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UNIVERSITY OF APPLIED SCIENCES BFI VIENNA

Study Guide

Masters' Programme
Quantitative Asset and Risk Management
Part-time



UNIVERSITY OF APPLIED SCIENCES BFI VIENNA



Study Guide

Masters' Programme "Quantitative Asset and Risk Management"

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1. We form Europe's top executives at the University of Applied Sciences bfi Vienna (FH bfi Vienna)

When the OECD evaluated the Austrian educational system in the mid-1970s, they recommended the implementation of universities of applied sciences. On 1 October 1993 this new aspect was added to the Austrian educational landscape as the Federal Act on University of Applied Sciences Degree Programmes (FHStG) came into force.

FH degree programmes offer work-related education at university level, comply with EU regulations and offer all the advantages of a basic theoretical education combined with practical implementation; furthermore, the tight schedule of the programmes (mandatory attendance) reduces the duration of study in comparison to established traditional universities.

At present there are over 350 FH degree programmes on offer in Austria.

The University of Applied Sciences bfi Vienna is now one of the leading universities of applied sciences in Austria. Its graduates are internationally regarded as highly qualified. They are very much in demand as employees in demanding areas of responsibility across various fields of activities in industry, administration and the economy.

At the University of Applied Sciences bfi Vienna academic education is combined with practical training. The sophisticated scientific education forms the base for career prospects in management. Many important and major businesses consider the degree programmes particularly future-oriented and therefore support the FH as sponsors.

FH bfi Vienna in Europe's top league

Once again awarded the ECTS Label and the Diploma Supplement Label in 2009, the University of Applied Sciences bfi Vienna has reaffirmed its quality leadership status in Austria. Only 10 universities in Europe have been awarded both labels by the EU 2009. This makes the FH bfi Vienna part of the Bologna Process elite.

The ECTS – the “European Credit Transfer System” – makes degree programmes transparent and comparable across Europe.

This award recognises the high level of internationalisation at the FH bfi Vienna. At the FH bfi Vienna credits can easily be obtained for exchange semesters and work placements, as they are integrated into the regular degree programmes.

The graduates of the FH bfi Vienna are internationally considered highly qualified.

The University of Applied Sciences bfi Vienna offers **seven bachelor's degree programmes**

- Banking and Finance
full-time and part-time
- European Economy and Business Management
full-time and part-time
- Film, TV and Media Production
full-time
- Logistics and Transport Management
full-time and part-time
- Project Management and Information Technology
full-time and part-time
- Technical Sales and Distribution Management
part-time
- Work Design and HR Management
part-time

and **six master's degree programmes:**

- European Economy and Business Management
part-time
- International Banking and Finance
part-time
- Logistics and Transport Management
part-time
- Project Management and Organisation
part-time
- Quantitative Asset and Risk Management
part-time
- Strategic HR Management in Europe
part-time

There are 1,834 study places in these 13 degree programmes.

The University of Applied Sciences bfi Vienna's co-operation network spans over 80 universities of applied sciences and universities in Europe, Asia, Australia and the USA. These international contacts result in joint projects and an intensive exchange of both lecturers and students.



2. Core Element of the Master Programme ARIMA

After a bachelor or master degree in social sciences, economics, natural sciences, law studies, or technical studies at universities or universities of applied sciences, you can do the four-semester, part-time master programme “Quantitative Asset and Risk Management” (ARIMA).

The aim of the master programme is to impart all-encompassing understanding of the connections between asset and risk management. Both managerial functions deal with the same subject matter but from different vantage points. In a manner of speaking, the risk manager peeps over the asset manager’s shoulder and is supposed to see to it that the asset manager does not take too high a risk. Mutual understanding is thus essential.

From winter semester 2009/10 onwards 20 study places will be offered on part-time basis.

The medium of instruction is English. The third semester is an obligatory exchange semester, which will be offered in 2 blocks of 3 weeks each.

The ARIMA master programme is completed by a written thesis and an oral diploma exam. In the event of successful completion, the graduates will be awarded the academic title of “Master of Arts in Business” (MA).



3. Fields of Activity and Career Prospects

The graduates are supposed to fulfil specialist functions – and eventually leading functions with corresponding specialist background knowledge. This is to be ensured by combining thorough scientific basic knowledge with application-oriented knowledge and skills.

The graduates' fields of professional activity lie in banking and insurance, enterprise-related services, market authorities (OeNB and FMA), and public administration.

The graduates will administer tasks in the following fields of expertise:

- Risk Management
- Asset Management
- Treasury and Trading
- Asset Liability Management
- Risk Controlling and internal / external Auditing

The qualification profile required to realise these tasks comprise – on top of basic general knowledge on shares, financial markets, macro-economic inter-relations and relevant legal fields – in-depth knowledge on **risk management** (risk quantification, risk steering, risk aggregation, integrated global bank management etc.) and **asset management** (asset classes, portfolio selection, asset liability management etc.). These are complemented by **methodical-analytical skills**, above all in financial mathematics and statistics, user knowledge in relevant software (Excel, Access, SPSS, SAS or Minitab) and basic programming knowledge in *Visual Basic for Applications* in an Excel context.

There is to date no master degree programme with comparable international orientation and quantitative focus in Austria. Since both the tasks of risk management and the significance of asset management will increase in future, it is likely that graduates will find good career prospects. Part-time students can thus expect a markedly improved scope for promotion. Through this practice-related education students can offer faster productive work commitment to their prospective employers.



4. General Studying Prerequisites

4.1. Admission Prerequisites

A written application for a study place which has to be submitted by 15 June is the prime admission prerequisite for participating in the admission procedures.

The successful completion of a bachelor's or master's degree in social sciences, economic / business studies, in natural sciences, or in law at a university or a university of applied sciences must be proven. The university or university of applied sciences can be domestic or abroad; it must be recognised as a post-secondary education institution in its country of residence.

Furthermore, applicants have to demonstrate knowledge at university level in economic studies (9 ECTS) and in mathematics and statistics (6 ECTS).

Very good English language skills are also a prerequisite for admission to this master programme since English is the medium of instruction and a semester has to be spent abroad.

4.2. Admission Procedures

The admission procedures consist of a structured interview within a presentation meeting (admission interview) and a multiple-choice test. Both the interview and the MC-test are conducted in English. Applicants can score 40 points through the 30-minute interview, and 60 with the MC-test. Overall, they can thus score 100 points.

After all written applications have been submitted, all applicants that meet the requirements will be invited for the interview and the MC-test by e-mail or letter. The Interviews start at the beginning of May and will be completed by the end of June. The MC-test will take place at the end of June.

This MC-test is supposed to test knowledge in mathematics, statistics, finance and risk management. All in all, a maximum of 60 points can be reached.

The study places available will be offered first to those applicants who have reached the highest point score overall (structured interview plus MC-test).



5. Time Requirements

The ARIMA programme takes 4 semesters.

In the first three semesters students have to take 15 units per week at 45 minutes each, while in the fourth semester they only have to take 3.5 units per week. One semester lasts 20 weeks. The average study workload (including course attendance, homework preparation, self-study exam preparation etc.) amounts to 25-30 hours per week.

The winter semester starts at the beginning of September, and finishes at the end of January; the summer semester starts in mid-February and lasts till the end of June.

Attendance is mandatory for all courses of the curriculum. Exemptions from this rule require the programme director's approval.

The ARIMA master programme is offered as a part-time programme only. Courses take place twice a week in blocked form (Thursday and Friday evenings) and on Saturdays. The scheduled days will be announced several weeks before the programme starts, during the application procedure.

The UAS bfi Vienna provides the ideal infrastructure for working students, e.g. evening opening hours at the secretaries' office and library, psychological counselling that helps to cope with stressful situations arising from having to combine family, studies and working life.



6. Programme Contents

6.1. Content Clusters

Curriculum development has attempted to combine related courses into a semester module which constitutes a part-qualification for students. There are the following modules (see section 8 for individual classes and courses of the curriculum):

- Fundamentals in Quantitative Methods and Finance
- Financial Econometrics
- Derivative Pricing
- Risk Measurement
- Asset Management
- Research Methods
- Asset Liability Management and Risk Management for Banks
- Asset Liability Management and Risk Management for Insurances and Pension Funds
- Applied Asset Management
- Applied Research in Asset and Risk Management

6.2. Master Thesis

The aim of the master's thesis is for the students to independently produce and present written scholarly work with high practical and scientific relevance, based on the knowledge accumulated in the course of studies.

The time frame for writing the thesis comprises at least 4 months and starts with the formal allocation of a topic before the end of the second semester at the latest. The thesis has to be submitted to the supervisor in a form fit for approbation. Finally, the thesis topic must be strongly linked to the expert knowledge acquired in the ARIMA programme.

6.3. Diploma Exam

The diploma exam which is conducted by an exam senate consisting of 3 people comprises a brief presentation of the master's thesis and an exam proper. The exam is based on a reading list posted by the programme director, which reflects the studying contents of the degree programme.



7. Types of Courses

There are several types of courses which can be described as follows:

- **Integrated Classes (ILV):** These consist of a lecture part, intended to impart knowledge, and a practical part, in which this knowledge is then applied and intensified. The integration of lecture and practical part ensures that the knowledge acquired is applied as well as possible. This course is based on continuous assessment; performance will be measured according to tasks completed, presentations, in-class contributions, and written exam parts.
- **Seminars (SE) und project seminars (PS):** In these, written seminar papers on topics allocated are produced. The seminar proper will focus on acquiring scholarly knowledge and on applying scientific methods. In the project seminar, by contrast, students are required to analyse practice-related problems and to provide consulting services to partner enterprises.
- **Practice Classes (UE):** Practice classes are to a small extent meant to impart theoretical knowledge, but primarily to apply the knowledge acquired in this and other classes, as well as through self-study. Students are encouraged to work out and discuss their own solutions to problems related to their working practice. Performance is measured by tasks completed, presentations, and in-class contributions.



8. Curriculum

Module	Course Title	Sem.	Type	SWS	ECTS
Fundamentals in Quantitative Methods and Finance	Fundamentals of Mathematics and Statistics	1	ILV	2	4
	Fundamentals of Finance	1	ILV	2.5	5
	Programming and Databases	1	ILV	1.5	4
	Fundamentals of Economics	1	ILV	1.5	3
Financial Econometrics	Multivariate Methods	1	ILV	2.5	5
	Time Series Analysis	1	ILV	1.5	3
Derivative Pricing	Equity and Foreign Exchange Derivatives	1	ILV	1	2
	Fixed Income and Credit Derivatives	1	ILV	2	4
Risk Measurement	Measurement of Market Risk	2	ILV	2	4
	Measurement of Credit Risk	2	ILV	2	4
	Measurement of Non-Life Risk	2	ILV	1	2
	Measurement of Life Risk	2	ILV	1.5	3
Asset Management	Introduction to Asset Management	2	ILV	1	2
	Asset Class Interest Rate Products	2	ILV	1	2
	Asset Class Equity	2	ILV	1	2
	Asset Class Foreign Exchange	2	ILV	0.5	1
	Asset Class Credit Products	2	ILV	1	2
	Alternative Investments	2	ILV	1	2
	Structured Products	2	ILV	1	2
Research Methods	Research Methods	2	UE*	1	1
	Research Seminar	2	SE	0.8	3
Asset Liability Management (ALM) and Risk Management (RM) for Banks	Bank Management	3	ILV	2.5	5
	Risk Controlling and Organisation Market Risk	3	ILV	1	2
	Risk Controlling and Organisation Credit Risk	3	ILV	1.5	3
	Operational Risk for Banks	3	ILV	1	2
ALM and RM for Insurances/ Pension Funds	Management of Life Risk	3	ILV	1.5	3
	Management of Non-Life Risk	3	ILV	1.5	3
	ALM and Insurance Management	3	ILV	1.5	3
Applied Asset Management	Integrating Aspects of Asset Management	3	ILV	3	6
	Legal Framework and Ethics	3	ILV	1.5	3
Applied Research in Asset and Risk Management	Advanced Topics	4	UE*	2.5	3
	Project Seminar	4	PS	1	4
Master Thesis and Master Examination	Master Thesis	4			16
	Final Examination	4			7

Abbreviations (in German)

ECTS	ECTS Credits	SWS	weekly hours per semester
ILV	Integrated Class	UE	Practice class
LVA	Course	UE*	Practice class with limited amount of work for students
PLS	Business Simulation Game	VO	Lecture
SE	Seminar		



9. International Aspects

The third semester is envisaged as a mandatory semester abroad. Since most students will be working students, the classes in this semester will be offered in blocked form (2 3-week modules).

The ARIMA programme is organised as a joint degree, i.e. an identical curriculum is offered at the following partner universities, which facilitates a jointly completed degree:

- University of Economics in Katowice/Poland
- Anglo-American University in Prague/Czech Republic

ARIMA students are awarded a diploma which is jointly recognised by Karol Adamiecki University, Anglo-American University and the UAS bfi Vienna after completing the mandatory semester abroad.



10. Students' Rights and Duties, Costs and Location

10.1. Students' Rights and Duties

Students are entitled to

- use the study and research facilities of the degree programme
- demand that the curriculum, the exam regulations and the study agreement be adhered to
- point out teaching staff's non-compliance with duties, and to demand that shortcomings be remedied and complaints looked into
- evaluate courses (which also one of their duties)
- exercise passive and active voting rights in student representative elections

Students are required to

- observe the study agreement
- attend courses (attendance is mandatory), and to act in compliance with the curriculum and the exam regulations so that exams can be taken and passed within the time allowed for them
- study in the groups they have been allocated into by course coordinators
- make use of the exam dates offered (the programme director needs to decide on any exceptions)
- follow the invigilators' instructions during exams
- follow the house rules for study and research facilities and the instructions issued by people in charge of those
- observe safety regulations or instructions by staff in charge of security

10.2. Costs

- Costs are incurred for teaching materials (books, course materials etc.)
- Tuition fees amount to € 363.36 per semester and have to be paid before semester start
- A student union membership fee of € 17.00 per semester has to be paid, too

10.3. Place of Study

Fachhochschule des bfi Wien (UAS bfi Vienna)
Wohlmutterstraße 22
A-1020 Vienna
T: 01/720 12 86
info@fh-vie.ac.at, www.fh-vie.ac.at

The re-location of single or of all classes (within Vienna) is subject to change during studies.



11. Contact

Up-to-date information is available on the FH bfi Vienna homepage (www.fh-vie.ac.at).

Those interested can take part in several of our course sessions in order to find out more about our quality of teaching. If you would like to participate please contact us.

If you have further questions regarding structure and contents of the master programme please feel free to contact the following people in charge and/ or arrange for a counselling interview:

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We are looking forward to working together with you!



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