COURSE OUTLINE **PHYSICS 111** **FALL 2012**

Instructors: **Trevor Tyson : 484 Tiernan, tyson@adm.njit.edu, Course Supervisor**
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Office hours will be posted on instructor's schedules. Other times by appointment.

COREQUISITE: Math 111.

COURSE MATERIAL:

- **Textbook:** Physics for Scientists and Engineers, NJIT PHYS 111, Eighth Edition, by Serway and Jewett.
- Physics Laboratory Manual
- **Classroom Response System** called **"iClickers":** Ask your professor if your will be using an "IClicker" . They are avialble exclusively in the NJIT bookstore . If they are used in your class, please bring your clicker to each class.
- **WebAssign Online Homework System (New for Fall 2012):** Be sure that your textbook is sold bundled with a WebAssign access coupon. Each student must enroll in the course specified by his/her instructor. Homework assignments will be posted on-line in WebAssign Students login, download and solve the assigned problems, and submit answers to the automated grading system.

NOTE: THE LABORATORY COURSE, PHYS 111A, MUST BE TAKEN CONCURENTLY WITH PHYS 111. THE STUDENT MUST REGISTER FOR BOTH THE LEC/REC AND THE LAB COURSE. WITHDRAWAL FROM EITHER COURSE WILL CAUSE A SIMULTANEOUS WITHDRAWAL FROM BOTH COURSES.

ATTENDANCE: ATTENDANCE AT LECTURES AND RECITATIONS IS MANDATORY.

GRADING: Your final letter grade in Phys 111 will be based on a composite score for term's work that includes the common exam scores, the final exam , lecture quizzes, and the homework score

1) Common Exams Three common exams will be given during the semester. The exam schedule is:

- **Common Exam 1**: Monday, October 8 4:30 – 5:40 PM
- **Common Exam 2**: Monday, October 29 4:30 – 5:40 PM
- **Common Exam 3**: Monday, November 19 4:30 – 5:40 PM

2) Lecture Quizzes A short quiz will be given during each lecture period.

3) Homework Homework assignments will be posted on-line using WebAssign Homework System. Your instructor will announce the ID number for your course section. You will need it when you set up your login on the WebAssign web site and enroll in your section of the course. Please register for the correct section. WebAssign login**:** **http// webassign.net.** Homework due dates will be announced. The recommended problems from the text (see syllabus) will be discussed during the recitation class.

4) Final Exam **Comprehensive Final Exam will be given** during Final Exam Period .

Final Letter Grades : Here are the approximate weights to be used for calculating the composite score:

- **51%** for all three common exams (17% each)
- **29%** for the final exam
- **12%** for the total of homework work
- **8%** for the all in-class quizzes

The cutoff percentages for various letter grades will be in the range of 85% for A, 80 % for B+, 70% for B, 65% for C+, 55% for C, and D or F below 50 %.

HONOR CODE STATEMENT: As a student at New Jersey Institute of Technology, you are obliged to comply with the provisions of the NJIT Academic Honor Code. Any violations of NJIT Honor Code will be brought to the attention of the Dean of Students.

TOPIC	TEXT STUDIES	RECOMMENDED PROBLEMS	LAB
Week 1 Physics and Measurements Vectors	September 4 – September 10 Chapt.1 Sect.1-6 Chapt. 3 Sect. 1 - 4	pg. 15 - 12, 15, 16 pg. 67 – 25, 31, 45, 47	INTRODUC.
Week 2 Motion in One Dimension	September 11 – September 17 Chapt. 2 Sect. 1-8	pg. 48 – 22, 23, 40, 41, 43, 50, 58	LAB 109
Week 3 Motion in Two Dimensions	September 18 – September 24 Chapt. 4 Sect. 1 - 4	pg. 95 – 6, 7, 9, 16, 24, 32, 63, 69	LAB 111
Week 4 The Laws of Motion	September 25 – October 1 Chapt. 5 Sect. 1-7	pg. 131 – 3, 16, 20, 21, 28, 30, 35	LAB 112
Week 5 Forces of Friction Circular Motion	October 2 – October 8 Chapt. 5 Sect. 8 Chapt. 6 Sect. 1 - 3	pg. 134 - 37, 43, 44, 45 pg. 158 – 1, 8, 11, 16, 21, 23	LAB 103
Week 6 Work, Kinetic Energy	October 9 – October 15 Chapt. 7 Sect 1-5	pg. 192 - 10, 11, 33, 35, 37, 38	LAB 106
Week 7 Potential Energy Conservation of Energy	October 16 – October 22 Chapt. 7 Sect. 6 – 8 Chapt. 8 Sect. 1 - 5	pg. 195 – 42, 43 pg. 224 - 6, 10, 12, 14, 15, 16, 21, 38	LAB 114
Week 8 Linear Momentum and Collision	October 23 – October 29 Chapt. 9 Sect. 1 - 7	pg. 269 - 3, 12, 19, 29, 33, 44, 55, 57	LAB 125
Week 9 Rotation, Moment of Inertia	October 30 – November 5 Chapt. 10 Sect. 1 - 5	pg. 308 - 6, 9, 18, 25, 50	LAB 126
Week 10 Torque, Energy, Rolling	November 6 – November 12 Chapt. 10 Sec. 6 - 9	pg. 311 - 38, 44, 46, 48, 51, 55, 57, 63, 73	LAB BP
Week 11 Angular Momentum	November 13 – November 19 Chapt. 11 Sect. 1 - 4	pg. 339 – 3, 12, 22, 25, 27, 30, 33	LAB 127
Week 12 Static Equilibrium	November 20 - November 26 Chap.12 Sec.1-3	pg. 364- 13, 25, 46, 49	LAB 120
Week 13 Universal Gravitation	November 27 – December 3 Chap. 13 Sec.1-6	pg. 395 - 6, 10, 14, 21, 28, 33, 35	LAB 121

Week 14/15 Oscillatory Motion	December 4 – December 12 Chap. 15 Sec. 1 – 5	pg. 457- 3, 5, 6, 7, 14, 19, 27, 29, 52	LAB B 1

THANKSGIVING RECESS – NOVEMBER 22 -25
NOVEMBER 20 – CLASSES FOLLOW THURSDAY SCHEDULE
NOVEMBER 21 – CLASSES FOLLOW FRIDAY CHEDULE
READING DAY – DECEMBER 13
FINAL EXAM PERIOD – DECEMBER 14 - 20