

# PHYS 211: College Physics

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## COURSE SYLLABUS

### COURSE INFORMATION

**PHYS 211 COLLEGE PHYSICS I, 4 credits, T,TR @ 9:30-10:45 AM, PS# 11228**

**LAB Tuesday 3:00-4:50**

Pre-requisite: MATH 103. The non-calculus general physics course sequence recommended for pre-medical and pre-professional students. Topics: Newtonian mechanics and gravitation, work and energy, solids and fluids, heat and thermodynamics. Includes lab.

### INSTRUCTOR

**Lance Olson:** Office location (SC 203), phone number: 701-774-4230 (office), 701-770-6607 (mobile)

Email, [Lance.olson@willistonstate.edu](mailto:Lance.olson@willistonstate.edu)

Office Hours: MWF 10-11 AM, 1-2 PM, T,R 1-2 PM, or by appointment.

Feel free to stop by my office anytime.

### TEXTBOOK & MATERIALS

*College Physics, 9<sup>th</sup> edition, Serway & Vuille,*

*Openstax College Physics*

Scientific calculator

### STUDENT LEARNING OUTCOMES

#### INSTITUTIONAL OUTCOMES

Students will use reasoning skills to analyze and solve problems.

## PROGRAM OUTCOMES

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

- \*Units and estimation
- \*Trigonometry
- \*Problem solving strategy
- \*Velocity
- \*Acceleration
- \*Free fall
- \*Vectors and Two dimensional motion
- \*Laws of motion

- \*Energy
- \*Momentum and collisions
- \*Rotational motion
- \*Law of gravity
- \*Rotational equilibrium
- \*Rotational dynamics
- \*Solids
- \*Fluids
- \*Thermodynamics
- \*Problem solving

### ASSESSMENT PORTFOLIO

Each degree seeking student is required to maintain an assessment portfolio on Moodle for his/her time at Williston State College. For this class you should include your syllabus, 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, and 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 until make-up is completed. 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. As previously noted, in-class assignments may not be able to be made up unless you have given me prior notice.

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 Service. 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

- Last day to drop: September 4
- Last day to withdraw: November 15
- For important dates concerning holidays, last date to withdraw from class, etc., please visit the WSC catalog available on the website: [www.willistonstate.edu](http://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](mailto: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 Stevens Hall room 213.
- 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](mailto: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 2011-2013 Catalog, p. 24:

Integrity of the academic process requires that credit be given where credit is due. Accordingly, it is a breach of academic integrity to present as one's own work the ideas, representation or works of another, or to permit another to present one's work without customary and proper acknowledgement of authorship. Students are expected to conduct themselves at all times within permissible limits of assistance as stated by the faculty.

Students will be held responsible for any breaches of academic integrity. Some of the more common breaches of academic integrity include but are not limited to: Cheating, plagiarism, forgery, fabrication, facilitation, or aiding academic dishonesty; theft of instructional materials or tests; unauthorized access or otherwise manipulating laboratory equipment or computer programs without proper authorization; alteration of grades or permanent files; misuse of research data in reporting results; use of personal relationships to gain grades or academic favors; or otherwise attempting to obtain grades or credit through fraudulent means. These breaches of academic integrity are also viewed as misconduct and are treated accordingly.

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 page 10 of 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 of the course. Your meeting time for your final is:

### *SCOPE AND SEQUENCE OF THE COURSE (SUBJECT TO CHANGE)*