

Syllabus
Phys 252R, Fall 2017
1 credit

Instructors: Cody Gette
Office: Physics South Eng. 318A
Office Phone: 701-230-5866
e-mail: cody.gette@ndsu.edu

Class Hours: Thursday 11:00-12:15, South Eng., room 216

Course Description

In the course, students work in small groups on worksheets that emphasize the main concepts in the course. Worksheets are based on *Tutorials in Introductory Physics* by McDermott, Shaffer, and the Physics Education Group. The emphasis in the tutorials is not on solving the standard quantitative problems, but on the development of important physical concepts and scientific reasoning skills. Tutorial instructor does not lecture but asks questions designed to help students find their own answers. Students are expected to construct answers for themselves through discussions with classmates and the tutorial instructor.

Prerequisites: Phys 252

Office Hours: by arrangement

Homework: Homework associated with each tutorial reinforces and extends the material covered in the worksheets.

Textbook:

Handouts from McDermott, Shaffer, and the Physics Education Group, *Tutorials in Introductory Physics* (First Edition), Prentice Hall, Inc., 2002 will be provided in class along with other supplementary materials as needed. No textbook is required.

Grading information

Final grade in physics 252R will be determined basis on student performance in class and on HW assignments, which typically are closely based on the material covered in class.

Tutorial-based HW: 75% total

Participation: 15% total

Outreach: 10% total

Outreach project*: It is well known that one learns best when he/she teaches a subject matter to somebody else. Our knowledge is strengthened significantly when we help others come to understand the material. Therefore, this outreach project will have a significant impact on Phys 252R students' understanding of physics. Students will participate in activities appropriate for pre-college students that are also beneficial for introductory physics students and relevant to the course. Students will:

- work through the activities in groups of two during the regular class time under the guidance of a team of physics faculty in order to prepare facilitate these activities with pre-college students,
- participate in the outreach “Science Fun Night” event at a local elementary school. The specific date will be announced later.

This project will serve as an invaluable experience for the course participants in gaining a deeper understanding of teaching and learning at all levels.

Letter Grading:

84.5 to 100% = A

74.5 to 84.4% = B

64.5 to 74.4% = C

55.5 to 64.4% = D

Special Considerations

Students with disabilities or other special needs, who need special accommodations in this course, are invited to share these concerns or requests with the instructor as soon as possible. Extra time on exams must be requested by formal letter from the NDSU department of disability services and administered through that department.

Veterans and student soldiers with special circumstances or who are activated are encouraged to notify the instructor in advance.

Academic Responsibility

The academic community is operated on the basis of honesty, integrity, and fair play. NDSU Policy 335: Code of Academic Responsibility and Conduct applies to cases in which cheating, plagiarism, or other academic misconduct have occurred in an instructional context. Students found guilty of academic misconduct are subject to penalties, up to and possibly including suspension and/or expulsion. Student academic misconduct records are maintained by the Office of Registration and Records. Informational resources about academic honesty for students and instructional staff members can be found at www.ndsu.edu/academichonesty.

*There is a possibility that this project may be changed or may need to be substituted for another project depending on the availability of the participating school.