

Advanced Mathematical Methods, Physics 3373 (29187)

Fall 2015 Mondays, Wednesdays 10-11:15am

Syllabus

The topic will be group theory, with applications to quantum mechanics and some particle physics. No previous knowledge of group theory is required, but students should be familiar with ideas from vector spaces in linear algebra.

First 4 weeks- Finite groups and their representations

Next 6 weeks- Introduction to compact Lie groups and their representations, with emphasis on $SU(2)$ and $SU(3)$

Final weeks – The Poincare group and its representations