PHYSICS 2400   General Physics I

I. College/School  College of Science and Math
    Department     Physics

II. Course Information
    Course Title: General Physics I
    Course Abbreviation and Number: PHY 2400
    Course Credit Hours: 4
    Course Cross Listing(s) Abbreviation and Number:
    Check ("x") all applicable:
    General Education Course _X_ Writing Intensive Course _____ Service Learning
    Course _____
    Laboratory Course_____ Ohio TAG (Transfer Assurance Guide) Course _X___
    Ohio Transfer Module Course_____ Others (specify)_____

III. Course Registration
    Prerequisites:
    Corequisites: (MTH 2300 or EGR 1010), PHY 2400R, PHY 2400L
    Restrictions: none
    Other: none

IV. Student Learning Outcomes
    The students in the introductory physics class will be expected to:

    a) Understand the nature of scientific inquiry
    b) Critically apply knowledge of physical theory to a variety of physical problems
    c) Distinguish between science and technology and recognize their roles in society
    d) Demonstrate an awareness of theoretical, practical, creative and cultural
       dimensions of scientific inquiry
    e) Communicate an understanding of the basic physical principles

    These are consistent with the General Education Element 6 learning outcomes:
    a. Understand the nature of scientific inquiry
    b. Critically apply knowledge of scientific theory and methods of inquiry to evaluate information from a variety
       of sources
    c. Distinguish between science and technology and recognize their roles in society
    d. Demonstrate an awareness of theoretical, practical, creative and cultural dimensions of scientific inquiry
    e. Discuss fundamental theories underlying modern science

V. Suggested Course Materials (required and recommended)
    Physics for Scientists and Engineers, 7th Edition, by Serway and Jewett

VI. Suggested Method of Instruction
    Lecture

VII. Suggested Evaluation and Policy
    GRADING - First Hourly Exam  100 points
              Second Hourly Exam  100 points
              Third Exam/ Comprehensive final  200 points
Homework 75 points  
Recitation attendance and work 50 points  
Class participation/Clicker Quiz’s 25 points  

Total 550 points  

VIII. Suggested Grading Policy  
An expected distribution of grades for the final averaged total scores is given below. I however reserve the right to modify this grade distribution to better suit the distribution of scores from the class.  
100% --- A --- 88% --- B --- 75% --- C --- 62% --- D --- 50% --- F -- 0  

IX. Suggested Assignments and Course Outline  

TOPICS COVERED:  

- Vectors  
- Motion in one dimension  
- Motion in two dimensions  
- Circular motion  
- Laws of motion: Newton’s Laws  
- Energy and Work Energy Theorem  
- Linear momentum and collisions  
- Rotation about fixed axis  
- Angular Momentum  
- Static Equilibrium  
- Mechanical oscillations, oscillatory motion  
- Wave Motion  
- Sound Waves  
- Superposition, Interference and Standing Waves  
- Thermodynamics  
  - Temperature  
  - First Law of Thermodynamics  
  - Kinetic Theory  
  - Second Law of Thermodynamics  

GENERAL COMMENTS - Solutions to the homework will be posted online after the last recitation of the week. If you have difficulties with the material you are urged to seek help (sooner rather than later). You can go to the lecturer, recitation instructor, help room (to be announced), or another student; in any case the ultimate responsibility for understanding the material is the student's.
## TENTATIVE SCHEDULE FOR PHYSICS 2400

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<th>MONDAY</th>
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<th>Homework Assignment</th>
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<td>Introduction &amp; Chapter 3 Vectors</td>
<td>Chapter 2 One-Dimensional Motion</td>
<td>Chap 3-21,25,27,28</td>
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| Chapter 2 | Chapter 4 Two-Dimensional Motion | Chap 3-15,34,35,44  
| | | Chap 2-1,9,17,19,25,36,48 |
| Chapter 4 | Chapter 5 The Laws of Motion | Chap 4-1,2,8,9,13,15,30,36,52 |
| Chapter 5 Newtons Laws | **Exam 1 (Chap 1-4)** | Chap 5- 12,13,14,20,23 |
| Chapter 6 Circular Motion | Chapter 7 Work and Energy | Chap 5- 26,40,42,54,67  
| | | Chap 6- 2,14,48,52,55 |
| Chapter 7&8 Conservation of Energy | Chapter 8 | Chap 7-2,15,31,35,46,51  
| | | Chap 8-4,14,21,32,55 |
| Chapter 9 Linear Momentum | **Exam 2 (chap 5-8)** | Chap 9- 4,9,11,19,22,67 |
| Chapter 10 Fixed Axis Rotation | Chapter 11 Rolling Motion | Chap 10-1,6,19,22,39,44 |
| Angular Momentum | Chapter 12 Equilibrium | Chap 11- 15,23,29,33,50 |
| Equilibrium | Solid systems | Chap 12- 2,19,23,43,52,59 |
| Chapter 13 Mechanical Oscillations | Chapter 16&18 Wave Motion | Chap 15-4,5,8, 10,18,19, 33,71  
| | | Chap 16-3,8,14 |
| Chapter 17 Sound and Chap 18 | Chapter 17 Sound and Chap 18 | Chap 16-18,26, 33,41,52  
| | | Chap 17-32,37,39,40 |
| Temperature | Chapter 20 First Law of Thermo. | Chap 19- 22,32, 47,50, 54, 55 |
| Chap 21 Kinetic Theory | Chapter 22 Second Law | Chap 20-6,18,32,39,43  
| | | Chap 21- 18, 22,32,34 |

X. Other Information
This is a sample course syllabus guideline. Course materials, method of instruction, evaluation and policy, grading policy, assignments, and other course matters can differ by specific course sections and individual professors. Additional information can be obtained by contacting the appropriate college and department.

Approved:
Undergraduate Curriculum and Academic Policy Committee ________________________
Faculty Senate ________________________