

School of Mathematics

543 - Topological and Geometrical Techniques for Physicist
(Graduate Students)

2000-01

Lecturer: Dr Conor Houghton and Dr Charles Nash

Requirements/prerequisites:

Duration: 17 weeks

Number of lectures per week: 1 two hour lecture a week

Assessment:

End-of-year Examination: This course is not examined

Description:

This course gives a survey of the geometrical and topological techniques which are now important in quantum field theory and string theory. It will introduce manifolds, the fundamental group, the higher homotopy and homology groups, cohomology, Riemann surfaces, fibre bundles and characteristic class with reference to applications such as the self dual instanton, the Abelian-Higgs vortex and the string partition function.

October 11, 2000