M6: Investments

General Information

Module Code	W.MSCBF_INV02.08
Programme	Master of Science / Banking and Finance
Type of Module	Core module in focus programme
Level of Module	Specialisation
ECTS Credits / Workload	6 ECTS Credits (180 hours)

Module Dependencies

Pre-requisites	Students have a bachelor's degree in Business Administration with a specialization in Banking and Finance. They have a basic knowledge of the topics of the different courses.
Follow-up modules	Module 7: Alternative Investments

Module Aims

Conventional asset classes are still in the center of consideration when it comes to investment decisions. This module covers the main investment asset classes as well as non-conventional asset classes. Student gain an understanding of a variety of asset classes and are able to analyse the main factors of investment decisions.

Submodule 1: Behavioural Finance

Submodule code	BF0
ECTS Credits / Workload	2 ECTS Credits (60 hours)

Learning Outcome 1

We will first repeat the foundations of modern economic theory and reveal its inability to account for various pattern of human behavior. Afterwards, we will discuss the Nobel Prize winning prospect theory, the most famous alternative to classical economic models. Next, we will enrich these insights with necessary foundations from psychology and discuss so-called heuristics, or mental shortcuts that investors use to simplify the decision-making process as well as their implications for financial markets. Finally, we will implement this knowledge to practice and analyze risk profiles of digital investment tools and discuss their deficiencies.

	Importance	Relevant NQF-Descriptors
Subject knowledge and skills: Students: i) understand the modern economic theory and its deficiencies ii) understand the prospect theory and its implications for financial decision making iii) understand the main heuristics and their implications for financial decision making iv) understand the main challenges to market efficiency as well as the most important anomalies and stock market puzzles	high	knowledge; judgement
Methodology: Students are able to: i) compare the predictions of the modern economic theory and the prospect theory both theoretically as well as in practical context ii) implement the discussed methods/concepts/patterns of behavioural finance in practice	medium	application; judgement; learning autonomy

Content Outline

Block 1
Dr. Tatiana Agnesens
Rational Choice under Certainty

Rational Choice under Uncertainty
Expected Utility Theory

Block 2
Dr. Tatiana Agnesens
Prospect Theory
Framing
Mental Accounting

Block 3
Dr. Tatiana Agnesens
Emotional Foundations
Two systems
Individual Investors and Force of Emotions

Block 4
Dr. Tatiana Agnesens
Presentations: Heuristics and their Implications for Financial Decision-making

Block 5
Dr. Tatiana Agnesens
Presentations: Challenges to Market Efficiency & Anomalies and Stock Market Puzzles

Block 6
Dr. Tatiana Agnesens
Implementing behavioral finance in practice: risk profiling

Literature
Ackert, L., & Deaves, R. (2009). *Behavioral finance: Psychology, decision-making, and markets.*
Angner, E. (2016). *A course in Behavioral Economics.*
Bachmann, K. K., De Giorgi, E. G., & Hens, T. (2018). *Behavioral finance for private banking: From the art of advice to the science of advice.*
Kahneman, D. (2017). *Thinking, fast and slow.*

Teaching and Learning Methods

Contact Hours	exercises; lecture; presentations; discussion; group work
Directed Study	group work; compulsory reading

Workload

Contact Hours	24 lessons / 18 hours (30%)
Directed Study	40 lessons / 30 hours (50%)
Private Study	12 hours (20%)

Assignments and Assessments

Assessment Type	Quantity	Weight	Form	Evaluation Type	Time
Written examination	60 minutes	60%	closed book	grades	during exam weeks
Oral group assignment		40%	case study	grades	during semester

Submodule 2: Empirical Asset Pricing

Submodule code	EAP
ECTS Credits / Workload	2 ECTS Credits (60 hours)

Learning Outcome 1

This course is aimed at Master students with a an interest in applying quantitative methods to study financial markets. All empirical analysis is suggested to be performed in the Python (or R) programming language.

	Importance	Relevant NQF-Descriptors
Subject knowledge and skills: Students get a comprehensive knowledge of mean-variance portfolio theory, the CAPM and its extensions. They know how to combine financial theory and econometric methods to study financial markets. Students will be able to critically evaluate the	high	knowledge; judgement

theory and apply econometric techniques to empirically test financial models.

Methodology: Students are able to apply econometric methods to test financial models and judge the implications of the results for practice applications	medium	knowledge; application; judgement

Content Outline

Lecturers:
Jürg Fausch, Moreno Frigg

Topics:
Mean-Variance Analysis (Chapter 2)
Capital Asset Pricing Model (Chapter 3.1)
Empirical Tests of the CAPM - Methods (Chapter 3.3)
CAPM Anomalies and Multifactor Models (Chapter 3.2)

These chapters refer to the textbook of John Y. Campbell, Financial Decisions and Markets, Princeton University Press, 2018.

Assignments and Assessment:
Written examination, 60 minutes,
Form: closed book, cheat sheet 1 DIN A4 page handwritten on both sides
2 Assignments to be solved in groups
Weight: If G_Exam > (0.5G_Ass1 + 0.5G_Ass2) the grade for the course (G) is solely based on the exam (G=G_Exam), otherwise the grade is determined as
G=0.6 (G_{Exam) + 0.4 (0.5G_Ass1 + 0.5G_Ass2).
Evaluation type: grade
Time: during exam weeks

Teaching and Learning Methods

Contact Hours	presentations; coaching; group work
Directed Study	individual work

Workload

Contact Hours	24 lessons / 18 hours (30%)
Directed Study	40 lessons / 30 hours (50%)
Private Study	12 hours (20%)

Assignments and Assessments

Assessment Type	Quantity	Weight	Form	Evaluation Type	Time
Written examination	60 minutes	60%	closed book	grades	during exam weeks
Written group assignment		40%		grades	during semester

Submodule 3: Fixed Income

Submodule code	FIM
ECTS Credits / Workload	2 ECTS Credits (60 hours)

Learning Outcome 1

The curriculum of this course is organized into CFA-linked study sessions. Each study session contains pre-readings and presence lessons including practical transfer and exercises to deepen the knowledge gained. Besides an overview of the today's fixed-income securities markets, the focus is on the structure of bond cash flows, the calculation of the time value of money using different methods and models, the valuation of contingency provisions and covenants as well as bonds with embedded options, the measurement of credit risk including the application of credit models and the examination of yield spreads, the analysis of maturity structure of interest rates, the seniority of the ranking and recovery rates, credit rating agencies, (il-)liquidity risk, spot and forward rates, the swap curve, the theories of the term structure of interest rates, as well as a framework for fixed-income portfolio management (relative vs. absolute and national vs. international bond strategies).

	Importance	Relevant NQF-Descriptors
Subject knowledge and skills: Students are able to independently perform a comprehensive fixed-income analysis and valuation, stringently combining the various methods and models they have learned. Students will be able to make trading recommendations based on theory and practice, both at the level of individual securities and in a portfolio context.	high	knowledge; judgement

Methodology: Students learn about different theories, methods and valuation models for fixed-income instruments and can model factors influencing the price of a bond and derive its correct price.	medium	application; judgement

Content Outline

Session 1:
CFA Chapter I Defining Elements, II Issuance, Trading, and Funding, III Valuation

Session 2:
CFA Chapter IV Risk and Return, V Fundamentals of Credit Analysis

Session 3:
CFA Chapter VI Credit Analysis Models, VII Introduction to Asset-Backed Securities (light), VIII The Arbitrage-Free Valuation Framework (light)

Session 4:
CFA Chapter IX bonds with embedded options, X The term structure and interest rate dynamics

Session 5:
CFA Chapter XI Fixed-Income Portfolio Mgmt – Part I, XII Fixed-Income Portfolio Mgmt – Part II

Session 6:
Chapter XIII Relative-Value Methodologies for Global Credit Bond Portfolio Mgmt, Q&A

The sessions are taught by Dr. Philippe Oster.

Reading: "FIXED INCOME ANALYSIS" published by John Wiley & Sons, Inc., Hoboken, New Jersey (ISBN 978-1-118-99949-3 (Hardcover), ISBN 978-1-119-02979-3 (ePDF), ISBN 978-1-119-02976-2 (ePub)

Teaching and Learning Methods

Contact Hours	exercises; lecture; discussion
Directed Study	individual work

Workload

Contact Hours	24 lessons / 18 hours (30%)
Directed Study	40 lessons / 30 hours (50%)
Private Study	12 hours (20%)

Assignments and Assessments

Assessment Type	Quantity	Weight %	Form	Evaluation Type	Time
Written examination	60 minutes	100%	closed book	grades	during exam weeks

Submodule 4: Pensionskassen Management (taught in German)

Submodule code PK0
ECTS Credits / Workload 2 ECTS Credits (60 hours)

Learning Outcome 1

Im Kurs werden die theoretischen Grundlagen sowie die aktuellen Umsetzungsvarianten der Vermögensverwaltung von Schweizer Pensionskassen behandelt.

	Importance	Relevant NQF-Descriptors
Subject knowledge and skills: Die Studenten i)v erstehen die Konstruktion traditioneller und alternativer Indizes sowie deren Einsatz im praktischen Portfolio Management; ii) können theoretische Konzepte und deren Einsatz im Anlageprozess von Pensionskassen identifizieren und einschätzen	high	knowledge; application
Methodology: Die Studenten können den Anlageprozess von Vorsorgeeinrichtungen beurteilen	medium	application; judgement

Content Outline

Block 1: Einführung Anlageprozess von PKs
Thema: Portfoliokonstruktion

Block 2: Alternatives (smartes) Indexieren
Thema: Factor-basiertes investieren

Block 3: Indirekte Umsetzung
Thema: Fund Distribution

Block 4: Aktives Fund Management
Thema: Anlageumsetzung bei der Publica

Block 5: Investment Management von PKs (I): Performance, Kosten, Grösse, Strategien
Thema: Manager Selektion

Block 6: Investment Management von PKs (II): Performance Messung, Investment Controlling
Thema: Investment Controlling1

Teaching and Learning Methods

Contact Hours	seminar; discussion; group work
Directed Study	individual work

Workload

Contact Hours	24 lessons / 18 hours (30%)
Directed Study	40 lessons / 30 hours (50%)
Private Study	12 hours (20%)

Assignments and Assessments

Assessment Type	Quantity	Weight	Form	Evaluation Type	Time
Written examination	60 minutes	80%	closed book	grades	during exam weeks
Individual written assignment		20%	report	grades	during semester

Submodule 5: Equity Investments

Submodule code	EI0
ECTS Credits / Workload	2 ECTS Credits (60 hours)

Learning Outcome 1

The course equity investments covers the most important models and methods for equity investments and valuations.

	Importance	Relevant NQF-Descriptors
Subject knowledge and skills: The students are able to independently perform a comprehensive analysis of equity securities combining different valuation methods, to derive and explain investment recommendations.	high	knowledge; judgement; learning autonomy
Methodology: The students get to know different kinds of equity securities, learn to apply different valuation models and understand their properties. They learn how to choose between different models and can assess and model the required inputs.	medium	knowledge; application; judgement

Content Outline

The course is taught by Dr. Peter Kaste. It consists of six sessions, covering the following topics:

1. Overview of equity securities
2. The purpose of equity valuation
3. A framework for company valuation
4. Industry analysis
5. Competitive strategy
6. Financial statement analysis
7. Equity valuation models
7a) Present value models

7b) Residual income models
7c) Multiplier models
7d) Asset-based valuation
8. Choice of valuation model
9. Estimation of input parameters

Reading: Jerald E. Pinto, et. al., "Equity Asset Valuation", 4th edition, CFA Insitute, published by John Wiley & Sons Inc., (2020).

Teaching and Learning Methods

Contact Hours	exercises; lecture; discussion; case studies
Directed Study	individual work

Workload

Contact Hours	24 lessons / 18 hours (30%)
Directed Study	40 lessons / 30 hours (50%)
Private Study	12 hours (20%)

Assignments and Assessments

Assessment Type	Quantity	Weight	Form	Evaluation Type	Time
Written examination	60 minutes	100%	closed book	grades	during exam weeks

Submodule 6: Agent-based models of real estate and financial markets

Submodule code ABM
ECTS Credits / Workload 2 ECTS Credits (60 hours)

Learning Outcome 1

This seminar addresses the use of agent-based models for real estate and financial markets. The practical research work leads to an empirical MS Excel/Visual Basic model of financial instruments like stocks, interest rate or exchange rates. The practical development process allows to understand the potential and limits of financial market models.

	Importance	Relevant NQF-Descriptors
Subject knowledge and skills: Students are able to develop an ABM for forecasting and simulating real financial markets.	high	knowledge; application
Methodology: Students know the possibilities and limitations of financial markets predictions in general and with ABM.	medium	knowledge; judgement

Content Outline

Lecturer:
Dr. Thomas Ankenbrand

Programme:
- Introduction to agent-based modelling
- Fundamentals of real estate and financials market modelling
- Introduction to development framework in MS Excel and Visual Basic
- Optimization and over-fitting
- Development of empirical models
- Commercialization of models
- Scenario-analysis and simulation

Readings will be announced at the beginning of the seminar.

Teaching and Learning Methods

Contact Hours	seminar; exercises; lecture; case studies
Directed Study	group work

Workload

Contact Hours	24 lessons / 18 hours (30%)
Directed Study	24 lessons / 18 hours (30%)
Private Study	24 hours (40%)

Assignments and Assessments

Assessment Type	Quantity	Weight	Form	Evaluation Type	Time
Individual oral assignment		50%		grades	during semester
Individual written assignment		50%		grades	during semester

Submodule 7: Sustainable Investments

Submodule code	SI
ECTS Credits / Workload	2 ECTS Credits (60 hours)

Learning Outcome 1

Sustainable investments are an investment style that integrates non-financial (e.g., ecological, societal) criteria when selecting assets (e.g., stocks, bonds) and constructing portfolios. Investing in line with ESG-(Environment, Social, Governance)-criteria requires an expertise that goes beyond conventional investment wisdom and contains elements of a transdisciplinary approach to finance. The expected result of sustainable investments are improved risk-adjusted returns and/or a positive impact on society and the environment. The goal of this course is to understand and reflect key elements of sustainable investments and how they are implemented by asset managers and banks.

	Importance	Relevant NQF-Descriptors
Subject knowledge and skills: Students are able to describe and critically reflect theory and application of sustainable investments.	high	knowledge; application; judgement
Problem-solving: In this course students will acquire the competency to understand and evaluate the key strategies and processes of sustainable investments. We will explore sustainable investments from different perspectives, e.g., from the point of an institutional or private investor, of an investment professional/portfolio manager and of a client advisor or a sales/marketing manager.	medium	knowledge; judgement
Methodology: Students reflect key elements of conventional vs. sustainable investment processes and their pros/cons. Case studies and student presentations will be integrated into the course.	medium	knowledge; judgement

Content Outline

Lecturer: Prof. Dr. Manfred Stüttgen

Block 1 and 2. Understanding sustainable investments
- Strategies and principles of sustainable investments (ESG Strategies)
- Case study Swiss National Bank (SNB)

Block 3. Investor motives and ESG-value proposition
- Investor types. Investor motives for pension funds, insurance firms, foundations and private investors
- Value proposition of ESG-(Environment-, Social- and Governance)-Investments

Block 4. Managing sustainable investments
- Risk and Return
- Investment reporting and „double bottom line“. Carbon footprint, portfolio footprint
- ESG-Ratings, e.g., Morningstar Globes and MSCI ESG Research

Block 5. Theme-based investments
- Theme-based investments, e.g., water, energy, environment, religion
- Investments for development, microfinance, real estate, impact investments, and sustainable bonds
- Green bonds, social bonds, sustainability-linked bonds and ESG-screening of issuers

Block 6. Sustainable Funds: Product Offering and Distribution
- The landscape of sustainable funds in Switzerland, including real estate funds
- Comparing sustainable funds: benchmarks, costs and performance
- Criteria for fund selection and fund manager selection

Grading: Please note that the participation in class is graded (contribution to discussions, questions etc.)

Teaching and Learning Methods

Contact Hours	seminar; lecture; presentations; case studies
Directed Study	individual work; group work; compulsory reading

Workload

Contact Hours	24 lessons / 18 hours (30%)
Directed Study	40 lessons / 30 hours (50%)
Private Study	12 hours (20%)

Assignments and Assessments

Assessment Type	Quantity	Weight	Form	Evaluation Type	Time
Individual written assignment		60%	report	grades	during semester
Oral group assignment	20 minutes	40%	presentation	grades	during semester

Submodule 8: International Topics in Real Estate

Submodule code	IT0
ECTS Credits / Workload	2 ECTS Credits (60 hours)

Learning Outcome 1

Students can analyse and evaluate the effects of different megatrends on real estate and real estate markets. In addition, they obtain a profound knowledge of the European, the Asian and the US real estate market and can evaluate risks and opportunities. The course is part of the elective "Investments".

Importance	Relevant NQF-Descriptors

Content Outline

During the course, international trends in the real estate industry are highlighted and evaluated from different perspectives. Hereby, selected international investment markets are covered and a critical discussion of selected international investment strategies takes place (e.g. in Asia, the US and Europe). Besides the professors, several renowned practitioners will present insights into real cases. The aim of the course is that students are able to analyze different markets, to select appropriate investment vehicles and to undertake targeted investment decisions. The course is highly recommended for students of the MScRE-programme.

Written group assignment (60%) and group presentation (40%)

The course is taught in English.

Teaching and Learning Methods

Contact Hours	
Directed Study	

Workload

Contact Hours	24 lessons / 18 hours (30%)
Directed Study	36 lessons / 27 hours (45%)
Private Study	15 hours (25%)

Assignments and Assessments

Assessment Type	Quantity	Weight	Form	Evaluation Type	Time
Oral group examination	20 minutes	40%	report	grades	during semester
Written group assignment	30 pages	60%	report	grades	during semester