

6CCM327A/327Z Topology, 1st Semester 2009/2010

Lecturer Information

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Course Information

- **Course:** Topology
- **Time and Location:** Mondays 10-11 and Fridays 12-1 in 521, and Thursdays 4-5 in 436. Tutorial session will be on Fridays 4-5 in 423.
- **Office Hours:** Mondays 2:00-5:00 in Strand 407a.
- **Web page:** <http://www.mth.kcl.ac.uk/courses/cm327.html>
- **Semester Dates:** Monday Sep 28 - Friday Dec 18th, 2009.
- **Teaching arrangements:** Three one-hour lectures each week. In addition, a one-hour tutorial each week where solutions to question sheets will be discussed.
- **Pre-requisites:** A-level Mathematics (algebra, trigonometry, geometry and calculus).
- **Assessment:** 90 percent of the final mark is determined by a two-hour final exam and the remaining ten percent is allocated to the coursework.
- **Assignments:** There will be 4-5 sheets of Homework exercises. You must attempt these to keep up with the course. Solutions are later posted on the web page.
- **Coursework:** Four Homework sets worth in total 10 percent of the final mark.
- **Textbook:** *Topology* (2nd Edition) by James Munkres, 2000, Prentice-Hall.

- **Syllabus:** (Tentative) From the textbook we will cover the following sections:
 - §12 Topological spaces.
 - §13 Basis for a topology (except for Lemma 13.4).
 - §15 The product topology on $X \times Y$.
 - §16 Subspace Topology (except for Theorem 16.4).
 - §17 Closed sets and limit points.
 - §18 Continuous functions.
 - §19 Product topology.
 - §20 Metric topology (except for uniform topology).
 - §22 Quotient topology.
 - §22 Supplementary Exercises: topological groups.
 - §23 Connected spaces.
 - §24 Connected subspaces of \mathbf{R} .
 - §25 Components (except for local connectedness).
 - §26 Compact spaces.
 - §27 Compact subspaces of \mathbf{R} .
 - §29 Local compactness (Definition and examples).
 - §37 The Tychonoff Theorem (without the proof).
 - §51 Homotopy of paths.
 - §52 Fundamental groups.
 - §53 Covering spaces.
 - §54 The fundamental group of the circle.