

# **Curriculum and Module Handbook**

## **Master's Degree Programme**

### **in Finance**

**(Master of Science in Finance)**

**2015**

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## **1. Study programme profile**

The Principality of Liechtenstein is a country with an international and cross-border orientation. Due to the fact that Liechtenstein is not only embedded in a customs and monetary union with Switzerland, but also a member of the European Economic Area, Liechtenstein acts as a bridge between the European Union and Switzerland, the biggest wealth management market in the world. This unique situation has enabled the small Principality to develop into one of the most experienced cross-border regions of the world. Our graduate programme in Finance provides the know-how required to understand and manage highly international activities, products and services.

Liechtenstein ranks among the most significant international financial centres. It stands for a high quality of service in dealing with wealthy private clients, for its liberal tax and company law and for its access to the European Single Market Area. In addition to private banking, Liechtenstein has been recognised as an attractive location for domestic and foreign investment funds, insurance companies and asset managers.

The entrepreneurial spirit strongly established in the region has also led to the emergence of very successful, internationally operating industrial undertakings both in Liechtenstein and the immediate vicinity.

The Master's degree programme in Finance aims to provide advanced state-of-the-art knowledge of finance. It focuses on the core aspects of asset management, risk management and international finance. Hence, graduates will gain knowledge of the methodology required to successfully manage the challenges and responsibilities of any finance-related jobs. The programme has been developed based on industry demands in knowledge, methodological skills, entrepreneurial understanding and team orientation. We prepare graduates for professional careers in international settings by offering projects conducted in collaboration with financial services companies and international partner universities. Graduates will be well-prepared for a professional career within the financial services industry, in related regulatory and supervisory authorities as well as in consulting institutions. The strong methodological, empirical and theoretical knowledge and skills obtained during this programme provides the basis for a promising application to a PhD programme at well-respected universities, including the University of Liechtenstein. As this programme sufficiently integrates the Chartered Financial Analyst (CFA) Body of Knowledge curriculum, we are a member of the CFA University Recognition Programme and can also offer several scholarships.

The Master's degree programme in Finance is in line with the university's overall strategy as it (i) follows a strategy of excellence, since the applicants must undergo a rigorous selection process, (ii) focuses on private wealth management, one of the university's selected research fields, and (iii) pursues both regional relevance (the financial services sector contributes significantly to Liechtenstein's GDP) and international collaboration (through projects with international university partners).

### **1.1. Qualification profile**

While undergraduate degrees mainly focus on basic concepts to provide a global overview and provide a basic academic foundation permitting professional entry, a Master's degree programme offers a specialised focus with the delivery of the methodological skills required for the intended specialisation.

The Master's degree programme in Finance at the University of Liechtenstein offers such a specialisation in the field of Finance. Students will be highly qualified for a professional career in finance, for example financial risk management, asset, investment and wealth management, international financial management and corporate finance, portfolio management, financial engineering, product development and research projects. These jobs are offered by asset and capital management firms, banks,

insurance companies, investment undertakings, financial advisors and family offices, finance departments of non-financial companies, central banks, consulting firms, regulatory authorities and financial market authorities.

Successful graduates of the Master's degree programme in Finance at the University of Liechtenstein will be able to

- a) pursue their future profession according to the latest insights gained from academic research and practice;
- b) develop and apply problem-solving methods both individually and in a team in their future profession;
- c) demonstrate skills for leadership roles and social responsibility;
- d) think and act in a sustainable, holistic, global, cross-subject and interdisciplinary way;
- e) autonomously conduct in-depth academic work which is required to accomplish research projects or gain admission to a doctoral degree programme.

While the programme leads to an advanced knowledge in finance in accordance with current international standards, it is also focused on the importance of the region. Students of this programme will focus on financial risk management together with asset, investment and wealth management, and international aspects of these fields.

In order to solve complex problems, students will learn how to apply relevant quantitative and empirical research methods. Ethics, teamwork, leadership competence, project management, presentation and communication skills are so indispensable in today's working environment, therefore they are taught within an interdisciplinary module. Step-by-step students will be trained to ultimately perform their own research.

The entire programme is entirely conceptualised to further emphasise the important role of acquiring job-related experience. Several projects are included in the curriculum (with MasterPROJECT), and additional guest lectures will be given by business leaders. Moreover, educational journeys provide an opportunity to network with people in important international finance markets.

Small classes and one-to-one tuition provide a personal, creative and productive learning and research environment focusing on the development of strong individual profiles. A voluntary exchange semester at one of the programme's high-profile international partner universities provides students with an opportunity to test their acquired knowledge in a different cultural and academic environment and offers new perspectives and personal development opportunities.

Finally, the design of this Master's degree programme is closely connected to the University's strategy in terms of its contribution to society and the objectives of the research area of "Private Wealth Management". The following list of objectives illustrates our graduates' unique qualifications, underlining the connection of this study programme with the University's strategy. The main objectives are:

- Our graduates know theoretical fundamentals and current empirical findings about the **decision behaviour of individuals and institutions** and are able to apply their knowledge to practical situations.
- Our graduates understand **risk management as an important success factor for economic activities** and apply risk management techniques which are appropriate for the situation at hand.
- Our graduates take **ethical considerations** into account when making decisions.
- Our graduates are able to **transfer** insights and results **from academic literature to practical decision-making** and **communicate effectively** on topics within their discipline.

## 1.2. Entry requirements

The Master's degree programme in Finance builds upon a relevant Bachelor's programme or an equivalent university programme. Further details can be found in our Admission Guidelines.

## 1.3. Learning outcomes

The Master of Science in Finance is designed such that students will acquire specific professional knowledge and understanding, generic cognitive skills, communication and learning strategies.

### Knowledge and understanding

- Based on the knowledge and understanding gained in the undergraduate programme, graduates demonstrate knowledge which covers and integrates the main features, boundaries, terminology and conventions of the field of finance.
- Graduates show a critical understanding of the intellectual and ethical content of selected financial structures in order to substantiate appropriate judgements.
- Graduates provide a basis for originality in developing their own research ideas in the field of finance.

### Applied knowledge and understanding

- Graduates show problem-solving abilities in the field of finance for new or unfamiliar environments within broader (or multidisciplinary) contexts.
- Graduates formulate judgements which have been explored critically and arrive at a conclusion.
- Graduates conduct a complex research, development or investigation project and identify and implement relevant outcomes.
- Graduates provide a basis for originality in applying appropriate methodologies in research projects in finance.

### Generic cognitive skills

- Graduates apply critical analysis, evaluation and synthesis to issues which are at the forefront of finance.
- Graduates deal with complex issues in the field of finance and make informed judgements in situations where information is incomplete or inconsistent.
- Graduates include social and ethical aspects when applying their knowledge and understanding.

### Communication

- Graduates communicate research results at an expert level in a variety of roles and contexts.
- Graduates use appropriate methods to communicate to a range of audiences with different levels of knowledge and expertise.

### Learning strategies

- Graduates exercise autonomy and initiative in carrying out the self-directed programme of study or research projects.
- Graduates demonstrate capacity to manage time and physical resources as an individual and as a group member and to collaborate with peers and others in sharing knowledge and research.

## 1.4. Programme structure

The Master's degree programme in Finance is arranged in a modular structure and is characterised by both its academic rigor and practical orientation. This programme comprises four semesters of full-time study corresponding to 120 ECTS (European Credit Transfer System).

In the first semester, courses in research methodologies and (based on the knowledge acquired in an undergraduate programme) advanced concepts in finance are offered. The second semester concentrates on risk management and asset management concepts. The third semester offers advanced concepts on investments. In the fourth semester, students write, present and defend their thesis. Table 1 provides an overview.

**Table 1: Programme Structure**

Semester	Module Title	ECTS
1	Financial Economics and Markets	6
1	Quantitative Finance	6
1	Empirical Finance	6
1	International Finance	6
1	Advanced Corporate Finance <sup>1</sup>	3
1	Cross-Faculty Elective Subject 1	3
Total ECTS in the First Semester		<b>30</b>
2	Risk Management and Financial Derivatives	9
2	Asset Pricing and Portfolio Choice	6
2	Wealth Structures and Taxation of Wealth Structures and Financial Instruments Module	3
2	Seminar in Finance	6
2	Liechtenstein House of Finance LAB, Project 1	3
2	Cross-Faculty Elective Subject 2	3
Total ECTS in the Second Semester		<b>30</b>
3	Investment Strategies and Asset Management	6
3	Corporate Governance and Ethics	6
3	Pension Finance	3
3	Alternative Investments	3
3	Research Greenhouse	3
3	Liechtenstein House of Finance LAB, Project 2	3
3	Private Banking	3
3	Cross-Faculty Elective Subject 3	3
3	or instead of Cross-Faculty Elective 3: Liechtenstein House of Finance LAB, Project 3 <sup>2</sup>	
Total ECTS in the Third Semester		<b>30</b>
4	Cross-Faculty Elective Subject 4	3
4	Master Thesis	27
Total ECTS in the Fourth Semester		<b>30</b>
1-4	<b>Total ECTS</b>	<b>120</b>

### Liechtenstein House of Finance LAB

The Liechtenstein House of Finance LAB is a laboratory module, allowing students to deepen their knowledge in areas addressed in the compulsory courses. They combine relevant topics, knowledge and skills in order to support the combination of theoretical and practical professional work. The

<sup>1</sup> Amended by Senate resolution on 03/05/2017.

<sup>2</sup> Amended by Senate resolution on 02/05/2018.

course offer changes from semester to semester. A choice of possible offers is provided in Table 2, amendments and changes to the lectures in Table 2 can be made by the curriculum group.<sup>3</sup>

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<sup>3</sup> Amended by Senate resolution on 02/05/2018.



**Table 2: Lectures for Liechtenstein House of Finance LAB<sup>4</sup>**

<b>Lecture Title</b>	<b>ECTS</b>
MasterLAB in Financial Services 1	3
Educational Journey Project 1	3
Educational Journey Project 2	3
Portfolio Management Game	3
Banking Game	3
Current Developments in Banking and Finance	3
CFA Reseach Challenge	6
MasterLAB in Financial Services 2	3
Workshop Investment Banking	3
China at the eastern end of the continental and maritime silk roads – past and present	3
International Taxation	3
Philanthropy and Ethics	3
Special Topics in Finance	3

**Cross-Faculty Electives (12 ECTS)**

Students have the opportunity to choose between several Cross-Faculty Electives, totalling 12 ECTS. They consist of a variety of courses on a list published at the beginning of each academic year (courses are equivalent to 3 or 6 ECTS, taught during winter and summer semesters).

**Voluntary Semester Abroad (30 ECTS)**

The third semester could be used for an exchange semester at one of our partner universities across the globe.

**Extra-Curricular Events** will complement this study programme.

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<sup>4</sup> Amended by Senate resolution on 02/05/2018.

## 2. Formal aspects

The programme corresponds to Qualification Level 2 of the Bologna Programme and to Qualification Level 7 of the “European Qualifications Framework for Lifelong Learning” developed by the European Union. Table 4 provides an overview.

**Table 4: Formal aspects**

<b>Duration and Workload</b>	4 semesters full-time study 120 ECTS credits
<b>Language</b>	English
<b>Credits</b>	Courses are assigned a certain number of hours in class and a number of hours for individual coursework; the sum of both yields the actual workload. 30 work hours are equivalent to 1 ECTS credit point. 30 ECTS credit points correspond to the average coursework of a semester at the University of Liechtenstein.
<b>Academic Degree</b>	Master of Science in Finance
<b>Official Abbreviation</b>	MSc
<b>Admission Requirements</b>	Admission requirements are specified in the Admission Guidelines for the Master’s degree programme in Finance.
<b>Further Educational Options</b>	The degree grants eligibility for a doctoral degree programme.

## 3. Module structure

The following tables list all modules and lectures, specified by additional formal information.

The module structure of the first semester intends to bring all the participants on a similar level in Finance. In addition, this semester provides the methodological basis required for a research-oriented Master’s degree in Finance. Table 5 outlines the first semester modules and lectures.

Legend:

CO – compulsory

OC – optional compulsory

LE – lecture

SE - seminar

EX – exercise

EXC - excursion

**Table 5: First Semester Module Structure**

<b>Module</b> Course(s) within the module	Type	Class hours/week (in units of 45 minutes)	ECTS
<b>Advanced Corporate Finance<sup>5</sup></b>	<b>CO</b>		<b>3</b>
Advanced Corporate Finance	EX	2	3
<b>Empirical Finance</b>	<b>CO</b>		<b>6</b>
Empirical and Experimental Methods in Finance	EX	2.5	4
Programming in Finance	EX	1	2
<b>Financial Economics and Markets<sup>6</sup></b>	<b>CO</b>		<b>6</b>
Financial Economics	LE	1.75	3
Financial Markets	LE	1.75	3
<b>International Finance</b>	<b>CO</b>		<b>6</b>
International Business Finance	LE	2	3
International Economics for Finance	SE	1	3
<b>Quantitative Finance</b>	<b>CO</b>		<b>6</b>
Econometrics	LE	2	3
Advanced Mathematics and Statistics	LE	1.5	2
Data Sourcing and Analysis	EX	1	1
<b>Cross-Faculty Electives</b>	<b>OC</b>		<b>3</b>
<i>Subject 1</i>			3

The second semester offers students specialised lectures in the core fields of risk management, derivatives, asset pricing and portfolio management. The Seminar in Finance is intended to deliver an exercise in academic writing in finance as the first preparation for students' Master Theses.

**Table 6: Second Semester Module Structure<sup>7</sup>**

<b>Module</b> Course(s) within the module	Type	Class hours/week (in units of 45 minutes)	ECTS
<b>Asset Pricing and Portfolio Choice</b>	<b>CO</b>		<b>6</b>
Empirical Asset Pricing and Portfolio Theory	LE	3	4
Applied Portfolio Management & Performance Analysis	EX	1.5	2
<b>Liechtenstein House of Finance LAB – Project 1</b>	<b>OC</b>		<b>3</b>
<i>Subject 1</i>			3
<b>Risk Management and Financial Derivatives</b>	<b>CO</b>		<b>9</b>
Financial Derivatives	LE	3	5
Risk Management	LE	2.5	4
<b>Seminar in Finance</b>	<b>CO</b>		<b>6</b>
Seminar in Finance	SE	1	6
<b>Wealth Structures and Taxation of Wealth Structures and Financial Instruments</b>	<b>CO</b>		<b>3</b>
Wealth Structures and Taxation of Wealth Structures	LE	2	3

<sup>5</sup> Amended by Senate resolution on 03/05/2017.

<sup>6</sup> Amended by Senate resolution on 03/05/2017.

<sup>7</sup> Amended by Senate resolution on 02/05/2018.

and Financial Instruments			
<b>Cross-Faculty Electives</b>	<b>OC</b>		<b>3</b>
<i>Subject 2</i>			3

The basic topic of the third semester is investments. This is supplemented by courses in Corporate Governance and Ethics. Research Greenhouse is the module preparing students for their own research project: the Master's thesis.

**Table 7: Third Semester Module Structure<sup>8</sup>**

<b>Module</b> Course(s) within the module	Type	Class hours/week (in units of 45 minutes)	ECTS
<b>Alternative Investments</b>	<b>CO</b>		<b>3</b>
Alternative Investments	LE	2	3
<b>Corporate Governance and Ethics</b>	<b>CO</b>		<b>6</b>
Corporate Governance	LE	2	3
Ethics	LE	2	3
<b>Investment Strategies and Asset Management</b>	<b>CO</b>		<b>6</b>
Investment Strategies and Asset Management	EX	2	6
<b>Liechtenstein House of Finance LAB – Project 2</b>	<b>OC</b>		<b>3</b>
<i>Subject 2</i>			3
<b>Pension Finance</b>	<b>CO</b>		<b>3</b>
Pension Finance	LE	2	3
<b>Research Greenhouse</b>	<b>CO</b>		<b>3</b>
Research Greenhouse	GH	1.5	3
<b>Private Banking</b>	<b>CO</b>		<b>3</b>
Private Banking	LE	2	3
<b>Cross-Faculty Elective OR Liechtenstein House of Finance LAB – Project 3</b>	<b>OC</b>		<b>3</b>
<i>Subject 3</i>			3

The fourth semester comprises the Thesis Project, which ultimately has to be presented and defended before a public panel of experts.

**Table 8: Fourth Semester Module Structure<sup>9</sup>**

<b>Module</b> Course(s) within the module	Type	Class hours/week (in units of 45 minutes)	ECTS
<b>Master's Thesis</b>	<b>CO</b>		<b>27</b>
Thesis Project	TH		26
Presentation & Defence	PD	1	1
<b>Cross-Faculty Electives</b>	<b>OC</b>		<b>3</b>
<i>Subject 4</i>			4

<sup>8</sup> Amended by Senate resolution on 02/05/2018.

<sup>9</sup> Amended by Senate resolution on 02/05/2018.

## **4. Module handbook**

The current module descriptions are accessible via the university intranet.