

Physics 510 - Classical Mechanics

Spring 2009 MWF at 9:30am - 10:45am in Neckers 456

Lecturer: Leo Silbert
Office: Neckers 487
Tel.: 453 1062
email: lsilbert_at_physics_dot_siu_dot_edu
Office Hours: MWF 2pm -4pm or by appointment

Course Outline

D'Alembert's principle. Calculus of variations. Lagrangians and Lagrange's equations. Hamilton's principle and Hamilton's equations. Canonical transformations. Symmetry and Conservation principles. Normal modes of oscillations.

Suggested Texts

The following standard texts are available in the bookstore or library:

Classical Mechanics (3rd Ed.) Herbert Goldstein, Charles P. Poole, and John L. Safko
(Addison Wesley, ISBN: 0201657023)

Theoretical Mechanics of Particles and Continua Alexander L. Fetter and John Dirk
Walecka (Dover Publications, ISBN: 0486432610)

The lecture notes will follow both texts. It is recommended that you follow up lectures with reading.

Other

Course of Theoretical Physics : Mechanics, Landau & Lifshitz (Butterworth-Heinemann)

Grading

Homework (to be assigned weekly or biweekly)	40%
Mid-term Exam	25%
Final Exam (compulsory)	35%

FINAL GRADE

A : >90%; B: 75% - 90%; C: 60% - 74.99%; D: 50% - 59.99%; F: <50%

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<http://www.siu.edu/~policies/policies/conduct.html>

Please also note the following emergency procedures policy. Make sure you review the emergency response information available at the websites listed below or dotted around campus buildings.

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Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting your location. It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency. The Building Emergency Response Team will provide assistance to your instructor in evacuating the building or sheltering within the facility.