GHENT UNIVERSITY

Course Specifications

Valid in the academic year 2023-2024

Advanced Asset Allocation (F000789)

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

Credits 4.0 **Study time 120 h**

Course offerings and teaching methods in academic year 2023-2024

A (semester 2)	English	Gent	group work
			lecture
			seminar

Lecturers in academic year 2023-2024

Inghelbrecht, Koen	EB21	lecturer-in-charge

Offered in the following programmes in 2023-2024	**crdts**	**offering**
Master of Science in Business Engineering (Double Degree)(main subject Finance)	4	A
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, ESG investments

Position of the course

This course will be teached in 7 weeks period.
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, ESG funds 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, Seminar, Lecture

Learning materials and price

Selected papers or book chapters originating from the academic and professional literature.

References

Asset Management: A Systematic Approach to Factor Investing. Andrew Ang. Oxford University Press (2014).
Risk-Based Approaches to Asset Allocation: Concepts and Practical Applications. Maria Debora Braga. Springer (2016)
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

Assessment moments

continuous assessment

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

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

Examination methods in case of permanent assessment

Peer and/or self assessment, Written assessment, Assignment

Possibilities of retake in case of permanent assessment

examination during the second examination period is possible in modified form

Extra information on the examination methods

Written exam (70%) and assignment + PA (30%).
The group assignment is evaluated by the lecturer and by fellow students using a peer evaluation.

Second term: Written exam. The points for the assignment can be transferred to the resit exam period.

Calculation of the examination mark

The final course grade is a weighted average of the group assignment and written exam.
To pass the course, the student needs to at least pass both parts. If the student does not have a passing grade but does have a weighted average course grade of 10/20 (or more), the final course grade will be reduced to 9/20, the highest non-passing grade.