MC-SCIBIF Master of Science (Bioinformatics)

Year and Campus:	2013 - Parkville
CRICOS Code:	062189B
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Level:	Graduate/Postgraduate
Duration & Credit Points:	200 credit points taken over 24 months full time. This course is available as full or part time.
Coordinator:	Dr Andrew Lonie Email: alonie@unimelb.edu.au
Contact:	**Melbourne Graduate School of Science** Faculty of Science The University of Melbourne Tel: + 61 3 8344 6128 Fax: + 61 3 8344 3351 Web: **http://graduate.science.unimelb.edu.au (http://graduate.science.unimelb.edu.au/)**
Course Overview:	The Master of Science (Bioinformatics) is a coursework masters degree incorporating a substantial research project. The Master of Science gives students the opportunity to undertake a substantive research project in a field of choice as well as a broad range of coursework subjects including a professional skills component, as a pathway to PhD study or to the workforce.
Objectives:	The objectives of this course are to provide students with: # a broad education in bioinformatics with strong foundations in computer science, biology, and statistics; # significant experience in a specific area of bioinformatics; # ability to conduct independent research in bioinformatics; and # potential to proceed to a PhD degree.
Course Structure & Available Subjects:	Students undertaking the Master of Science - Bioinformatics program will complete 200 points comprising: # Discipline subjects (137.5 points) including compulsory subjects listed for each specialisation plus electives; # Professional Skills subject (12.5 points); # Research Project (50 points), commencing in Semester 2. Exemptions will be granted for students who have completed equivalent subjects in their undergraduate studies.
Subject Options:	**First year Core - Biology/Biomedicine stream (for students with a biology / biomedicine background)** Students must take:

Subject	Study Period Commencement:	Credit Points:
MAST90057 Elements of Probability	Not offered 2013	12.50
COMP90041 Programming and Software Development	Not offered 2013	12.50
BINF90002 Elements of Bioinformatics	Not offered 2013	12.50
MAST90058 Elements of Statistics	Not offered 2013	12.50
COMP90038 Algorithms and Complexity	Not offered 2013	12.50

BINF90007 Bioinformatics Research Project-12.5pts	Not offered 2013	12.50

and two 12.5 point elective subjects selected in consultation with the Course Coordinator.

First year Core - Mathematics/Statistics stream (for students with a mathematics and statistics background)

Students must take:

Subject	Study Period Commencement:	Credit Points:
GENE90019 Genes Molecules and Cells	Not offered 2013	25
COMP90041 Programming and Software Development	Not offered 2013	12.50
BINF90002 Elements of Bioinformatics	Not offered 2013	12.50
PHYS90007 Principles of Physiology	Not offered 2013	12.50
COMP90038 Algorithms and Complexity	Not offered 2013	12.50
BINF90007 Bioinformatics Research Project-12.5pts	Not offered 2013	12.50

and one 12.5 point elective subject selected in consultation with the Course Coordinator.

First year Core - Computer Science stream (for students with a computing background)

Students must take:

Subject	Study Period Commencement:	Credit Points:
GENE90019 Genes Molecules and Cells	Not offered 2013	25
MAST90057 Elements of Probability	Not offered 2013	12.50
BINF90002 Elements of Bioinformatics	Not offered 2013	12.50
PHYS90007 Principles of Physiology	Not offered 2013	12.50
MAST90058 Elements of Statistics	Not offered 2013	12.50
BINF90007 Bioinformatics Research Project-12.5pts	Not offered 2013	12.50

and one 12.5 point elective subject selected in consultation with the Course Coodinator.

Second year - All streams

Students must take:

Subject	Study Period Commencement:	Credit Points:
BINF90001 Statistics for Bioinformatics	Not offered 2013	12.50
BINF90007 Bioinformatics Research Project-12.5pts	Not offered 2013	12.50
BINF90004 Bioinformatics Case Studies	Not offered 2013	12.50
COMP90014 Algorithms for Functional Genomics	Not offered 2013	12.50
BINF90006 Bioinformatics Research Project-25pts	Semester 1	25
SCIE90013 Communication for Research Scientists	Semester 1	12.50

and one of the following subjects:

	Subject	Study Period Commencement:	Credit Points:
	COMP90016 Computational Genomics	Not offered 2013	12.50
	BTCH90009 Genomics and Bioinformatics	Semester 1	12.50

Entry Requirements:	An undergraduate degree with a major in biology, biomedicine, mathematics and statistics, or computer science, with at least an H3 (65%) in the major, or equivalent. Students should also have a background in calculus and computing. Quotas may be applied and preference may be given to applicants with evidence of appropriate preparation or potential to undertake research. Entry is subject to the capacity of a participating department to provide adequate supervision in a research project appropriate to the interests and preparation of the individual student and may be subject to the agreement of a member of academic staff to supervise the project module. Selection is not automatic and, in particular, is subject to competition.
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 course are encouraged to discuss this with the relevant course coordinator and the Disability Liaison Unit.
Further Study:	The Master of Science offers a pathway to a PhD.
Graduate Attributes:	Graduates will: have the ability to demonstrate advanced independent critical enquiry, analysis and reflection; have a strong sense of intellectual integrity and the ethics of scholarship; have in-depth knowledge of their specialist discipline(s); reach a high level of achievement in writing, research or project activities, problem-solving and communication; be critical and creative thinkers, with an aptitude for continued self-directed learning; be able to examine critically, synthesise and evaluate knowledge across a broad range of disciplines; have a set of flexible and transferable skills for different types of employment; and be able to initiate and implement constructive change in their communities, including professions and workplaces.
Links to further information:	http://graduate.science.unimelb.edu.au/programs/msc/bioinfo.php