

620-322 Topology

Credit Points:	12.500
Level:	Undergraduate
Dates & Locations:	2008, This subject commences in the following study period/s: Semester 2, - Taught on campus.
Time Commitment:	Contact Hours: 36 lectures (three per week) and up to 12 practice classes (one per week) Total Time Commitment: 120 hours.
Prerequisites:	620-311, 620-321 and one of 620-231 or 620-233.
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
Core Participation Requirements:	It is University policy to take all reasonable steps to minimise the impact of disability upon academic study and reasonable steps will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact upon their active and safe participation in a subject are encouraged to discuss this with the relevant subject coordinator and the Disability Liaison Unit.
Coordinator:	Prof H Rubinstein
Subject Overview:	<p>This subject introduces the basic concepts and examples of topological spaces, the definition of manifolds and the classification of surfaces, the idea of homotopy of mappings, the concept of covering spaces and their relationship with fundamental groups, and the basic ideas of homology theory. Students should develop the ability to work with the fundamental group and homology groups, to calculate and use the fundamental group, to convert problems involving topological spaces and continuous maps into problems in algebra, to distinguish between different topological spaces, and to construct homeomorphisms and homotopy equivalences between spaces. This subject investigates the basic questions in topology. It demonstrates the power of topological methods in dealing with problems involving shape and position of objects and continuous mappings, and shows how topology can be applied to many areas, including geometry, analysis, group theory and physics.</p> <p>Topics include topological spaces and continuous maps; quotient spaces; homotopy and fundamental groups; surfaces; covering spaces; and an introduction to homology theory.</p>
Assessment:	Up to 36 pages of written assignments due during the semester (25%); a 3-hour written examination in the examination period (75%).
Prescribed Texts:	None
Breadth Options:	<p>This subject is a level 2 or level 3 subject and is not available to new generation degree students as a breadth option in 2008.</p> <p>This subject or an equivalent will be available as breadth in the future.</p> <p>Breadth subjects are currently being developed and these existing subject details can be used as guide to the type of options that might be available.</p> <p>2009 subjects to be offered as breadth will be finalised before re-enrolment for 2009 starts in early October.</p>
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Notes:	This subject is available for science credit to students enrolled in the BSc (pre-2008 degree only), BAsc or a combined BSc course.
Related Course(s):	<p>Bachelor of Arts</p> <p>Bachelor of Arts and Bachelor of Science</p> <p>Bachelor of Arts and Sciences</p>

Bachelor of Science