouts and examinations. The notebook may be collected and read by the instructor during the semester.
- Presentation: It is required that all homework, quizzes, and examinations be on lined or grid paper.
It is required that each submitted paper have at the top the date, and the assigned page and the items.
Each problem must be copied on the paper, unless specified otherwise at the time the assignment was made.
It is required that all work be done in pencil, without crossed out material. **Papers submitted in ink will not be accepted.**
- Examinations: Six 50-min unit exams. Lowest score dropped.²
Will cover two to three chapters per exam.
Closed book but each student is permitted to bring one 3" by 5" card on which notes can be written.
Calculator required, but no laptops allowed.

¹ Please note that any information included in this syllabus is subject to change.

² Students are expected to take all the exams given in this course. Occasionally the exam schedule may conflict with University scheduled trips (field trips, track team trips, etc.). When that happens, students must make arrangement with the instructor PRIOR to making the scheduled trip. In order to avoid rescheduling of exams because of illness, dead car batteries, etc., each student is allowed to miss one 50-min exam. Students who take all scheduled exams during the semester will be given the option of throwing away the lowest 50-min exam grade.

Examinations: (cont'd)

One two-hour comprehensive final exam.
Closed book but each student is permitted to bring six 3" by 5" inch cards on which notes can be written.
A typical examination and the answers will be provided prior to each examination.

Quizzes:

A quiz may be given during a class period.
One make-up quiz/student allowed for absence.

Classwork:

One in-class problem solving session may be assigned each week.

Lab reports:

Every student must turn in his or her short write-up after each lab. There will be ten lab experiments.
One make-up lab allowed; additional labs at the discretion of the lab supervisor.

Grading:

50-min exams. 50% (five best grades, 10% for each)
Quizzes = ½ test 20% (four best quiz grades)
Final exam 20%
Lab write-ups 10% (all ten labs, 1% each)
This course can be taken for a traditional letter grade (A,B,C,D,F) only.

Attendance Policy

Each student must prepare a 'tent' from a file folder with his/her name and display it facing the front during each class period.
Class attendance will be noted for record only.

TENTATIVE COURSE OUTLINE

Week	Dates	Topics	Text Chapters	Exams
1	Sept. 5-8 (4 days)	Math Assessment Electric charge, Coulomb's law, electric field, field lines	Chap. 16	
2	Sept. 11-15 (5 days)	Electric potential, electrical potential energy,, electric field and potential, capacitance	Chap. 16 & 17	
3	Sept. 18-22 (5 days)	Electric currents, Ohm's law, resistivity, electric power, alternating current	Chap. 18	No. 1 Th: 9/21
4	Sept. 25-29 (5 days)	Resistor combinations, batteries Kirchoff's rules, capacitor combinations	Chap. 19	
5	Oct. 2-6 (5 days)	RC circuits Magnets and magnetic field. Ampere's law	Chap. 19 Chap. 20	No. 2 Th: 10/5
6	Oct. 9-13 (5 days)	Interactions between magnetic field and moving electric charge, applications	Chap. 20	
7	Oct. 16-20 (5 days)	Electromagnetic induction, Faraday's law, transformer	Chap. 21	No. 3 Th: 10/19
8	Oct. 23-27 (5 days)	Electromagnetic waves Geometric optics, laws of reflection and refraction, mirrors and lenses	Chap. 22 Chap. 23	
9	Oct. 30-31, Nov. 1-3 (5 days)	Wave optics, interference and diffraction	Chap. 24	No. 4 Th: 11/2
10	Nov. 6, 8, 9 (3 days)	Einstein's theory of relativity	Chap. 26	
11	Nov. 13-17 (5 days)	Early quantum theorem	Chap. 27	
12	Nov. 20, 21 (2 days)	Introduction to quantum mechanics	Chap. 28	No. 5 Mon: 11/20
13	Nov. 27-30 Dec. 1 (5 days)	Molecules and solids	Chap. 28 Chap. 29	
14	Dec. 4-8 (5 days)	Nuclear physics and radioactivity Nuclear energy	Chap. 30 Chap. 31	
15	Dec. 11-15 (5 days)	Review		No. 6 Wed.: 12/13
16	Dec. 18-22	Final Examination Week	Final	Dec. 21 8AM-10 AM

PHYSICS 122 LABORATORY SCHEDULE¹
(FALL SEMESTER 2000)

All laboratory sessions will be held in SC 225

TENTATIVE COURSE OUTLINE

<u>Week</u>	<u>Dates</u>	<u>Expt. No.</u>	<u>Experiment Name</u>
1	Sept. 5-8		No lab this week
2	Sept. 11-15	1	Electric Field and Electric Potential (Expt. 40)
3	Sept. 18-22	2	Ohm's Law and Simple Electrical Connections
4	Sept. 25-29		No lab this week
5	Oct. 2-6	3	Analysis of Slow RC Circuits (Expt. 47A)
6	Oct. 9-13	4	Use of the Oscilloscope (Expt. 46A)
7	Oct. 16-20	5	Circuit Analysis with an Oscilloscope
8	Oct. 23-27	6	Measurement of the Earth's Magnetic Field
9	Oct. 30-31, Nov. 1-3	7	Ampere's Law and the determination of μ_0
10	Nov. 6, 8, 9		No lab: Election Day
11	Nov. 13-17	8	Lenses and Image Formation (Expt. 27)
12	Nov. 20, 21		
13	Nov. 27-30 Dec. 1	9	Interference and Diffraction Patterns
14	Dec. 4-8	10	Spectrum Analysis
15	Dec. 11-15		Make-up lab week
16	Dec. 18-22		Final Week

¹ Please note that any information included in this syllabus is subject to change