

**HOWARD UNIVERSITY**  
**DEPARTMENT OF PHYSICS & ASTRONOMY**

**PHYSICAL MECHANICS I**  
**PHYS 182 – 01      CRN: 85044**  
**PHYS 208-01      CRN: 85449**  
**FALL 2020**

**M W F      11:10 AM – 12:00 N      Online**

**INSTRUCTOR: Professor Prabhakar Misra**

**OFFICE: Online**

**E-MAIL: [pmisra@howard.edu](mailto:pmisra@howard.edu)      TEL: (240)401-7202 (Message/Voice Mail)**

**OFFICE HOURS Online: 2:10-3:00 PM    M   W   and By Appointment**

**Text:** “Classical Mechanics,” John R. Taylor, University Science Books, Mill Valley, California, 2005 Edition (ISBN: 978-1-891389-22-1).

**SUBJECT MATTER**

**WEEK(S) OF**

Newton’s Laws of Motion	8/24, 8/31
Projectiles & Charged Particles	9/7, 9/14
Momentum & Angular Momentum	9/21, 9/28
Energy & Oscillations	10/5, 10/12
Calculus of Variations	10/19, 10/26
Lagrange’s Equations	11/2, 11/9
Two-Body Central Force Problems	11/16, 11/23

**EXAM 1: 9/28**

**EXAM 2: 10/26**

**FINAL EXAM: 11/25**

**Grading Scheme:** Homework 20 %; Exams (1 & 2) 50 %; Final Exam 30 %

**Suggested Reading:**

1. “Mechanics,” Keith R. Symon, Addison-Wesley Publishing, Inc., 1971 (ISBN 13: 9780201073928).
2. “Introduction to Classical Mechanics: With Problems & Solutions,” David Morin, Cambridge University Press, Cambridge, 2008 (ISBN 978-0521876223).
3. “Problems and Solutions to Introductory Mechanics,” David Morin, Createspace Receiving, 2014 (ISBN 13: 9781482086928).
4. “An Introduction to Mechanics,” Daniel Kleppner & Robert Kolenkow, Cambridge University Press, Cambridge, 2014 (ISBN 978-0-52119811-0).

**Class Attendance Restricted to Registered Students:**

Class Attendance Restricted to Registered Students: Only students whose names appear on the official course roster are permitted to attend class meetings. Students who are not registered are not permitted to attend or participate in course activities, do not have access to Blackboard, cannot submit course assignments, and will not receive a grade for this course. It is the students’ responsibility to ensure that they are properly registered by

the published registration deadline. Requests to add courses after the deadline will not be considered.

**ADA Disclaimer:**

Howard University is committed to providing an educational environment that is accessible to all students. In accordance with this policy, students in need of accommodations due to a disability should contact the Office of the Dean for Special Student Services for verification and determination of reasonable accommodations as soon as possible after admission to the University, or at the beginning of each semester.