

PHYSICS 501 CLASSICAL MECHANICS

Fall 2016

Monday, Wednesday, Friday, 9:00 -- 9:53 AM, Room 104, Harriman Hall.

Instructor: Dmitri Averin, dmitri.averin@stonybrook.edu

office hour: Wednesday, 11:00 -- 12:00, B-140

Teaching assistant: tbd

office hour: tbd

Textbook: L.D. Landau and E.M. Lifshitz, ``Mechanics''.

Supplementary reading: H. Goldstein, Ch. Poole, and J. Safko, ``Classical Mechanics'';

J.V. Jose and E.J. Saletan, ``Classical Dynamics: a Contemporary Approach''.

This is an introductory course in graduate classical mechanics. The course will cover the material discussed

in the Landau/Lifshitz textbook and some selection of additional subjects. The list of topics includes

- Lagrangian formulation of mechanics, conservation laws;
- central force motion, classical scattering theory;
- linear and non-linear oscillations;
- dynamics of rigid bodies;
- Hamiltonian formulation of mechanics, canonical transformations;
- Hamilton-Jacobi equations;
- non-holonomic constraints;
- chaotic motion;
- dynamics of continuous systems.

Grading:

Homework	35%
Midterm	30%
Final	35%

Homework assignments

Homework will be assigned approximately each week.

Exams

Exam policy: NO printed or photocopied materials, but personal handwritten notes are allowed without limitations.

DSS STATEMENT:

If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact Disability Support Services (631) 632-6748 or

<http://studentaffairs.stonybrook.edu/dss/>

They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information go to the following website:

<http://www.stonybrook.edu/ehs/fire/disabilities.shtml>

ACADEMIC INTEGRITY STATEMENT:

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty members are required to report any suspected instance of academic dishonesty to the Academic Judiciary. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at:

<http://www.stonybrook.edu/uaa/academicjudiciary/>

CRITICAL INCIDENT MANAGEMENT:

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive

behavior that interrupts their ability to teach, compromises the safety of the learning environment, and/or inhibits students' ability to learn.

<http://www.stonybrook.edu/uaa/academicjudiciary/>