

FINANCIAL ENGINEERING

LANGUAGE:

English

PREREQUISITES:

Bachelor in business engineering. In particular, basic Courses in: Mathematics, Probability and Statistics, Econometrics, Finance

TEACHING METHODS:

Lectures, case studies, company visits, group and individual projects

EVALUATION METHODS:

Written exams, oral exams, case presentations, project presentation, case reports



CONTENT

This major aims at delivering top-quality courses offering both a sound theoretical basis as well as applied methods and tools to address topical questions of finance in a scientific way.

The theory will be illustrated with realistic examples and practiced on realistic cases via projects that will be handled in groups using professional softwares. This major also aims at bridging the gap between the university and the professional sector. Several specialists from the private sector (CEO/senior experts of banks/asset management firms), financial institutions (senior experts of European Commission), and internationally recognized professors will teach in this major. In addition, the students can take part to innovative initiative (at the Belgian level) such as the Bloomberg market concept® certificate and trainings in London at Bloomberg headquarters and in several financial institutions such as asset management firms and hedge funds.

**AIMS:**

Finance is becoming increasingly complex and relies more and more on advanced quantitative methods. Managers cannot afford to overlook this complexity any longer, neither can they naïvely rely on technical experts: they have to understand how to tackle this reality. The courses selected in this major precisely aim at preparing the students to face this challenge. The track is structured along three objectives: (i) equip the student with the necessary background allowing for a rigorous treatment of financial problems; (ii) propose to students an overview of the current applied finance-related issue; (iii) teach softwares as well as powerful techniques and numerical methods to solve real-world investment, pricing or risk-management problems.

5 MANDATORY COURSES

- Forecasting
- Derivatives Pricing
- Macro Finance
- Credit and interest rate risk
- Big data in finance

Acquired Skills:

Critical approach, team working, programming, Bloomberg Market Concepts®, scientific approach to problem solving

Career Opportunities:

National and international financial institutions such as insurance, banks, hedge funds, and central banks. In these institutions, the type of work could be related to quantitative aspect and in particular to Risk Management, Asset Management, Consultancy, Insurance, Banking, FinTech