GHENT UNIVERSITY

Course Specifications

Valid as from the academic year 2020-2021

Advanced Asset Allocation (F000789)

Due to Covid 19, the education and evaluation methods may vary from the information displayed in the schedules and course details. Any changes will be communicated on Ufora.

Course size *(nominal values; actual values may depend on programme)*

Credits 4.0 **Study time** 120 h **Contact hrs** 45.0 h

Course offerings and teaching methods in academic year 2020-2021

A (semester 2)	English	Gent	online seminar: practical PC room classes	0.0 h
			online lecture	0.0 h
			group work	10.0 h
			lecture	25.0 h
			seminar: practical PC room classes	10.0 h

Lecturers in academic year 2020-2021

Inghelbrecht, Koen	EB21	lecturer-in-charge

Offered in the following programmes in 2020-2021	**crdts**	**offering**
Master of Science in Business Engineering (main subject Finance)	4	A
Master of Science in Banking and Finance	4	A
Exchange programme in Economics and Business Administration	4	A

Teaching languages

English

Keywords

Asset allocation, Portfolio analysis, alternative investments, portfolio optimization, performance analysis.

Position of the course

This course is a specialized course within the MBF degree and Msc BE Finance. It aims at providing a thorough examination of methodologies and approaches to analyze portfolio decisions. It furthermore tackles investing in non-standard asset classes (such as commodities, real estate, hedge funds, ...). The course also deals with the practical implementation of portfolio-optimization techniques making intensive use of econometric techniques and IT progamming-tools, mainly R.

Contents

The course consists of two big parts. In the first part, the aim is to provide students with a thorough understanding of portfolio analysis beyond the standard, static, mean-variance framework. We first analyze the limitations and the empirical failures of the Markowitz mean-variance analysis. We examine the optimal asset allocation of a multi-period investor. We also analyze the optimal portfolio choice for an investor whose preferences are affected by higher moments (skewness, kurtosis) as well as the impact of loss aversion. We review alternative quantitative approaches for portfolio optimization, with strong emphasis on Black-Litterman (and extensions) and the use of risk-based techniques in portfolio optimization. In the second part, special attention is given to the class of alternative investments. The purpose is to explore the world of alternative investments such as investments in hedge funds, real estate, and commodities, either directly or through funds of funds. We want to see what the return-risk characteristics of alternative investments are, what attributes to their appeal, and how to construct a portfolio using them. We examine in which situations they prove to be a valuable addition to a portfolio consisting of the standard asset classes. The

course will combine theory with empirical exercises, allowing students to get a "hands-on" experience by making use of the R software. There is also one big assignment, in which research question concerning a covered topic is formulated, and which is analyzed and solved by the students using econometric techniques and programming tools. Their findings are written down in a report.

Initial competences

The students understand the standard mean-variance portfolio optimization. Furthermore, they are familiar with the risk/return characteristics of the standard asset classes, stocks, bond and cash. The final competences of 'Investments' and 'Financial Risk Management' serve as a starting point.

Final competences

1 Demonstrate insight in the most recent academic literature concerning asset allocation
2 Compare and critically assess the merits and flaws of the different asset allocation models and techniques
3 Understand the practitioner's side of the quantitative approach to portfolio-optimization and asset allocation
4 Assessing the risk-return characteristics of alternative investments
5 Develop and apply models and tools to analyze asset allocation decisions
6 Using econometric techniques and programming tools in R to set up portfolio allocation techniques and performance attribution analysis and apply these models on recent and large datasets
7 Write down in a comprehensible way the results of own empirical work in a scientific report

Conditions for credit contract

Access to this course unit via a credit contract is determined after successful competences assessment

Conditions for exam contract

This course unit cannot be taken via an exam contract

Teaching methods

Group work, lecture, seminar: practical PC room classes, online lecture, online seminar: practical PC room classes

Learning materials and price

Selected papers originating from the academic and professional literature.

References

Robust Portfolio Optimization and Management, Frank J. Fabozzi, Wiley Finance (2007)
Handbook of Alternative Assets, by Mark J. P. Anson, John Wiley & Sons (2006).

Course content-related study coaching

The professor is available for questions

Evaluation methods

end-of-term evaluation and continuous assessment

Examination methods in case of periodic evaluation during the first examination period

Written examination

Examination methods in case of periodic evaluation during the second examination period

Written examination

Examination methods in case of permanent evaluation

Assignment, peer assessment

Possibilities of retake in case of permanent evaluation

examination during the second examination period is possible

Extra information on the examination methods

Written exam (70%) and assignment (30%)..
The group assignment is evaluated by the lecturer and by fellow students using a peer evaluation.
Second term: Depending on the deficits for the evaluation components, a written exam

and / or an individual work. The score for the component which the student has succeeded are taken over to the second term.

Calculation of the examination mark

End-of-Term evaluation 70%, permanent evaluation 30%.
Students must have passed all evaluation components in order to pass the course. If the student does not pass one component and the mathematical average yields a score of 10 or more on 20, the final score is reduced to 9/20, the highest score for which the students does not pass the course.
Students have to participate in all the components of the non-periodic and periodic evaluation to pass the course. If a student does not particpate in all components of the evaluation, the final score (if higher than 7/20) will be reduced to 7/20.
A student who withdraws from end-of-term and/or permanent evaluation for the course, will receive a non-tolerable final mark.