

## # MASTER IN FINANCIAL ENGINEERING (ABS) “Full Time Program”

### WHO WE ARE ? About Africa Business School (ABS)

Welcome to Africa Business School (ABS), the business school of University Mohammed VI Polytechnic (UM6P).

ABS aims to be the inclusive hub of lifelong learners and mindful doers, transforming sustainably the business and societal landscape in Africa and beyond.

Africa Business School is dedicated to create sustainable impact and enable organizational transformation by integrating Research, Advisory, and Learning. ABS seamlessly integrates scientific disciplines with management, promoting advanced decision-making and enriched learning capabilities to confidently address global challenges in our intricate world.

### REASONS TO CHOOSE ABS :

- +2200 ALUMNI
- + 50 FACULTY
- + 15 EXECUTIVE DEGREES
- + 40 SHORT CERTIFICATES
- + 1380 STUDENTS

## # PROGRAM DESCRIPTION OF THE MASTER IN FINANCIAL ENGINEERING (ABS)

The main objective of the Master in Financial Engineering is to train students with expertise in financial modeling, designing, analyzing, and developing complex financial products. The program has been modernized to include emerging topics such as sustainable finance, data science, asset management, banking regulation, and asset-liability management (ALM). It stands out for its focus on African financial markets and the banking industry, aligning with Morocco's strategic role as a major financial hub on the continent. Additionally, the program emphasizes essential soft skills, academic development, and employability, ensuring graduates are fully equipped to navigate the complexities of modern finance.

### Program Details:

- Location : Africa Business School, UM6P Rabat
- Duration : 2 years (18 months of study and a 6 month internship)
- Language : English
- Degree : Master in Financial Engineering

## # LEARNING OUTCOMES OF THE MASTER IN FINANCIAL ENGINEERING (ABS)

Graduates of the Master in Financial Engineering will achieve:

- Mastery of key financial concepts like derivatives pricing, asset management, actuarial science, and banking regulation.
- Specialization in emerging areas such as sustainable finance, data science, and asset-liability management.
- Proficiency in Python programming to apply computational methods in finance.
- Adaptation to modern finance with advanced quantitative risk management skills.

- Development of soft skills, including communication and leadership, alongside bilingual academic training.
- Practical experience through internships and projects, applying theory to real-world challenges.
- Comprehensive employability skills, including cultural awareness, to succeed in the global market.

#### # PROGRAM HIGHLIGHTS OF THE MASTER IN FINANCIAL ENGINEERING (ABS):

##### A FOCUS ON AFRICA AND BEYOND :

The MFE leverages the rise of Morocco and Africa as key players in the financial sector. Beyond equipping you with cutting-edge financial engineering skills, this program prepares you to play a strategic role in the development of African markets and beyond, addressing the needs of a diverse range of institutions including banks, insurance companies, pension funds, central banks, and consulting firms.

##### A PROGRAM ALIGNED WITH INDUSTRY NEEDS :

Our curriculum is continuously updated to reflect the evolving demands of the financial industry. With specialized modules in sustainable finance, data science, banking and insurance regulation, asset-liability management (ALM), and risk management, the program ensures our graduates are ready to tackle the complex challenges faced by modern financial institutions, whether in investment funds, central banking, or corporate finance.

##### A NETWORK OF RENOWNED EXPERTS AND PRACTITIONERS :

Courses are delivered by internationally recognized professors and industry professionals from prestigious institutions such as Natixis Bank, global audit firms, and leading universities like Université Pierre et Marie Curie, Université Paris Dauphine, New York University, and McMaster University. Students also benefit from collaborations with UM6P's Centers of Excellence, gaining exposure to real-world financial strategies and innovations.

##### STRATEGIC PARTNERSHIPS AND ACCREDITATIONS :

Our program offers an exceptional opportunity with the upcoming accreditation from the Society of Actuaries (SOA). This recognition will enhance the quality of our program and allow our students to prepare for SOA exams through various pathways. This international accreditation opens doors to prestigious international careers in the actuarial field.

McMaster University, our globally recognized partner in actuarial science and finance, provides our students with privileged access to top academic resources and international opportunities, thereby enhancing their academic and professional outlook.

We also work closely with key Moroccan regulators to align our program with the requirements of actuarial certifications, strengthening our students' preparation for essential qualifications. This strategic collaboration adds real value to our training and boosts the professional recognition of our graduates.

## # PROGRAM STRUCTURE OF THE MASTER IN FINANCIAL ENGINEERING (ABS)

### SEMESTER 1

- Probability Primer
- Statistical Methods for Data Science
- Sustainable Finance
- Foundations of Finance and Financial Markets
- Python Programming for Financial Engineering
- Foreign Languages (French & English)
- Academic Skills Development

### SEMESTER 2

- Processes and Stochastic Calculus
- Derivatives Pricing and Hedging
- Accounting and Corporate Finance
- Optimization and Computational Methods in Finance
- Actuarial Science
- Foreign Languages (French & English)
- Digital Skills Enhancement in Moderne Finance

### SEMESTER 3

- Portfolio Management
- Financial Econometrics
- Asset Liability Management
- Interest rates and cross-currency derivatives
- Quantitative Risk Management and Regulation
- Foreign languages (French & English)
- Cultural and Artistic Skills Development

### SEMESTER 4

- Power Skill for Employment
- Internship /End of Study Project

## # SELECTED FACULTY OF THE MASTER IN FINANCIAL ENGINEERING (ABS)

The faculty is made up of high-level finance research professors and senior executives experienced in financing techniques.

Nicole EL KAROUI : Interest Rates and Cross-currency derivatives

Youssef OUKNINE : Probability and Stochastic Calculation

Noureddine LEHDILI : Derivatives Pricing and Hedging

Nizar TOUZI : Computational methods in Finance

## # ADMISSIONS PROCESS & FEES OF THE MASTER IN FINANCIAL ENGINEERING (ABS) :

### SELECTION PROCESS OF THE MASTER IN FINANCIAL ENGINEERING (ABS) :

- Application Review
- Written Exam
- English Test
- Oral Interview

### ELIGIBILITY :

Candidates must hold a Bachelor's degree (BA) or equivalent (Bac+3) in applied mathematics, statistics, computer science, economics and/or finance. Given the nature of our Master's degree, basic knowledge of mathematics, probability, statistics, computer science (algorithms, programming) and databases is recommended. Candidates will be evaluated on the basis of their skills and motivation.

### SCHOLARSHIP :

In line with its civic commitment, UM6P, a meritocratic university, supports the brightest students through an appealing system of academic scholarships and financial aid grants.

### TUITION FEES OF THE MASTER IN FINANCIAL ENGINEERING (ABS) :

- Registration Fee: 5000 MAD
- Year 1: 75.000 MAD
- Year 2: 75.000 MAD

## # Contact Information

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