

MAST90051 Mathematics of Risk

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2010, Parkville This subject commences in the following study period/s: Semester 2, Parkville - Taught on campus.
Time Commitment:	Contact Hours: 36 hours: 2 x one-hour lectures per week and 1 x one-hour practical class per week. Total Time Commitment: 120 hours
Prerequisites:	None
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
Core Participation Requirements:	For the purposes of considering requests for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Students Experiencing Academic Disadvantage Policy, academic requirements for this subject are articulated in the Subject Description, Subject Objectives, Generic Skills and Assessment Requirements for this entry. The University is dedicated to provide support to those with special requirements. Further details on the disability support scheme can be found at the Disability Liaison Unit website: http://www.services.unimelb.edu.au/disability/
Coordinator:	Prof Konstantin Borovkov
Contact:	.
Subject Overview:	Mathematical modelling of various types of risk has become an important component of the modern financial industry. The subject discusses the key aspects of the mathematics of market risk. Main concepts include loss distributions risk and dependence measures copulas risk aggregation and allocation principles elements of extreme value theory. A main theme is the need to satisfactorily address extreme outcomes and the dependence of key risk drivers.
Objectives:	After completing this subject students will: <ul style="list-style-type: none"> # understand the basic mathematical concepts used in the financial market risk analysis; # know how these concepts can be applied in situations requiring quantitative risk management; # gain the ability to pursue further studies in this and related areas.
Assessment:	Up to 30 pages of written assignments (20%: two assignments worth 10% each, due mid and late in semester), a 3 hour written examination (80%, in the examination period).
Prescribed Texts:	TBA
Recommended Texts:	TBA
Breadth Options:	This subject is not available as a breadth subject.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	Upon completion of this subject, students should develop: <ul style="list-style-type: none"> # Problem-solving skills (especially through tutorial exercises and assignments) including engaging with unfamiliar problems and identifying relevant strategies; # Analytical skills including the ability to construct and express logical arguments and to work in abstract or general terms to increase the clarity and efficiency of the analysis;

	# Ability to work in a team, through interactions with other students.
Related Course(s):	Master of Science (Management Science) Master of Science (Mathematics and Statistics)