

Mathematics of Compound Interest

- This course covers the basic theory of compound interest. It is designed to cover the the background needed for the interest theory of the **Financial Math Exam of the Society of Actuaries**.
- **Text Book:** The Theory of Interest (Second Edition) by S. G. Kellison.
- Main topics:
 - Definition and simple problems in compound interest.
 - Basic and advanced annuities.
 - The Yield Curve.
 - Amortization.
 - Topics in Financial Analysis.

Tentative weekly schedule:

Week 1: Introduction. Basic problems of valuation (Chapter 1).

Week 2: Simple and compound interest (Chapter 1).

Week 3: Basic problems in interest rate (Chapter 2).

Week 4: Introduction to annuities (Chapter 3).

Week 5: Time variation of interest (Chapter 3).

Week 6: Basic annuities (Chapter 4).

Week 7: Advanced annuities (Chapter 4).

Week 8: Basic cash flow analysis (Chapter 5).

Week 9: Advanced cash flow analysis (Chapter 5).

Week 10: Amortization (Chapter 6).

Week 11: Review and special topic.