

Università
della
Svizzera
italiana

Faculty
of
Economics

Master of Science in Banking and Finance

2017/18



Banking and Finance.

The Master in Banking and Finance is designed to provide graduates with the necessary tools and a solid preparation in banking. The program comprises of wide-ranging topics such as corporate banking and accounting, financial instruments, corporate governance, and quantitative methods. At the end of the program, the candidates will find themselves equipped with the necessary skills to understand financial markets and products from a banker's perspective. Lugano being the third financial marketplace in Switzerland provides an ideal venue to offer the best possible start for a successful career in banking or finance. The Master in Banking and Finance is coordinated by the Swiss Finance Institute, an initiative sponsored by the Swiss Bankers Association with the purpose of achieving international excellence in banking and finance education and research at Swiss universities.

Accredited by



Goals and contents

The Master programme stretches over two years and is structured to allow the students to personalize their study curricula according to their interests and educational backgrounds. It includes four semesters of lectures and seminars, and an internship.

Typically, in the first semester students attend the foundation courses in order to acquire the basics of finance, accounting and statistics. The second and third semesters are dedicated to core courses and electives. The final thesis should show the candidate's ability to integrate acquired knowledge in the advanced scientific analysis of a topic in banking and finance.

Language

This programme is entirely held in English. Applicants who are not native English speaker or whose first degree was not taught in English, must supply an internationally recognised certificate to demonstrate a C1 level on the Common European Framework of Reference for language learning (CEFR).

Student profile and admission requirements

Bachelor's degree granted by a recognised university in Economics or related disciplines. Candidates are required to be adequately prepared in the fields of economics and basic quantitative subjects. Applicants are encouraged (compulsory for applicants with a Bachelor obtained in extra EU country) to provide GRE/GMAT scores in support of their application. Further information for applicants graduating from a University of Applied Sciences is available online:

www.mbf.usi.ch/admission

Contacts

USI Università della Svizzera italiana
Study Advisory Service
+41 58 666 4795
studyadvisor@usi.ch

Awarded Degree

Master of Science in Economics, Major in Banking and Finance

Application Deadline

April 30th / June 30th depending on the nationality of the applicant.

Tuition fees per semester

Residents CHF 2'000.- / international CHF 4'000.-

Duration

4 semesters (2 years) - 120 ECTS

Scholarships

Fondazione per le Facoltà di Lugano

CHF 4'000.-

Contacts/information

www.mbf.usi.ch

studyadvisor@usi.ch

Study programme

Semester	Category	Course	ECTS
First semester	Foundation Courses 30.0	Accounting	6.0
		Capital Markets*	6.0
		Corporate Finance*	6.0
		Introduction to Statistics	6.0
		Quantitative Methods in Finance	6.0
Second semester	Core Courses 30.0	Corporate Banking*	6.0
		Derivatives*	6.0
		Financial Intermediation*	6.0
		Risk Management*	6.0
		Financial Statement Analysis*	3.0
		Introductory Corporate Governance*	3.0
		Third semester	Electives
		Advanced Derivatives*	3.0
		Financial Modelling*	6.0
		Financial Econometrics*	6.0
		Fixed Income*	6.0
		Global Investment Research*	3.0
		Structured Products	6.0
Fourth semester	Electives	Advanced Corporate Finance*	6.0
		Corporate Social Responsibility and Socially Responsible Investment	3.0
		Numerical Methods*	6.0
		International Fiscal System	3.0
		Law and Practice of International Capital Markets	3.0
		Private Banking	6.0
		Trading and Financial Markets	3.0
		Seminar on Private Banking	3.0
		Banking Strategies	3.0
		Introduction to Institutions and Economics of Pensions and Aging	3.0
		Pension Economics and Finance	3.0
		Internship	6.0
		Thesis**	18.0
		Field Project (optional)**	12.0

Please be aware that slight changes in the study programme may occur.

To obtain the SFI accreditation, students must achieve at least half of the overall ECTS from courses marked with an *.

** Students can choose to either do a thesis or participate in a Field Project.

First semester

Foundation Courses

Accounting

The Accounting course consists of three parts:

First part

Is a quick review of basic accounting concepts and rules. It is intended to uniform students' backgrounds and languages inside the financial accounting field of studies.

Second part

Is focused on the evaluation of main financial statements items according to IAS (International Accounting Standards) / IFRS (International Financial Reporting Standards). The aim of this part is to make students understand the general principles of IAS/IFRS, the structure of Financial Statements (IAS/IFRS compliant) and the recognition and assessment rules provided by the same accounting principles.

Third part

Is focused on financial statements analysis for both individual and consolidated financial statements, in particular on:

- income statement and balance sheet formats;
- main liquidity, solvency and profitability ratios;
- cash flow statement;
- basic group (or consolidation) accounting.

The aim of the third part is to enable students to evaluate the whole economic-financial position of complex organizations through the systematic use of the information included in the 'public' financial statements. All three parts are taught through theoretical lessons, cases and practical exercises. At the end of the course, students are able to interpret and analyse financial statements and assess the quality of accounting disclosure.

Capital Markets

The course assumes some knowledge of basic economic concepts such as: prices, returns, demand, and supply. Also, one needs to be familiar with the mathematical concept of maximization /minimization of a function. Some knowledge of statistics is required too. In particular, you will need to know about mean, variance, covariance, and correlation of random variables. Also, we will refer extensively to the normal probability distribution. All these concepts will be reviewed during the practical sessions. The course is an introduction to the institutions and economic functioning of capital markets. First, the course provides a general

description of the basic features of these markets: the asset classes, the trading mechanisms, and the main actors. Then, it deals with individual portfolio choice. Next, individual portfolios are aggregated to derive the main concepts of equilibrium in equity markets (CAPM, APT). These concepts are used to introduce the notion of market efficiency. The empirical evidence on market efficiency is discussed and analyzed from the point of view of classical and alternative theories of capital markets, such as Behavioral Finance. As a new chapter, the course deals with fixed income securities (prices, yields, the term structure, and bond portfolios management). The course then examines the tools that financial analysts use to make investment decisions (macroeconomic and equity analysis). Finally, all the notions developed during the course are used to study applied portfolio management. In this context, the tools to analyze the performance of different types of investment funds are introduced.

Corporate Finance

This course teaches the logic underlying the firm's financial decisions: investment, financing, and payout policies. The main themes will be:

- What is corporate finance?
- The concept of value
- The discounted cash-flow (DCF) method in theory and practice
- Capital budgeting decisions
- Market efficiency and financial policy
- Financial structure and the Modigliani-Miller theorem
- Payout policies: dividends and share repurchases.

Introduction to Statistics

The aim of this course is to introduce to probability theory, descriptive statistics and linear regression, both at a univariate and multivariate level, with applications focusing on finance. The free-ware statistical software "R" (free version of the commercial software "Splus", one of the main software used for statistical purposes) will be introduced. The software can be downloaded from the website: www.r-project.org. Data, imported from an Excel spreadsheet into "R", will be analysed. In particular the statistical instruments needed to visualize and summarize data collected on two or more samples and related to two or more characters (both qualitative and quantitative) will be provided.

Quantitative Methods in Finance

This course will introduce the methods for inferential statistics with applications focusing on finance. The free-ware statistical software "R" (free version of the commercial software "Splus", one of the main software used for statistical purposes) will be used to perform hypothesis tests and construct confidence intervals building on the knowledge of the software acquired in the Introduction to Statistics course which is a prerequisite of the course.

Second semester

Core Courses

Corporate Banking

This course presents state-of-the art concepts of finance theory and applies them to practical corporate financing issues. The theoretical part of the course will briefly review standard corporate financing theory, then move on to the concepts of asymmetric information and agency costs, and how they play into the practical issue of raising long-term funds for a company. The applied part of the course will use case studies to bring together the major corporate finance concepts studied during the Master's programme.

Derivatives

Programme:

- 1 Introduction.
- 2 Mechanics of Futures Markets.
- 3 Hedging Strategies Using Futures.
- 4 Determination of Forward and Futures Prices.
- 5 Mechanics of Options Markets.
- 6 Properties of Stock Options.
- 7 Trading Strategies Involving Options.
- 8 Binomial Trees.
- 9 Wiener Processes and Ito's Lemma.
- 10 The Black-Scholes-Merton Model.
- 11 Greek Letters.
- 12 Interest Rates.
- 13 Interest Rate Futures.
- 14 Swaps.

Financial Intermediation

The course aims at describing the structure of financial intermediaries, and in particular banks. We begin by defining the various types of financial intermediaries, their typical balance sheet and risks they face. We next turn to an analysis of models for quantifying credit risk. We outline the various approaches that are used by banks to quantify and control the risk of their loan portfolios. We also discuss how to manage these risks using credit derivatives and securitization, and their pricing. We then describe methods to quantify and manage interest rate risk, and finally present the Basel regulatory framework.

Risk Management

The course aims at providing the main tools for measuring and managing financial risks. We begin by defining the various types of financial risks and stress the need for their management through the analysis of losses and defaults of financial institutions in the recent past. We next turn to the computation of Value-at-Risk measures for portfolios of equity, bond, and option positions. We discuss the estimation of the main inputs surrounding the calculation of VaR, and elaborate on models for time-varying volatility and correlations. We cover both local-valuation models based on derivatives, as well as full-valuation models such as historical simulation and Monte Carlo methods. We also discuss alternative metrics to VaR and Extreme Value Theory. Finally, we examine models for liquidity and operational risk management.

Financial Statement Analysis

This course is about the analysis of financial information, particularly the financial statements of companies, for making decisions to invest in businesses. The primary focus is on equity (share) valuation. The methods of fundamental analysis will be examined in detail and applied in involving multinational listed companies. Topics include models of shareholder value, a comparison of accrual accounting and discounted cash flow approaches to valuation, the analysis of profitability, growth and valuation generation in a firm, diagnosing accounting quality, forecasting earnings and cash flows, pro-forma analysis for strategy and planning, and the determination of price/earnings and market-to-book ratios. The course is of interest to those contemplating careers in investment banking (particularly in equity research), security analysis, consulting, public accounting, and corporate finance.

Introductory Corporate Governance

When the internet bubble burst and when numerous accounting scandals (e.g., WorldCom, Enron, Parmalat, etc.) came to light, the markets crashed and countries around the world issued new or revised corporate governance codes, including the U.S. (e.g., Sarbanes-Oxley Act). This module deals with one of the most important financial issues of our times: corporate governance. Upon completion of this module, students will know and understand the key issues and players involved in corporate governance. Students will also gain an appreciation of how corporate governance issues are complicated. Finally, students will also be exposed to the latest global issues with regard to corporate governance.

Third semester

Electives

Advanced Derivatives

This second-year master course covers advanced models of derivative securities. We will alternate lectures and exercise sessions.

- Finite Differences;
- Simulation Methods;
- Exotic Options;
- Advanced numerical methods;
- The standard and the LIBOR Market Model;
- Credit risk and credit derivatives;
- Mishaps in derivative markets.

Corporate Governance (institutional aspects)

This course is meant to cover the major areas of corporate governance, including an overview of key corporate governance matters; the duties and responsibilities of directors, including non-executives; the evolution of corporate law; executive pay; earnings management; the significance of institutional investors for corporate governance; the legal control of insiders; and takeover bids. An important goal will be to familiarize students with the economic environment, legal rules and challenges of corporate governance reform. Emphasis will be given to the contemporary debates over the failure of boards to protect the interests of minority shareholders, the limitations of executive compensation policies, and the declining importance of the market for corporate control to restrain managers. The course will encourage students to use various analytical tools to deal with key governance issues that face managers, directors, and investors.

Financial Econometrics

Building on the material acquired in a basic introductory course in econometrics, the aim of this course is to familiarize the student with some of the most popular econometric methods encountered in applied work in finance. After a brief review of the classical linear model, three major topics are considered:

- The Linear Factor Pricing Model;
- Likelihood Methods, with an application to ARCH and GARCH models;
- The Generalized Method of Moments.

Emphasis is placed on the basic understanding of each approach, together with computer applications on real data.

Financial Modelling

The purpose of the course is to provide students with an applied view of the theories that have been encountered in the Capital Markets course. This course is, therefore, prerequisite for Financial Modeling. You will do extensive use of Excel to develop applications within domains such as the Markowitz Model, the CAPM, Estimation of the Variance-Covariance Matrix of Returns, Equity Analysis, the Treynor-Black Model, the Black-Litterman Approach, Long-Short Portfolios, Transaction Costs, and Performance Evaluation.

Fixed Income

This course provides a grounding in recent developments in fixed income security pricing, hedging and portfolio management that insists on both conceptual evaluation methods and the many details arising in market practice.

By the end of the course, the students will be familiar with a variety of topics, including (i) the institutions, organization and conduct of the fixed income markets; (ii) the basic techniques to analyze and hedge fixed income products, such as "curve fitting", "bootstrapping", duration, convexity, duration-based hedging and asset-liability management; (iii) the analysis of the "destabilizing" effects related to the use of certain derivatives written on fixed income instruments; (iv) the forces, or "factors", driving the variation in the entire spectrum of interest rates at different maturities; (v) the main evaluation tools, which can be applied to evaluate a wide range of products (trees, no arbitrage trees, calibration and continuous time models); (vi) the main fixed income products such as government bonds, corporate bonds (convertible, callable, puttable), and their evaluation; (vii) plain vanilla interest rate derivatives (interest rate swaps, caps, floors, swaptions, etc.); (viii) the process of securitization and the resulting structured products, with particular reference to collateralized debt obligations, N-th to default, and mortgage-based securities.

Global Investment Research

The goal of the CFA Institute Research Challenge is to gather together university students, investment industry professionals, and representatives from a publicly traded company for local, regional, and global competition. This annual educational initiative promotes best practices in equity research through mentoring and intensive training in company analysis and presentation skills. The CFA Institute Research Challenge is composed of university teams of 3-5 students who are mentored by industry professionals in writing an equity research report on a publicly traded company. The teams then present their findings to a panel of experts. Participants interested in becoming an equity analyst are highly encouraged to participate.

Structured Products

In an extensive interpretation, we may speak of structured products as soon as we combine two or more elementary financial products into a new structure displaying original characteristics. Structured products represented one of the most rapidly growing areas of finance in the last two decades, reaching a nearly unlimited variety of forms. The goal of this course is to provide an overview about the process of developing, marketing, and managing structured products. To this purpose, the course will analyze a certain number of popular structured products, like: autocallable notes and other barrier reverse convertibles, principal protected notes, participation certificates, convertible and callable bonds, mortgage-backed securities, and CDOs.

In addition to theoretical lectures, the course will include workshops to facilitate also a practical understanding of its content.

Fourth semester

Electives

Advanced Corporate Finance

This course is designed to introduce students to both the theory and application of fundamental valuation in various corporate contexts. The course builds upon and reinforces the theoretical and institutional framework presented in core courses. The course uses a mix of lectures and practical real-life cases. The course will cover and practice valuation-related concepts related to:

- Mergers and Acquisitions
- Restructurings
- Initial Public Offerings (IPOs)
- Leverage Buyouts (LBOs)
- Security Issues
- Large-scale investments
- Early-stage finance (venture capital)

Corporate Social Responsibility and Socially Responsible Investment

Corporations – and in this master's course particularly corporations from the financial sector – are challenged increasingly with the question of their social responsibilities regarding society and the environment. In addition to legal compliance a corporation's social responsibilities have two dimensions: reducing harm previously produced through externalities of the corporation's activities. And secondly, CSR as business opportunity for developing new products, reinventing the corporation's mission or political contribution to transnational agendas such as the UN's Sustainable Development Goals. In the financial sector not only CSR is of increasing relevance, but as a consequence also the development of financial products, that are in line with social responsibility (also sustainable or responsible finance). This is called socially responsible investment (SRI) or mission or impact investment covering secular ethical norms as well as religiously framed normative claims as in 'Islamic finance' for example. The course starts with a general introduction in CSR with a special focus on communication covering issues as main theories of CSR, the temptation of misleading CSR communication (aka Greenwashing) and as a core topic reporting and disclosure of CSR data. A second chapter of the course sheds light more specifically on sustainable finance and socially responsible investment providing an overview of the existing concepts. A core question is the possible conflict between a financial corporation's fiduciary duty and the recognition of normative demands such as CSR or sustainably, partly in breach with a corporation's fiduciary duty. The course builds on case studies and research on institu-

tional investors, sovereign wealth funds and here particularly their ethical investment guidelines as communication tools to internally and externally promote sustainable finance. Furthermore the existing soft-law standards and norms in the industry are discussed to guide companies the way into the world of CSR and SRI.

Numerical Methods

This course develops basic numerical quantitative methods. We put emphasis on understanding the theoretical underpinnings, but in particular also the numerical implementation. Basis for our exercises will be common problems in economics and finance. After taking the course, students will be able to identify and implement solutions to many applied problems in R. Starting from a quick review of programming and algorithms, we will investigate interpolation, numerical integration (including Monte Carlo methods), finite differences, and ordinary differential equations. We will also develop more advanced concepts, including Fourier series, and the Fourier transform, as well as convolution, filtering and sampling.

International Fiscal System

This course is about the ways in which tax law applies to transactions in the international context. The objective of this course is to introduce students to the EC rules relating to all forms of taxation as well as to the rules that operate at an international or supra-national level. In addition to the analysis of the features found in double tax conventions and in the law of the European Union there will be also an examination of financial instruments. This part of the course focuses on the models of taxation of financial income (including derivatives, hybrid instruments, investment funds etc.) and explores the treatment of financial income under tax treaties patterned upon the OECD Model Convention and European direct tax directives.

Law and Practice of International Capital Markets

This course examines the main rules and laws of international financial markets based: the course covers the issue of Eurobonds and retail financial instruments with a view to the relevant commercial and regulatory background and the risks and protections available to participants in these markets. The course will also examine the EU's regulation of the capital markets, considering the harmonized regulatory regime which applies to capital market actors across the Member States and which supports the integrated market, including the retail investor protection and the prospectus and disclosure regime.

Private Banking

The course deals with the topic of the role of financial institutions in the market for asset management services, with special emphasis on the business area known as private banking. This term traditionally identifies the supply of portfolio management and other services (both of financial and non-financial nature) to individual customers belonging to the affluent segment. The main focus of the course is on the content of the service, on the nature and management problems of the suppliers and on the competi-

tive structure of the market. In other words, emphasis is placed more on the strategic and organizational issues of providing private banking services rather than on the techniques and models for managing a portfolio of securities. Teaching methods are a mixture of traditional lectures, case discussions and encounters with experts working in private banking.

Trading and Financial Markets

The course discusses the functioning of financial markets and trading and price determination in these markets. Topics covered include order submission and trading strategies, market structure and quality, transaction costs and liquidity, bubbles and crashes, price formation and technical analysis. The lectures will draw on academic and practitioner research as well as information from markets. The course is technical at some points but I will emphasize intuition and practical applications.

Seminar on Private Banking

The goal of the seminar is to reflect on the changing landscape of the wealth management industry examining the challenges, opportunities and innovative trends that characterize Swiss wealth management on the backdrop of a rapidly changing global financial services industry. The seminar adopts a holistic, cross-disciplinary perspective, adopting the point of view of the relationship manager and examining the changing role of this professional figure and the unique blend of competencies needed to ensure its viability in the current competitive landscape of wealth management services. From this perspective the seminar will consider the fundamental financial, legal and managerial aspects of the profession, paying attention at the same time to relationship management and communication strategy, as well as to the psychological aspects of decisions in wealth management. The course format consists of a series of presentations by industry professionals and researchers followed by a question-answer session with the participation of the students. Students will be evaluated on the basis of their attendance active participation to the seminar's discussions. Furthermore, students will be asked to prepare an oral presentation (based on a literature review or on a case study) on one of the topics discussed in the seminar. Oral presentations will be held during the summer exam session and will be accompanied by a slideshow, a 1,000 word abstract, and a bibliography.

Banking Strategies

The course introduces the attendees in the definition of a Strategy for a Financial Institution, starting from client's Segments, going through products and services and different Business Areas: Retail Banking, Private Banking, Commercial Banking, Investment Banking, and Asset Management. In elaborating a strategy, it would be necessary to define, first of all, the objectives, then a SWOT Analysis of the current positioning of the Company in the reference Market, in order to be able to offer a Value Proposition and to adopt a Delivery Model. To be efficient and consistent in implementing a new strategy,

it also means to comply with rules and regulations, in particular applying the standards in term of capital, Risk Management and proper organization. During the course we will focus particularly on the current market conditions, on the difficulties affecting the banking institutions, as well as on the important structural changes known by the financial industry. Some "Case Study" will be also analyzed during the lessons, leaning on more than 20 years experiences accumulated by the lectures.

Pension Economics and Finance

This course provides an introduction to the public pension systems, a detailed analysis of pension economics and finance, and discusses the future challenges faced by the pension systems in a political economic contest. The course is worth 3 credits, and runs from November 5th to December 17th. It is structured around regular lectures by professors Francesco Franzoni (FF) and Vincenzo Galasso (VG), and guest lectures by prominent experts in the field.

- Economics of Pensions
 - Corporate pensions
 - Pensions, Aggregate Savings, and Economic Growth
 - Pensions and Labor Market. Lump of Labor Fallacy
 - Pension, Gender and Family
 - Behavioral Pension Economics

- Pension Design
 - Pension Funding: PAYG vs. Fully Funded
 - Politics of pension reforms under aging

- Pension Finance
 - Portfolio Formation and Risk Diversification: review.
 - The investment process; Governance of the firm; Stages in making the asset allocation decision (data analysis, relevant drivers, targets, etc.); Practical implementation of the asset allocation decision (security selection, choice of counterparties, order execution); Performance Evaluation. Guest speaker
 - CAPM, Beta, and Alpha.
 - Active Portfolio Management. Case study in Duration Steering; Asset and Liability Management; Impact of the evolution of the macroeconomic scenario on your allocation (Sovereign debt crisis, Exchange rate fluctuations, etc.)

- Guest speaker
 - Portfolio Performance Evaluation: Concluding remarks.

Introduction to Institutions and Economics of Pension and Aging:

This course explains the main features of public pension systems, provides an introduction to pension economics, describes the demographic dynamics, in particular to the aging process, and discusses the future challenges faced by the pension systems. The course is worth 3 credits, and runs from September 17th to October 29th, with the addition of a final symposium held on December 3rd. It is structured around regular lectures (by prof. Vincenzo Galasso), guest lectures by prominent experts in the field, and a final symposium. The course is followed by a subsequent course denominated Pension Economics and Finance (worth 3 additional credits), which begins on November 5th. Students interested in the topic are strongly advised to take both courses.

- Pensions and Institutions
 - Welfare States and Pension Systems: an overview
 - Introduction to Pension Systems: Goals, historical aspects and main features
 - Pension policy in Switzerland: structure and organization; AVS funds, allocation of activities and risks. Guest speaker
- Microeconomic of Pensions
 - Savings individual decisions and lifecycle models
 - CEPRA Lecture on Retirement Invited Speaker
 - Retirement individual decisions and labour market choices
 - Intergenerational Risk Share and Redistribution
 - Demographics Dynamics and Public Policies
 - Aging, demographic transition and pension systems
 - The Political economy of pensions
 - Pension Reforms
 - Future Challenges for pension systems in aging societies.

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