

PHYS 212: College Physics

COURSE SYLLABUS

COURSE INFORMATION

PHYS 212: COLLEGE PHYSICS II, 4 credits, T,TR @ 9:30-10:45 AM, PS# (21385, Lab 21430)

Pre-requisite: PHYS 211 or equivalent. The non-calculus general physics course sequence recommended for pre-medical and pre-professional students. Topics: vibration and waves, electricity and magnetism, light and optics, and an introduction to modern physics. Includes lab.

INSTRUCTOR

Lance Olson: Office location (SC 103), phone number: 701-774-4230 (office), 701-770-6607 (mobile)

Email, Lance.olson@willistonstate.edu

Office Hours: by appointment.

Feel free to stop by my office anytime.

TEXTBOOK & MATERIALS

- College Physics, 9th edition, Serway & Vuille,
- Openstax College Physics
- Scientific calculator

STUDENT LEARNING OUTCOMES

INSTITUTIONAL OUTCOMES

- I. Students will use reasoning skills to analyze and solve problems.

PROGRAM OUTCOMES

- I. Students will use reasoning skills to analyze and solve problems.

COURSE OUTCOMES

1. Students will apply physics principles to real world situations and/or future academic pursuits.
2. Students will work effectively within a collaborative group to achieve a distinct result.
3. Students will be able to Integrate learning theory with laboratory performance.

ASSESSMENT TASKS (FOR COURSE OUTCOMES)

- Participate in in-class activities both in lecture and lab.
- Complete examinations demonstrating mastery of both concepts and process skills.
- Complete textbook readings, questions, and problems (both individually and collaboratively) demonstrating mastery of both concepts and process skills.

PROCESS SKILLS

- Use an understanding of mathematics, along with physics principles to effectively solve problems.
- Apply knowledge of subject material to explain natural physical processes
- Use traditional and alternative algorithms to solve physics problems.
- Use Polya's problem solving strategies to set up and solve a variety of physics problems.

CONCEPTS & ISSUES

- *Oscillatory motion
- *Wave Motion
- *Sound waves
- *Super position and
- Standing waves
- *Electric fields
- *Gauss's Law
- *Electric potential
- *Capacitance and
- *Dielectrics
- *Current and Resistance
- *Direct-Current circuits

- *Magnetic fields
- *Faraday's law
- *Inductance
- *AC currents
- *DC currents
- *Ray optics
- *Image formation
- *Wave optics
- *Problem solving

ASSESSMENT PORTFOLIO

Each degree seeking student is required to maintain an assessment portfolio on Blackboard for his/her time at Williston State College. For this class you should include evidence of completing learning outcomes, and a reflection paper of what you learned in this class.

GRADING POLICY

Your final grade in the class will be dependent upon several factors, which may include the following: Participation, Tests, Quizzes, Assignments, or homework problems.

LATE ASSIGNMENTS

There will be a 10% deduction for any test, quiz or other assignment that is late. An additional 10% deduction will be applied per week that until make-up is completed. The deduction is capped at 50%. In other words, you may submit any assignment (excluding exams) at any time for half credit. Unless an extreme extenuating circumstance occurs, you must be present for the Final Exam to pass the course.

ATTENDANCE AND GRADING SCALE

Regular attendance is highly encouraged. If you are unable to attend class, notify me in advance.

Grading Scale:

A = 90%-100%, B = 80%-89%, C = 70%-79%, D = 60%-69%, F = 59% and below

DISABILITY STATEMENT

Williston State College is committed to providing equal access to students. If you have a disability which may impact your performance, attendance, or grades in this course that requires accommodations, you must first register with Disability Support Services. Please note that classroom accommodations cannot be provided until your instructors receive an Accommodations Form, signed by you and the Disability Support Services Coordinator.

IMPORTANT DATES

NOTES: Last day to drop a class without a transcription notation is Jan.18, 2024.

Last day to WITHDRAW from Term or Drop this course is April 5, 2024.

For other dates concerning holidays, etc, please visit the WSC catalog available on the website: www.willistonstate.edu.

ACADEMIC RESOURCES

Take advantage of academic resources available to you at Williston State College:

- Communication Lab: Supplemental instruction is provided to assist students who are either having difficulty or desiring extra help with specific subjects. The Communication Lab assists with composition, writing, communication, and public speaking. For more information, Students should make appointments at wsc.writinglab@willistonstate.edu.
- Math Lab: Supplemental instruction is provided to assist students who are either having difficulty or desiring extra help with specific subjects. The Math Lab assists with all math needs. The Math Lab is located in Science wing overlook.
- Learning Commons: It's not just the Library anymore. In addition to the normal library functions (book checkout, research assistance, etc.), the Learning Commons serves a number of other functions. Get help with Moodle and other Distance Ed questions. The "technology counter" provides an opportunity to play with some of the latest technology. Computers and printers available. If you have questions, call (701-774-4226). To contact the Office of Extended Learning please email wsc.extendedlearning@willistonstate.edu.
- SmarThinking: Web based program that offers live tutoring services in a variety of subject areas at no cost to the student. With Smart Thinking you can access live tutors, ask a question and come back the next day for a response, and/or submit writing pieces to be reviewed. If you have further questions or need assistance in using this great tool, please stop in the Learning Commons in Stevens Hall or contact Katie Peterson at 701-774-4594.

STUDENT ACADEMIC INTEGRITY

Work submitted for this course must follow Student Academic Integrity as cited in the WSC Student Code of Conduct, p. 14:

Acts of cheating and plagiarism are prohibited. Cases of academic dishonesty may be treated as an academic matter or as a disciplinary matter at the discretion of the instructor.

Cheating is defined as fraud, deceit, or dishonesty in an academic assignment. It includes using or attempting to use materials, or assisting others in using materials that are prohibited or inappropriate in the context of the academic assignment in question.

Plagiarism is presenting someone else's work or ideas as your own, with or without their consent, by incorporating it into your work without full acknowledgement. All published and unpublished material, whether in manuscript, printed or electronic form, is covered under this definition.

Self-plagiarism is the use of one's own previous work in another context without citing that it was used previously.

The instructor may reflect the incident of academic dishonesty through the assignment of the student's grade in the course. If the student has a grievance related to this action, that grievance would be directed to the Chair of the department in which the course is housed.

Alternatively, the instructor may refer the case as a disciplinary matter to the Vice President for Academic Affairs. The Vice President for Academic Affairs may refer the case to the Student Review Committee for action.

Breach of academic integrity may result in failure of the assignment, exam, and/or class.

STUDENT RESPONSIBILITIES:

- You are expected to read the relevant materials and participate in class discussions in a timely manner.
- You are expected to respect your fellow students and the Instructor in online and on campus discussions.
- It is your responsibility to ask questions when you are uncertain about assignments or course materials.
- If you have questions concerning grades, you should contact the Instructor immediately. You are responsible for checking Moodle in a timely fashion to ensure that the grade recorded is your correct grade.
- It is your responsibility to contact the Instructor as soon as possible if you are encountering any issues that would hinder your performance in this class.
- You are responsible for earning your grade (with the Instructor making every effort to help you learn the material).

- If you are concerned about your grade, you should speak to the Instructor NO LATER than mid-term. No consideration will be given to request to adjust your grade at the end of the semester unless there is an error in calculations.

GRIEVANCE POLICY

Occasionally, students are dissatisfied with some dimension of the course. In such cases, students should first schedule a meeting with the instructor. If the student and instructor cannot reach a satisfactory resolution, the student should schedule a meeting with the Chair of the Department. (See the Student Code of Conduct.)

FINAL EXAMS/ACTIVITIES

Students are required to take the final examination or engage in the final activity on the date and at the time presented as part of the course syllabus. Exceptions may be made only in emergency situations and in the case of scheduling conflicts with college sponsored events by promptly submitting a written request detailing the circumstances to the Instructor.