ACTL20001 Financial Mathematics I

Credit Points:	12.5
Level:	2 (Undergraduate)
Dates & Locations:	2016, Parkville This subject commences in the following study period/s: Semester 1, Parkville - Taught on campus.
Time Commitment:	Contact Hours: Two 1-hour lectures and a 1-hour tutorial per week Total Time Commitment: Estimated total time commitment of 170 hours.
Prerequisites:	One of: • a mark of 60 or better in MAST10013 UMEP Mathematics for High Achieving Students or 620-121 Mathematics A (Advanced) (for students who took these subjects in 2007 or earlier); • an average mark of 60 or better in **MAST10008 Accelerated Mathematics 1 (../../view/current/MAST10008)** and **MAST10009 Accelerated Mathematics 2 (../../view/current/MAST10009)** , with a pass in each subject; • a mark of 75 or better in 620-141 Mathematics A; • an average mark of 75 or better in **MAST10006 Calculus 2 (../../view/current/MAST10006)** and **MAST10007 Linear Algebra (../../view/current/MAST10007)** ; • a total of 135 or better in **MAST10007 Linear Algebra (../../view/current/MAST10007)** and **MAST10009 Accelerated Mathematics 2 (../../view/current/MAST10009)** , with a pass in each subject; • an average mark of 60 or better in MAST10013 UMEP Mathematics for High Achieving Students and **MAST10009 Accelerated Mathematics 2 (../../view/current/MAST10009)** , with a pass in each subject • a total of 135 or better in **MAST10008 Accelerated Mathematics 1 (../../view/current/MAST10008)** and **MAST10006 Calculus 2 (../../view/current/MAST10006)** , with a pass in each subject
Corequisites:	None
Recommended Background Knowledge:	Please refer to Prerequisites and Corequisites.
Non Allowed Subjects:	None
Core Participation Requirements:	For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Student Support and Engagement Policy, academic requirements for this subject are articulated in the Subject Overview, Learning Outcomes, Assessment and Generic Skills sections of this entry. It is University policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact on meeting the requirements of this subject are encouraged to discuss this matter with a Faculty Student Adviser and Student Equity and Disability Support: http://services.unimelb.edu.au/disability
Coordinator:	Prof Daniel Dufresne
Contact:	Email: **dufresne@unimelb.edu.au (mailto:dufresne@unimelb.edu.au)**
Subject Overview:	Topics include compound interest functions; valuation of a series of payments, including where the cash flows and/or the force of interest are continuous functions of time; equations of value; financial analysis of loan contracts and investment projects; characteristics of major asset types.

Learning Outcomes:	# Apply relevant pre-requisite mathematical knowledge in the solution of a range of practical problems; # Describe and apply the main methods of finding the accumulation or present value of money under simple and compound interest and discount; # Derive and apply formulae to calculate the accumulation or discounted value of a series of payments, including the cases of continuous payments and variable interest rates # Analyse and solve equations of value for rates of interest # Construct and analyse a loan schedule, including cases when terms of a loan are altered; # Show how discounted cashflow techniques can be used in investment project appraisal; # Demonstrate a knowledge and understanding of real and money interest rates; # Explain the key features of the main types of financial assets, including shares, bonds, property and derivatives
Assessment:	A 2-hour end-of-semester examination (70%), two assignments totalling not more than 2000 words (20%), and a 45 minute mid-semester examination (10%). Satisfactory completion of this subject requires a 50% pass in the end of semester examination
Prescribed Texts:	You will be advised of prescribed texts by your lecturer.
Recommended Texts:	Compound Interest and its Applications, Fitzherbert and Pitt, 2013
Breadth Options:	This subject potentially can be taken as a breadth subject component for the following courses: # **Bachelor of Arts (https://handbook.unimelb.edu.au/view/2016/B-ARTS)** # **Bachelor of Environments (https://handbook.unimelb.edu.au/view/2016/B-ENVS)** # **Bachelor of Music (https://handbook.unimelb.edu.au/view/2016/B-MUS)** You should visit **learn more about breadth subjects (http://breadth.unimelb.edu.au/breadth/info/index.html)** and read the breadth requirements for your degree, and should discuss your choice with your student adviser, before deciding on your subjects.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	# High level of development: written communication; problem solving; application of theory to practice; synthesis of data and other information; use of computer software.