

**School of Mathematics**

**MA444B — Classical Yang-Mills Theory**  
(SS Theoretical Physics )

2011-12

**Lecturer:** Prof. S. Shatashvili

**Requirements/prerequisites:**

**Duration:** 11 weeks (Hilary Term)

**Number of lectures per week:** 3

**Assessment:**

**ECTS credits:** 5

**End-of-year Examination:**

**Description:**

The module will contain a detailed description of the geometry of classical Yang-Mills fields, its role both in modern mathematics and theoretical physics. From the mathematics side this will include instantons, monopoles and related classical solutions for various 4d gauge theories, from the physics side this will include model building based on gauge theories, the standard model, properties of the standard model and the physics behind it.

August 31, 2011