Physics 274 Syllabus

• Instructor: Zackaria Chacko
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• Class meeting times: Monday, Wednesday & Friday, 12:00-12:50PM in Key Hall 1117

• Class web page:
  http://terpconnect.umd.edu/~zchacko/Fall16/physics274.html

• Grading Criteria: 20% Homework, 40% Midterms, 40% Final
  Homework will be typically assigned on a weekly basis.

• Textbooks:
  Mathematical Methods in the Physical Sciences, by Mary L. Boas (required)
  A Guided Tour of Mathematical Methods for the Physical Sciences, by Roel Snieder (recommended)

• Syllabus:

  Curvilinear Coordinates and Vector Analysis
  Curvilinear orthogonal coordinates; cylindrical and spherical coordinate systems; gradients, divergences and curls in curvilinear coordinates and their geometrical interpretation, with examples from physical systems; Gauss’s and Stoke’s theorems.

  Linear Algebra
  Linear vector spaces; linear operators and their representation as matrices; matrix algebra; determinants and their application to the solution of linear inhomogeneous equations; inner products; eigenvalues and eigenfunctions with examples of applications to physical problems; infinite dimensional vector spaces.

  Dirac Delta Functions
  Properties of the delta function; delta function of a function; delta functions in more than one dimension.
- **Attendance**: Attendance in lectures is strongly encouraged, but will not count towards the course grade.

- **Office Hours**: Friday 3.00 PM - 4.00 PM or by appointment.

- **Teaching Assistant**: Simon Riquelme, sdriquel@umd.edu

- **Final Exam**: Monday, December 19, from 8.00 AM to 10.00 AM.

- **Course Related Policies** The university policies on matters related to courses may be found at [http://www.ugst.umd.edu/courserelatedpolicies.html](http://www.ugst.umd.edu/courserelatedpolicies.html)