German-Jordanian University
School of Basic Sciences and Humanities
General Physics I (PHYS 103)

Textbook
Physics for Scientists and Engineers with Modern Physics, by Jewett and Serway, 9th edition, BROOKES/COLE, 2013.

Textbook Coverage
This course covers Mechanics. The bulk of the material corresponds to Chapters 1-11 of the textbook.

Other References
You don't have to buy these texts, but it is often very nice to have one handy (from the library or a friend). If the regular textbook explains something in a way you can't understand, having a different explanation around can be quite useful.

- Instructor's Lecture notes. *(***Very important!***)*
- Fundamentals of Physics, by Halliday, Resnick, and Walker.
- University Physics, by Young, and Freedman.

Course Purpose
Physics 103 is concerned with **mechanics**, the study of motion. Mechanics, in turn, consists of two major areas; kinematics and dynamics. Mechanics is basic to the understanding all the other areas of physics. Only three simple laws (Newton's laws of motion) and two fundamental conservation principles (the conservation of energy and the conservation of momentum) are needed to describe almost all the motion that we observe in our everyday world. The purpose of Physics 103 is to gain some understanding of these basic laws and principles and to learn how to apply them to physical happenings that occur in our daily life and work. The basic method of study will be to define the concepts, discuss and demonstrate the principles and laws, and to test and refine understanding by problem solving.

Course Objectives
This course has several rather broad goals. They include that you:

- Develop a good understanding of a few important concepts in Physics.
- Learn to apply these concepts to familiar and unfamiliar situations.
- Gain the ability to reason qualitatively about physics.

Exams: MAKE-UP EXAMS ARE NOT GIVEN!
There will be two sixty-minute exams throughout the semester. Each exam will focus on material from the five or six weeks prior to the week of the exam but may include earlier material as well. Please take all exams when scheduled. If you cannot be present for an exam, consult with your instructor **before** the exam is given. The two exams will be closed book, although you may bring a scientific calculator to the exams. A formula sheet containing all the important formulas will be given to you for each exam.

Grades
Your final grade is based on the number of points earned in three areas. The total number is 100%.
First Exams   30%

Second Exam   30%
Final Exam   40%

Homework Assignments

No grades for homework, but at least two questions from the assigned problems will be selected in each exam. Homework problems are already assigned in this sheet handout. You do not have to submit your solution either. The homework solutions will be solved in the class during tutorial lectures or made available to student by other means.

Academic Honesty

Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, up to and including dismissal, against any student who is found guilty of academic dishonesty or otherwise fails to meet these standards. Academic dishonesty includes, but is not limited to, dishonesty in Exams, or assignments; claiming credit for work not done or done by others. Cheating or gaining illegal information for any type of graded work is considered dishonest and will be dealt with accordingly. During the exams, it is a violation of the academic code to give or seek assistance -- the only person you may communicate with is the instructor or other proctor. In the case of violations, the Academic Conduct Policy of the German Jordanian University, as found in the current student catalog, will be followed.

Tentative Course Outline

Week	Chapter	Topic	Homework Problems
1	1	Physics & Measurement	Ch 1**:** 2, 5, 6, 9, 13, 14.
2	2	Motion in One Dimension	Ch 2**:** 1, 3, 4, 7, 9, 15, 20, 21, 28, 29, 38, 48, 51.
3	3	Vectors	Ch 3**:** 1, 2, 11, 15, 18, 22, 31.
4	4	Motion in Two Dimensions	Ch 4**:** 5, 6, 7, 15, 21, 33, 36, 40, 41.
5			
6	5	The Laws of Motion	Ch 5**:** 3, 11, 18, 19, 32, 33, 40, 43, 55, 60, 61, 63, 65, 83.
7			
8	6	Circular Motion and Other Applications of Newton's Laws	Ch 6**:** 3, 4, 8, 13, 19.
9	7	Energy of a System	Ch 7**:** 5, 6, 11, 14, 15, 17, 22, 29, 31, 33, 42, 49, 50.
10			
11	8	Conservation of Energy	Ch 8**:** 6, 7, 12, 16, 22, 29, 38, 47.
12	9	Linear Momentum and Collisions	Ch 9**:** 2, 5, 13, 19, 22, 23, 37, 45, 51.
13			
14	10	Rotation of a Rigid Object About a Fixed Axis	Ch 10**:** 3, 4, 7, 11, 15, 21, 44.
15	11	Angular Momentum	Ch 11**:** 1, 3, 7, 12, 19, 30.