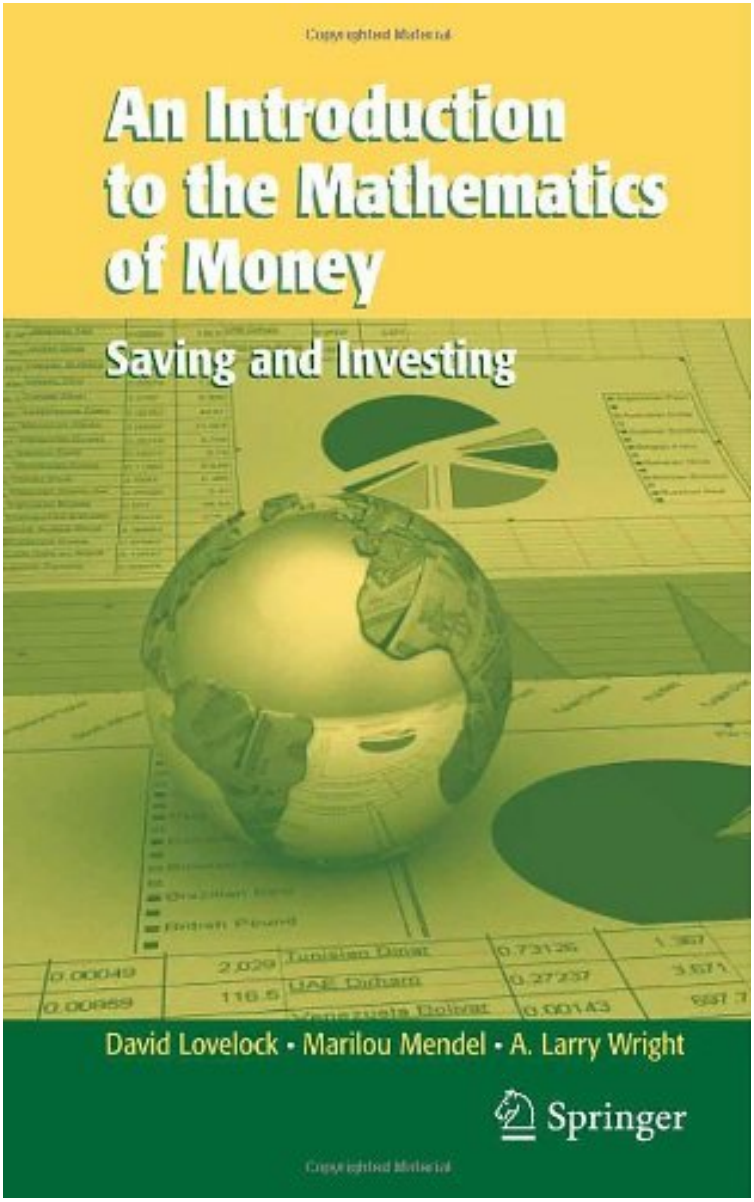
An Introduction to the Mathematics of Money (Texts in Applied Mathematics)

David Lovelock, Marilou Mendel, Arthur L. Wright
*ebooks | Download PDF | *ePub | DOC | audiobook*



#2153027 in eBooks 2007-04-05 2007-04-05File Name: B00E0IKW7O | File size: 21.Mb

David Lovelock, Marilou Mendel, Arthur L. Wright : An Introduction to the Mathematics of Money (Texts in Applied Mathematics) before purchasing it in order to gage whether or not it would be worth my time, and all praised An Introduction to the Mathematics of Money (Texts in Applied Mathematics):

5 of 6 people found the following review helpful. Good introduction to the mathematics of financeBy William S ReaI

taught a second year course in finance using this book as the basis forthe course. I covered all the chapters expect the last one on options.I prepared material on options for the class, it was only becausethe teaching term was cut short by the devastation caused by the earthquakethat we did not get to it.In recent decades finance has beome much more mathematical. There area lot of very good books on the market on the advanced mathematicsrequired for quantitative analysis and risk management. When you arelooking for an introductory book which is suitable for a first coursein finance (we do not offer any finance courses at the first year level),but which is quite mathematical in approach, the market becomes quite limited.This is one book on offer and does a good job provided you are clear aboutwhat you are trying to achieve by using it.The book was written for the American market and the authors state itis suitable for the sophomore or junior level (2nd or 3rd yearundergraduate in the US). I believe that is a fair assessment of thelevel of the book.The book has eleven chapters and two appendices.The first eight chapters are devoted to topicswhich could form the basis of an introduction to the mathematics offixed income. These eight chapters cover simple and compoundinterest, inflation and taxation, annuities, loans, amortization,credit cards and bonds. The bonds are, of course, the most plainvanilla non-callable and zero coupon bonds. There some excellentsections in these chapters. For example, most courses, if they mentionit at all, do not go into the problem that the internal rate of return (IRR)may not be unique. This book gives a good account of the problemand through its two theorems on the uniqueness of the IRR give thestudent a clear idea of when an IRR will and will not be unique.The chapter on bonds was also very good, it covers some aspects of themodified duration which I've not seen in any other text.These chapters also do have some limitations. In the chapter on annuities,growing annuities and growing perpetuities were not covered so I addedmaterial from Zipf's book, Fixed Income Mathematics, to the course to coverthese topics.Chapters 9 and 10 are devoted to the stock market and chapter 11 is onoptions. These are rather short but within the time constraints ofteaching the course in a single semester there is little room forextra material. I found the account of the capital assest pricingmodel (CAPM) to be weak and I will probably replace this with materialfrom another source when I next teach the course.The final chapter is on options and even has an elementary derivationof the Black-Scholes pricing model.The two appendices are on some background mathematics and statisticswhich probably adequately prepared students will have met before.The mathematics section deals with proof by induction andrecurrence relations, and some inequalities such as the Cauchy-Schwarzand the arthimetic-geometric mean inequality. The appendix on statisticsis a bit more comprehensive but, again, a student who has passed afirst year level course in statistics should have covered all thismaterial. It is there for completeness so if a student needs tolook up a result they may be able to find it in one of the appendicesrather than having to head off to a more comprehensive math or stats text.Each chapter has a number of exercises. These are divided into what theauthor's call ``walking'' and ``running''. I have worked almost all ofthese problems up to the end of chapter 10 and have typed up fairlycomprehensive solutions in LaTeX. Some of my students complainedthat the problems were either trivially easy (the ``walking'' problems)or excessively difficult (the ``running'' problems). There is sometruth in their complaint, some of the ``running'' problems were exceptionallydifficult for a student at this level. There are answers to a reasonablenumber of the problems at the end of the book, but no hints on how tosolve a problem if a student gets stuck. Despite their complaints,overall I think the authors have done a reasonable job with the exercises.Some exercises clearly extend the material in the chapters and someprovide additional mathematical insight into the material. This is whatan instructor is looking for in exercises. Some chapters had a lot ofexericses, for example there are 49 for the chapter on compound interest.If you are looking for textbook so students can get their foot on thefirst rung of the ladder of financial mathematics then this is quite agood one. Its theorem-proof approach is not suitable for the general financestudent, but for ones who are serious about learning the quantitativeside of finance this book can safely be used at the 2nd year undergraduatelevel (US sophomore).I think people award stars far too generously and I may be guilty of that practicein this review. My final assessment of four stars is partly because there was little elseto choose from when I selected it as the text for the course (though thatis changing) and it does have some weaknesses. However, overall itis a good place to start if you are looking for a text for the mostbasic financial mathematics course.0 of 6 people found the following review helpful. This book is terrible, just terribleBy J. KennishOr maybe my professor is terrible? I had a really difficult time understanding the flow of the book, and felt pretty dumb about it. It's heavy in math proofs, which is cool, but seems less concerned with financial problems. Or maybe my professor just didn't assign good chapters. Either way, my impression of this book is not good.0 of 0 people found the following review helpful. Great BookBy CustomerWell written introduction to investing from as mathematicians perspective. Covers all aspects of investing and the math one would see when solving such problems. Funny at times and always pleasant. Would highly recommend

This is an undergraduate textbook on the basic aspects of personal savings and investing with a balanced mix of mathematical rigor and economic intuition. It uses routine financial calculations as the motivation and basis for tools of elementary real analysis rather than taking the latter as given. Proofs using induction, recurrence relations and proofs by contradiction are covered. Inequalities such as the Arithmetic-Geometric Mean Inequality and the Cauchy-Schwarz Inequality are used. Basic topics in probability and statistics are presented. The student is introduced to elements of saving and investing that are of life-long practical use. These include savings and checking accounts,

certificates of deposit, student loans, credit cards, mortgages, buying and selling bonds, and buying and selling stocks.The book is self contained and accessible. The authors follow a systematic pattern for each chapter including a variety of examples and exercises ensuring that the student deals with realities, rather than theoretical idealizations. It is suitable for courses in mathematics, investing, banking, financial engineering, and related topics.

From the reviews: "This book is written for students without assuming a background or any experience in investing. A basic knowledge in real analysis is necessary. The student is introduced to elements of saving and investing that are of lifelong practical use. These includes saving, checking accounts, certificates of deposit, student loan, credit cards, mortgages, buying and selling bonds of stocks. The authors follow a systematic pattern with a variety of examples and exercises. hellip; suitable for fundamental courses in mathematics, investing, banking, financial engineering, and related topics." (Klaus Ehemann, Zentralblatt MATH, Vol. 1114 (16), 2007) "This book is designed to serve as an undergraduate text on the fundamentals of personal savings and investing. hellip; The book includes an appendix that covers basic concepts and techniques in probability and mathematical statistics. hellip; follows a different philosophy; it allows the results and examples to speak for themselves. hellip; it serves as a valuable resource for attaining savings, investment, and retirement goals." (Joseph Cavanaugh, The American Statistician, Vol. 62 (2), May, 2008)From the Back CoverThis is an undergraduate textbook on the basic aspects of personal savings and investing with a balanced mix of mathematical rigor and economic intuition. It uses routine financial calculations as the motivation and basis for tools of elementary real analysis rather than taking the latter as given. Proofs using induction, recurrence relations and proofs by contradiction are covered. Inequalities such as the Arithmetic-Geometric Mean Inequality and the Cauchy-Schwarz Inequality are used. Basic topics in probability and statistics are presented. The student is introduced to elements of saving and investing that are of life-long practical use. These include savings and checking accounts, certificates of deposit, student loans, credit cards, mortgages, buying and selling bonds, and buying and selling stocks.The book is self contained and accessible. The authors follow a systematic pattern for each chapter including a variety of examples and exercises ensuring that the student deals with realities, rather than theoretical idealizations. It is suitable for courses in mathematics, investing, banking, financial engineering, and related topics.