UNIVERSITY OF CALGARY

FACULTY OF SCIENCE
Department of Mathematics and Statistics

Pure Mathematics 505 Topology I

(see Course Descriptions under the year applicable: http://www.ucalgary.ca/pubs/calendar/)

Syllabus

Topics	**Number of hours**
Metric spaces and topological spaces; lots of examples	3
Bases for topologies; subspaces; closure and interior	3
Continuous functions; homeomorphisms; finite products and projections	3
Quotient mappings and spaces	3
Separation and countability properties	3
Connectedness	3
Compactness	3
Infinite products; the Tychonoff theorem	3
Complete metric spaces and completions	3
Functions spaces	3
The homeomorphism problem (paucity of invariants); homotopy of paths	3
The fundamental group (time permitting)	
More on the fundamental group (time permitting)	
TOTAL HOURS	**33**

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