

O2 Reformed Curricula in Quantitative Finance

O2/A1 Curriculum Design for the 4th Semester

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Disclaimer

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1. Background of this Output

This output provides the basis for a curriculum reform which will lead to a harmonized structure for the 4th semester in the Master Programmes in Quantitative Finance and Risk Management at the following participating institutions:

- University of Applied Sciences bfi Vienna (UAS) – Master Programme: Quantitative Asset and Risk Management
- University of Bologna (UNIBO) – Master Programme: Quantitative Finance
- University of Economics in Katowice (UEK) – Master Programme: Quantitative Asset and Risk Management
- Alexandru Ioan Cuza University of Iasi (UAIC) - Master Programme: Finance and Risk Management

This reform will directly embed the course package “Advanced Topics” (O1) in the curricula at each partner institution and reduce barriers for student mobility through the establishment of attractive mobility windows. Furthermore, based on the previously developed course concept for the course “Advanced Topics” (see O1/A1) the following specialization options will be embedded in the curricula:

- UAS: Asset Management
- UNIBO: Quantitative Methods in Finance
- UEK: Insurance Management
- UAIC: Bank Risk Management

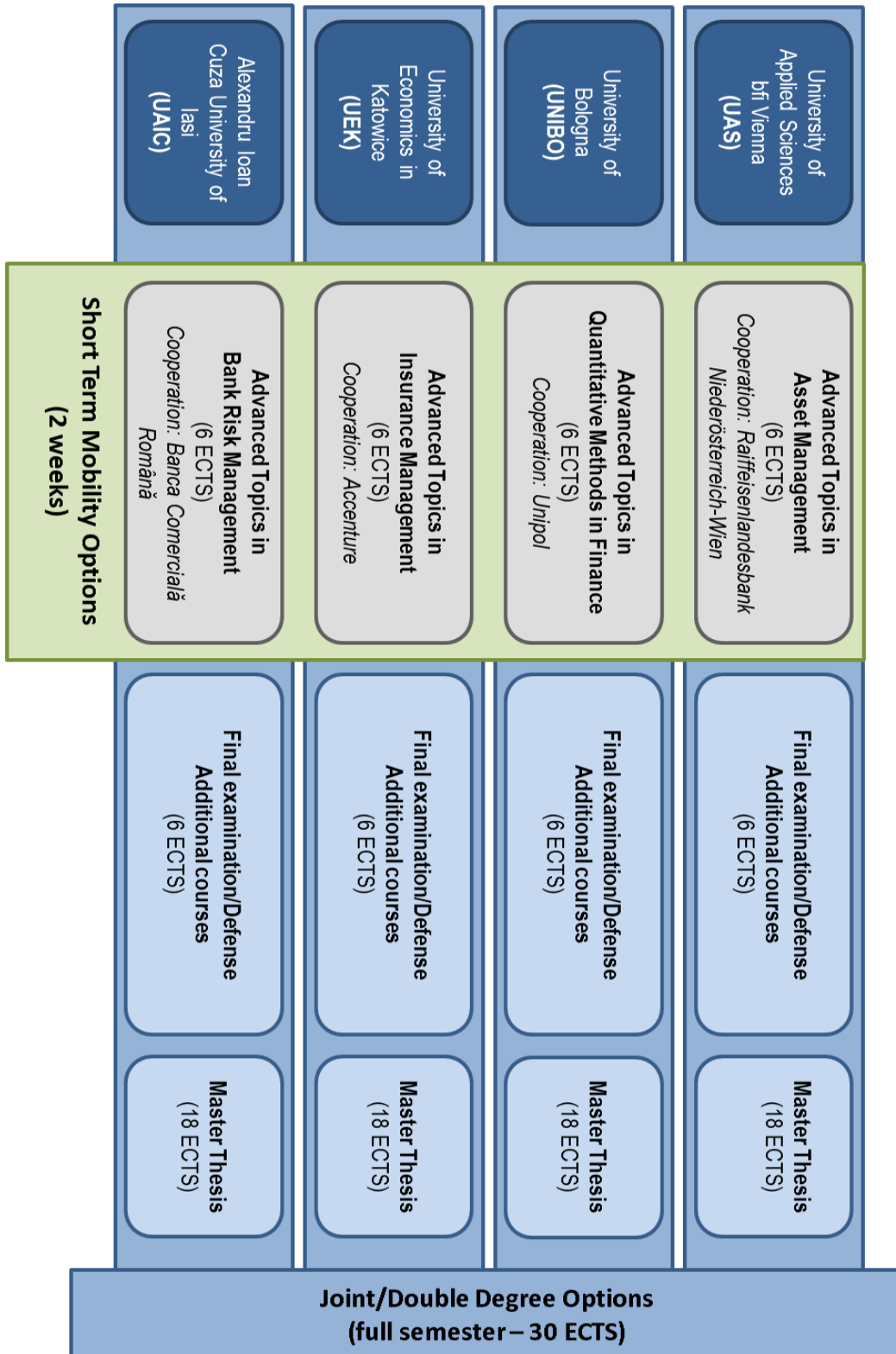
We decided to focus on the fourth semester, since specialization makes only sense towards the end of the study period.

The following sections provide a more detailed overview about the harmonized curriculum design for the fourth semester at all participating institutions. The individual institutional applications for these curriculum changes will be provided in a separate report (O2/A2 Application of Curriculum Changes).

This curriculum reform provides an important foundation for the newly developed and updated double/joint degree agreements which are part of a separate intellectual output (O3).

2. Curriculum Design of the 4th Semester

The envisaged design of the fourth semester is summarized in the chart below:



In a nutshell the fourth semester will consist of the following components after the harmonization at each institution:

- A course on “Advanced Topics” with a different specialization at each higher education institution (6 ECTS)
- The master thesis (18 ECTS)
- Final exam and/or additional courses as required by local standards (6 ECTS)

As pointed out in the course concept for the course “Advanced Topics” (see O1/A1) the respective specialization options will be provided in close cooperation with industry representatives to foster practice relevance and cooperation between higher education and the world of work. More details on the individual implementation of the curriculum design at each participating institution and the linked changes compared to the existing curricula follow in the next sections.

3. Curriculum for the 4th Semester at UAS

3.1. Current curriculum of the whole ARIMA programme

Module #	Module Name	Course #	Course Name	Course Type *	ECTS	Semester
M1	Fundamentals in Quantitative Methods and Finance	1	Fundamentals of Mathematics and Statistics	ILV	4	1
		2	Fundamentals of Finance	ILV	5	1
		3	Fundamentals of Economics	ILV	4	1
		4	Programming and Databases	ILV	3	1
M2	Financial Econometrics	5	Multivariate Methods	ILV	5	1
		6	Time Series Analysis	ILV	3	1
M3	Derivative pricing	7	Equity and Foreign Exchange Derivatives	ILV	2	1
		8	Fixed Income and Credit Derivatives	ILV	4	1
M4	Risk Measurement	9	Measurement of Market Risk	ILV	4	2
		10	Measurement of Credit Risk	ILV	4	2
		11	Measurement of Non-Life Risk	ILV	2	2
		12	Measurement of Life Risk	ILV	3	2
M5	Asset Management	13	Introduction to Asset Management	ILV	2	2
		14	Asset class Interest Rate Products	ILV	2	2
		15	Asset class Equity	ILV	2	2
		16	Asset class Foreign Exchange	ILV	1	2
		17	Asset class Credit Products	ILV	2	2
		18	Alternative Investments	ILV	2	2
		19	Structured Products	ILV	2	2
M6	Research Methods	20	Research Methods	UE	1	2
		21	Research Seminar	SE	3	2
M7	Asset Liability Management and Risk Management for Banks	22	Bank Management	ILV	5	3
		23	Risk Controlling and Organisation of Market Risk	ILV	2	3
		24	Risk Controlling and Organisation of Credit Risk	ILV	3	3
		25	Operational Risk for Banks	ILV	2	3
M8	Asset Liability Management and Risk Management for Insurances and Pension Funds	26	ALM and Insurance Management	ILV	3	3
		27	Management Life Risk	ILV	3	3
		28	Management Non-Life Risk	ILV	3	3
M9	Applied Asset Management	29	Integrating Aspects of Asset Management	ILV	6	3
		30	Legal Framework and Ethics	ILV	3	3
Module #	Module Name	Course #	Course Name	Course Type *	ECTS	Semester

M10	Applied Research in Asset and Risk Management	31	<i>Advanced Topics</i>	UE	3	4
		32	<i>Project Seminar</i>	PS	4	4
	<i>Diploma Exam and Diploma Thesis</i>		<i>Master Thesis</i>		16	4
			<i>Diploma Exam</i>		7	4

- * ILV - integrated Lecture - mixture of lecture and tutorial
 UE - tutorial
 SE - seminar
 PS - project seminar

The module M10 in the 4th semester is changed according to the O1/A1 course concept and O1/A2 ECTS description and learning outcomes.

3.2. Existing courses in the **current curriculum** in the fourth semester:

Module #	Module Name	Course #	Course Name and description	Course Type *	ECTS	Semester
M10	Applied Research in Asset and Risk Management	31	<i>Advanced Topics</i> Content: Experts from science and practice give insight on relevant advanced topics in the field of asset and risk management. Groups of student summarize the talks in a condensed form. Examples of potential topics could e.g. come from the field of advanced methods for the aggregation/disaggregation of economic capital, pricing of complex structured products, practical experience from setting up risk management structures, etc.	UE	3	4
		32	<i>Project Seminar</i> Content: Treatment of scientific-practical problems from the area of asset and/or risk management in real or realistic projects in cooperation with enterprises or, alternatively, carrying out of case studies or business games in small groups. Presentation of the results and delivery of the results in a	PS	4	4

			written form. The topic may be related to the master thesis as regards content.			
	<i>Diploma Exam and Diploma Thesis</i>		<i>Master Thesis</i>	<i>ILV</i>	16	4
			<i>Diploma Exam</i>	<i>ILV</i>	7	4

3.3. Developed courses in the **new curriculum** in the fourth semester:

Module #	Module Name	Course #	Course Name and description	Course Type *	ECTS	Semester
M10	Applied Research in Asset and Risk Management	31	<i>Advanced Topics in Asset Management</i> Content: The course will start with an off- and onsite introduction given by the local academic lecturer(s) to the required theoretical background in applied asset management and intercultural learning topics such as cross cultural training, intercultural stimulation, and how to work in international teams. This will be followed by an input into the business case on applied asset management supplied by the representative of the local industry partner. Additional coaching will also be provided by the local industry representative together with the lecturer either at the university or during a company visit.	(PS)	6	4
	<i>Diploma Exam and Diploma Thesis</i>		<i>Master Thesis</i>		18	4
			<i>Diploma Exam</i>		6	4

The course “advanced topics” in the fourth semester will be renamed in “Advanced Topics in Asset Management”. Also the content, didactics and type of course will be changed according to the O1/A1 course concept and O1/A2 ECTS description and learning outcomes. The course “project seminar” does not exist anymore and will be partly absorbed by “Advanced Topics in Asset Management”.

Additionally the ECTS points will be changed to follow the agreed structure of point 2.



The master thesis is graded up and now has 18 ECTS points. The Diploma Exam will have 6 ECTS points.

4. Curriculum for the 4th Semester at UNIBO

4.1. Current curriculum of the whole QUANTITATIVE FINANCE programme

Module #	Module Name	Course #	Course Name	Course Type *	ECTS	Semester
75316	Mathematics and probability	75376	Calculus	B	6	1
		75375	Probability	B	6	1
75317	Actuarial and financial mathematics	75319	Actuarial mathematics	B	6	2
		75318	Financial mathematics	B	6	2
75345	Economics and finance	75363	Corporate finance	B	6	2
		75364	Financial products and markets	B	6	2
37264	Economics of financial markets	37264	Economics of financial markets	B	6	2
37265	Financial market regulation	37265	Financial market regulation	B	6	1
75366	Statistics and econometrics	75367	Econometrics	B	6	1
		75368	Statistics	B	6	1
37278	Numerical analysis	37262	Computer programming	B	6	3
		35433	Numerical methods	C	6	3
37269	Econometrics of financial markets	37269	Econometrics of financial markets	C	6	3
75371	Statistics of financial markets	75371	Statistics of financial markets	C	6	3
37281	Credit derivatives	37281	Credit derivatives	C	6	3
37280	Interest rate models	37280	Interest rate models	C	6	3
75374	Financial Engineering for asset management	75374	Financial Engineering for asset management	C	6	3
37757	Statistical methods for asset management	37757	Statistical methods for asset management	C	6	3
75447	Advanced methods of risk management 1	75447	Advanced methods of risk management 1	C	6	3
75448	Advanced methods of risk management 2	75448	Advanced methods of risk management 2	C	6	3
75449	Advanced methods of insurance 1	75449	Advanced methods of insurance 1	C	6	3
75450	Advanced methods of insurance 2	75450	Advanced methods of insurance 2	C	6	3
	Free course			D	12	3 or 4
75385	Internship			F	6	
	Workshop in quantitative finance			F	6	4
75384	Final examination LM			E	18	4

Course types: A = basic, B = characterizing, C = integrative, D = elective (student's choice), E = final exam, F = other.

The modules 75385 and 75384 in the 4th semester are changed according to the O1/A1 course concept and O1/A2 ECTS description and learning outcomes.

4.2. Existing courses in the **current curriculum** in the fourth semester:

Module #	Module Name	Course #	Course Name and description	Course Type *	ECTS	Semester
75385	Internship Or Workshop in Quantitative Finance	Internship	<i>At the end of the internship the student acquires a direct knowledge of a working environment coherent with Her/his studies in Quantitative</i>	F	6	4

			<i>Finance. The student has a comprehension of the organization she/he's working and is able to adapt her/himself to the structure. She/he is able to relate herself/himself with management, colleagues, clients and other public interlocutors. She/he knows how to act in a team.</i>			
		Workshop in Quantitative Finance	<i>The student is exposed to selected frontier issues of research from scholars in each field. Each scholar will address a topic, starting from the basic principles to the frontier questions. From the workshop, the student will collect ideas for her/ his thesis and interest driving him to her/his future career.</i>	F	6	4
75384	Diploma Exam and Diploma Thesis		Final examination LM	E	18	4

4.3. Developed courses in the **new curriculum** in the fourth semester:

Module #	Module Name	Course #	Course Name and description	Course Type *	ECTS	Semester
			<i>Advanced topics in quantitative methods in finance</i> Content: The course will start with an off- and onsite introduction given by the local academic lecturer(s) to the required theoretical background on the quantitative methods needed to work out the proposed case study, and intercultural learning topics such as cross cultural training and how to work in international teams. This will be followed by an input into the	F	6	4

			business case supplied by the representative of the local industry partner. Additional coaching will also be provided by the local industry representative together with the lecturer either at the university or during a company visit.			
			<i>Free course</i> This course is a student's free choice. Its content may change each year and differ across students depending on their interest and subject of their thesis work.	<i>D</i>	6	4
	<i>Diploma Exam and Diploma Thesis</i>		<i>Final examination</i>	<i>E</i>	18	4
			The final examination consists of a dissertation written by the student under a teacher's supervision, and its oral defense in the form of a public thesis defense at the front of a special examination board (Commissione di laurea). Students are required to give a a short presentation showing the aim, methodology and results of their work. The dissertation will have to show critical skills and originality.			

The course “Workshop in Quantitative Finance” in the fourth semester will be renamed in “Advanced Topics in Quantitative Methods in Finance”. Also the content, didactics and type of course will be changed according to the O1/A1 course concept and O1/A2 ECTS description and learning outcomes. The course “Workshop in Quantitative Finance” will be absorbed by “Advanced Topics in Quantitative Methods in Finance”.

Additionally the ECTS points will follow the agreed structure of point 2.

The master thesis is worth 18 ECTS points. Furthermore 6 ECTS points are attributed to an additional course that is a student’s free choice, as requested by the Italian law for the curriculum design of 2nd level master degrees.

5. Curriculum for the 4th Semester at UEK

5.1. Current curriculum of the whole programme: Master Studies in Quantitative Asset and Risk Management ARIMA

Module #	Module Name	Course #	Course Name	Course Type *	ECTS	Sem ester
M1	Fundamentals in Quantitative Methods and Finance	1	Fundamentals of Mathematics and Statistics	ILV	4	1
		2	Fundamentals of Finance	ILV	5	1
		3	Fundamentals of Economics	ILV	3	1
		4	Programming and Databases	ILV	4	1
M2	Financial Econometrics	5	Multivariate Methods	ILV	5	1
		6	Time Series Analysis	ILV	3	1
M3	Derivative pricing	7	Equity and Foreign Exchange Derivatives	ILV	2	1
		8	Fixed Income and Credit Derivatives	ILV	4	1
M4	Risk Measurement	9	Measurement of Market Risk	ILV	4	2
		10	Measurement of Credit Risk	ILV	4	2
		11	Measurement of Non-Life Risk	ILV	2	2
		12	Measurement of Life Risk	ILV	3	2
M5	Asset Management	13	Introduction to Asset Management	ILV	2	2
		14	Asset class Interest Rate Products	ILV	2	2
		15	Asset class Equity	ILV	2	2
		16	Asset class Foreign Exchange	ILV	1	2
		17	Asset class Credit Products	ILV	2	2
		18	Alternative Investments	ILV	2	2
		19	Structured Products	ILV	2	2
M6	Research Methods	20	Research Methods	UE	1	2
		21	Research Seminar	SE	3	2
M7	Asset Liability Management and Risk Management for Banks	22	Bank Management	ILV	5	3
		23	Risk Controlling and Organisation of Market Risk	ILV	2	3
		24	Risk Controlling and Organisation of Credit Risk	ILV	3	3
		25	Operational Risk for Banks	ILV	2	3
M8	Asset Liability Management and Risk Management for Insurances and Pension Funds	26	ALM and Insurance Management	ILV	3	3
		27	Management Life Risk	ILV	3	3
		28	Management Non-Life Risk	ILV	3	3
M9	Applied Asset Management	29	Integrating Aspects of Asset Management	ILV	6	3
		30	Legal Framework and Ethics	ILV	3	3
Module #	Module Name	Course #	Course Name	Course	ECTS	Sem

				Type *		ester
M10	Applied Research in Asset and Risk Management	31	Cost Accounting	ILV	3	4
		32	Managerial Accounting	ILV	4	4
		33	Advanced Topics: Financial Reporting Standards	ILV	4	4
M11	Seminar	34	Seminar (Master Thesis)	SE	19	4
			Master Thesis Defense		-	-

- * ILV - integrated Lecture - mixture of lecture and tutorial
 UE - tutorial
 SE - seminar
 PS - project seminar

The modules M10 and M 11 in the 4th semester are changed according to the O1/A1 course concept and O1/A2 ECTS description and learning outcomes.

5.2. Existing courses in the **current curriculum** in the fourth semester:

Module #	Module Name	Course #	Course Name	Course Type *	ECTS	Sem ester
M10	<i>Applied Research in Asset and Risk Management</i>	31	<i>Cost Accounting</i> The course focuses on cost accounting strategy and the decision making process. It provides valuable information necessary to plan and control (evaluate) personnel and operations of the firm. Course objectives are: to develop an understanding of cost systems and to analyze the role of cost information in a variety of management decisions such as pricing, product mix, product design, etc.	ILV	3	4
		32	<i>Managerial Accounting</i> The course shows how to use accounting information for making decisions (production management, product pricing, motivating employees. It focuses on managerial accounting systems which let maximize economic profits. The course is divided into two areas: cost management systems and management control systems.	ILV	4	4
		33	<i>Financial Reporting Standards</i> The aim of the course is to develop participants' reception of the new standard to let them apply it into practice. To achieve it the course covers information how to apply financial reporting techniques to the production and presentation of financial reports; to identify and apply the	ILV	4	4

			requirements linking to the FRS; to prepare reporting structure for different sizes of company.			
M11	Seminar	34	<i>Seminar (Master Thesis)</i> The purpose of the course is to enable the students – under the direction of a supervisor – to acquire an in-depth knowledge and then critically analyze of a selected field of asset and risk management. During the writing process the student has the supervisor from whom she/he can receive advice and guidance how to successfully write a master thesis	SE	19	4
	Diploma Exam and Diploma Thesis		<i>Master Thesis Defense</i> The master thesis is defended in the form of a public thesis defense at the front of a special commission (examination board) which consists of the Dean, the supervisor, the referee and the Director of the ARIMA Master Programme (and the other graduate students). Students are required to prepare and present to the audience short presentation showing the aim of their master thesis, tools and methodology used and results they received. Additionally they answer questions connected with their field of studies.	-	-	

5.3. Developed courses in the **new curriculum** in the fourth semester:

Module #	Module Name	Course #	Course Name and description	Course Type *	ECTS	Sem ester
M10	Applied Research in Asset and Risk Management	31	<i>Advanced Topics in Insurance Management</i> The course provides in-depth analysis of the processing, investing, and evaluation of risk management in insurance industry. This course covers the process by which insurance is sold and how individuals and organizations manage risk via insurance products. Students will explore the contractual aspects of insurance policies and attempt to understand how claims come into existence and are managed shown through case studies presented by the guest teacher from the industry. Attention will also be given to social insurance and uninsurable risks. Industry representative will be able to show types of applications of risk management as well as analyze each kind of insurance product within the current marketplace.	(PS)	6	4
M12	Electives (6 ECTS)	32	<i>The list of electives will be connected with core area of studies and let students widen their</i>	ILV elective	6	4

			<p><i>knowledge of interested field and write their master thesis.</i></p> <p><i>Students have to choose course/s for 6 ECTS (either two for 3 ECTS or one for 6 ECTS).</i></p>			
			(1)	ILV elective	6	4
			(2)	ILV elective	3	4
			(3)	ILV elective	3	4
			(4)	ILV elective	3	4
			(5)	ILV elective	3	4
M11	Seminar	33	<p><i>Seminar (Master Thesis)</i></p> <p>The purpose of the course is to enable the students – under the direction of a supervisor – to acquire an in-depth knowledge and then critically analyze of a selected field of asset and risk management. During the writing process the student has the supervisor from whom she/he can receive advice and guidance how to successfully write a master thesis</p>	SE	18	4
	Diploma Exam and Diploma Thesis		<p><i>Master Thesis Defense</i></p> <p>The master thesis is defended in the form of a public thesis defense at the front of a special commission (examination board) which consists of the Dean, the supervisor, the referee and the Director of the ARIMA Master Programme (and the other graduate students). Students are required to prepare and present to the audience short presentation showing the aim of their master thesis, tools and methodology used and results they received. Additionally they answer questions connected with their field of studies.</p>	-	-	

During the last semester there will be two compulsory courses: “Seminar” which involves master thesis preparation (**18 ECTS** after changes, now 19 ECTS) and “Advanced Topics in Insurance Management” (**6 ECTS**) created from Module 10 which now consists of three courses of accounting (together 11 ECTS).

The remaining number of points (**6 ECTS** = 5 ECTS taken from Module 10 + 1 taken from “Seminar”) will be devoted into electives connected with core area of studying programme and student’s interest (either two or one course depending of ECTS number of points). The motivation to change the programme and offer electives comes from the need to improve its attractiveness for both internal and incoming students.

The diploma defence is organised for those students who wrote their master thesis and collected 120 ECTS during their master studies. In Poland students do not receive ECTS points for the diploma exam and defence.

6. Curriculum for the 4th Semester at UAIC

6.1. Current curriculum of the whole *Finance and Risk Management* programme:

Module #	Packages	Course #	Course Name	Course Type *	ECTS	Semester
1	FRM C1	1	Financial Markets and Instruments	C	5	1
		2	Research Methods in Economics and Business	C	10	1
		3	Financial Reporting and Analysis	C	5	1
2	FRM E1	4-5	Academic Writing for Finance	E	5	1
			Quantitative Methods in Finance and Risk Management	E	5	1
			Organization Theory and Design	E	5	1
			Information Systems and Business Processes	E	5	1
3	FRM C2	6	Financial Decisions and Corporate Strategy	C	5	2
		7	Advanced Mathematics for Economics	C	5	2
		8	Financial Econometrics	C	10	2
4	FRM E2	9-10	Monetary and Financial Macroeconomics	E	5	2
			Microeconomics of Financial Institutions	E	5	2
			International Financial Management	E	5	2
			Business Ethics	E	5	2
5	FRM C3	11	Research Methods in Finance	C	10	3
6	FRM E3	12-15	Corporate Valuation	E	5	3
			Portfolio Theory	E	5	3
			Derivative Instruments	E	5	3
			Theory of Corporate Finance	E	5	3
			Responsible Finance and Investing	E	5	3
			Banking, Insurance, and Risk Management	E	5	3
			Taxes and Business Strategy	E	5	3
7	FRM C4	16	Master's Thesis Preparation	C	20	4
8	FRM E4	17-18	Corporate Governance	E	5	4
			Monetary Policy and Financial Regulation	E	5	4
			Institutional Investment Management	E	5	4

			Market Risk Management	E	5	4
			Credit Risk Management	E	5	4
			Operational Risk Management	E	5	4
			Advanced Topics in Finance and Risk Management	E	5	4
	<i>Master's Thesis</i>	<i>Extra</i>	<i>Master's Thesis</i>	<i>Extra ECTS</i>	20	

C – compulsory

E – elective

The packages FRM C4 and FRM E4 in the 4th semester are changed according to the O1/A1 course concept and O1/A2 ECTS description and learning outcomes.

6.2. Existing courses in the **current curriculum** in the fourth semester:

<i>Module #</i>	<i>Packages</i>	<i>Course #</i>	<i>Course Name and description</i>	<i>Course Type *</i>	<i>ECTS</i>	<i>Semester</i>
7	FRM C4	16	<i>Master's Thesis Preparation</i> The aim of the course is to enable students to acquire an in-depth knowledge and the necessary competencies to successfully write a final thesis. Throughout the course, the instructors, which are also thesis supervisors, review the process of elaborating a Master's thesis, document the strengths and weaknesses of past theses, and provide feedback and guidance to students.	C	20	4
8	FRM E4	17-18	<i>Corporate Governance</i> This course will provide students with an overview of the theoretical and empirical literature on the main themes in corporate governance. The aim is to provide students with in-depth knowledge of how determinants and outcomes of corporate governance arrangements have been measured and studied, using examples from the academic literature. As the literature on corporate governance is extensive, we have chosen a number of topics that are hotly debated in academic as well as policymaking circles. These topics will be related to company performance, linking corporate governance and	E	5	4

			strategy to corporate finance.			
			<p><i>Monetary Policy and Financial Regulation</i></p> <p>The course will discuss the following topics: European Economic and Monetary Union and the European System of Central Banks; European monetary policy; supporting policies needed in an incomplete monetary union, financial systems in the Netherlands, Europe, and worldwide; recent developments in the financial system and their mutual relationships; developments in prudential supervision of banks and other financial institutions; financial crises; macro-prudential supervision; systemic risk and financial stability.</p>	E	5	4
			<p><i>Institutional Investment Management</i></p> <p>This course aims to further develop the student's understanding of portfolio management and investment. More specifically, the course aims to develop an understanding of the methods and techniques used in the field of institutional investment management. The course has two main points of focus. Firstly, in order to be able to do conduct empirical research and understand the practical applications, the theoretical aspects of institutional investment management are examined. Secondly, the practical application of these theories in e.g., banking, insurance companies, pension funds and institutional investment houses are explored.</p>	E	5	4
			<p><i>Market Risk Management</i></p> <p>This course provides an understanding of market risk assessment and control. Students will acquire an in-depth understanding of the latest development in bank regulation that are the main driving force behind changes in</p>	E	5	4

			existing approaches to risk measurement, and also of the models for assessing market risk and the risk measurement techniques that are used by banks. At the same time, they will be able to build various Value-at-Risk (VaR) models for market risk for international portfolio of equities, FX, interest rate products, commodities, derivatives etc.			
			<i>Credit Risk Management</i> This course focuses on credit risk management. It will provide an overview of credit risk and modern approaches to measuring and managing credit risk. Topics will cover the traditional and modern credit rating process, main approaches to credit risk management, portfolio management and credit risk mitigation techniques, and Basel II bank capital standards.	E	5	4
			<i>Operational Risk Management</i> This course will discuss the nature of operational risks, how they arise, quantified and managed. To address its relative novelty and importance for institutions, the course will make extensive use of recent papers, articles and case studies.	E	5	4
			<i>Advanced Topics in Finance and Risk Management</i> The course provides in-depth knowledge of finance and risk management. Experts from academia and industry offer insights on relevant advanced topics such as methods and techniques implemented in investment management, evaluation of risk management, pricing of advanced financial products etc. Students work in teams and write a critical report on a topic covered in the course.	E	5	4
	<i>Master's Thesis</i>	<i>Extra</i>	<i>Master's Thesis</i>	<i>Extra ECTS</i>	20	

6.3. Developed courses in the **new curriculum** in the fourth semester:

Module #	Packages	Course #	Course Name and description	Course Type *	ECTS	Semester
7	FRM C4	16	<p><i>Master's Thesis Preparation</i></p> <p>The aim of the course is to enable students to acquire an in-depth knowledge and the necessary competencies to successfully write a final thesis. Throughout the course, the instructors, which are also thesis supervisors, review the process of elaborating a Master's thesis, document the strengths and weaknesses of past theses, and provide feedback and guidance to students.</p>	C	18	4
		17	<p><i>Advanced Topics in Bank Risk Management</i></p> <p>The course will start with an off- and onsite introduction given by the local academic lecturer(s) to the required theoretical background in bank risk management and intercultural learning topics such as cross cultural training, intercultural stimulation, and how to work in international teams. This will be followed by an input into the business case on bank risk management supplied by the representative of the local industry partner. Additional coaching will also be provided by the local industry representative together with the lecturer either at the university or during a company visit.</p>	C	6	4
8	FRM E4	18	<p><i>The list of electives will be connected with core area of studies and let students widen their knowledge of interested field and write their master thesis.</i></p> <p><i>Students have to choose</i></p>	E	6	4

			<i>course/s for 6 ECTS (either two for 3 ECTS or one for 6 ECTS).</i>			
			(1) Elective course	E	6	4
			(2) Elective course	E	3	4
			(3) Elective course	E	3	4
			(4) Elective course	E	3	4
	<i>Master's Thesis</i>	<i>Extra</i>	<i>Master's Thesis</i>	<i>Extra ECTS</i>	<i>18</i>	

The course “Advanced Topics in Finance and Risk Management” in the fourth semester will be renamed “Advanced Topics in Bank Risk Management” and will change from an elective to a compulsory course. Also the content, didactics and type of course will be changed according to the O1/A1 course concept and O1/A2 ECTS description and learning outcomes. In addition, a second compulsory course will be offered - “Master’s Thesis Preparation” as before. For the remaining 6 credits, students will choose between one elective of 6 ECTS credits and two electives of 3 ECTS credits each. Moreover, the list of electives will be reduced due to the transformation of the course “Advanced Topics in Finance and Risk Management” and the change of the semester from fourth to third for three courses in risk management practices (“Market Risk Management”, “Credit Risk Management”, “Operational Risk Management”). ECTS credits will also change to follow the agreed structure of point 2. The course “Master’s Thesis Preparation” will have 18 ECTS points, whilst the new developed course will have 6 credits, and the electives will have either 6 credits or 3 credits.