Instructors: Dr. Mila Kryjevskaia  
Office: Physics South Eng. 212C  
Office Phone: 231-9756  
e-mail: mila.kryjevskaia@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. Student will also participate in an outreach activity with local pre-college students. This experience will expose students to the craft and science of teaching and learning.

Prerequisites: Phys 251

Office Hours: by arrangement

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

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 Horas Mann 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.
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.

Grading information
Final grade in physics 251R will be determined based on student performance in the outreach project and HW assignments, which typically are closely based on the material covered in class.
Tutorial-based HW: 80% total
Outreach project: 20% total

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.