

Physics 5201 - Theoretical Mechanics - Fall 2019

Instructor: Gayanath Fernando, Office: Gant South (GS) 213D, Phone: x-0442

Will meet: Tu and Th 11:00 - 12:15 in GS 119

Office Hours: Wed 9:30-12:00 or by appointment

- Text : Classical Mechanics (3rd edition) by Goldstein, Poole, Safko (publisher: Addison Wesley)
- This is an introductory graduate level course in Theoretical Mechanics. I assume that you have had some exposure to Classical Mechanics as well as elementary functions and techniques in Mathematical Physics.
- Goldstein's classic is the assigned text. However, there are plenty of other text books that one could use such as Landau and Lifshitz's Mechanics.
- We will begin with a discussion of Cartesian Vectors, Tensors and Tensor Calculus. After a review of Newtonian formulation of mechanics, we will move on to more advanced topics. There will be several problem sets assigned for homework but your final grade will be based primarily on classroom exams.
- I will grade only selected homework problems but you are expected to do all the problems in a given set. There will be 2 in-class exams + a final exam.
- This is a beautiful and elegant subject, regarded as one of the foremost intellectual achievements, combining mathematics and laws of physics to describe the statics and dynamics of objects we see in everyday life, and hopefully, you'll be able to appreciate this as we make progress.
- I encourage you to ask questions both in and out of class. If you have serious trouble doing the homework on your own, please see me.