



University of Bahrain MICRO-CREDENTIAL



Fundamentals of Financial Mathematics

GENERAL INFORMATION

Duration: 8 weeks

Total Hours: 132 hours

Fees: 240 BD

Credits: 3 Credits

Degree Program: Bachelor of Actuarial Science (can count towards MATHS 371)

Level: undergraduate

Language: English

Pre-requisite: University Calculus II or equivalent

Venue: University of Bahrain

INSTRUCTOR BIOGRAPHY



Dr. Babacar Seck
Assistant Professor
Mathematics

Ph.D. in Applied Mathematics, École des Ponts Paris-Tech, 2008. He is an Assistant Professor and Coordinator of the Actuarial Science Program at the University of Bahrain, specializing in mathematical finance and optimization. Previously, he taught at several universities in Alberta, Canada.



Micro-credential is a short, focused course designed to equip learners with specific skills and knowledge within a specialized area. It serves as a pathway to earning an equivalent certification for a core course, offering a flexible and targeted learning experience.

COURSE OVERVIEW

This course prepares potential actuaries for international actuarial and risk management accreditation exams, such as SOA-FM, IFoA-CM1, and CFA-Level I. It provides a foundational understanding of financial mathematics concepts, focusing on calculating present and accumulated values of various cash flow streams. The course covers essential topics such as compound interest, annuities, Loan repayments, measuring the rate of return of an investment, term structure of interest rates and forward rates, bond valuation, duration and convexity.

DELIVERY MODE

132 hours
(44 contact hours + 88 independent learning hours)

ASSESSMENTS

- 3 Assignments: 30%
- 2 Quizzes: 30%
- Final Exam: 40%

TARGET AUDIENCE

- University students
- Candidates for SOA, IFoA, and CFA-Level I exams
- Employees in banking, finance, and insurance sectors

KEY TOPICS COVERED

- Time values of money and its characteristics.
- Loan repayments and bonds valuations.
- Return on investment, term structure of interest rates and forward rates.
- Cash flow duration and immunization.



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For further Information, please contact:

Mr. Mohammed Al-Hooti

Tel: +973-33777339

Email: malhooti@uob.edu.bh

<https://microcredentials.uob.edu.bh/>