Financial Risk Management - Portfolio Theory and Derivatives

Single subject and programme course

15 credits

Finansiell riskhantering - portföljvalsteori samt derivatinstrument

722A11

Valid from: 2014 Autumn semester

Determined by
The Quality Board at the Faculty of Arts and Sciences

Date determined
2007-10-26

Revision date
2014-10-29

Main field of study
Economics, Business Administration

Course level
Second cycle

Advancement level
A1N

Course offered for
- Business and Economics Programme - International - French
- Business and Economics Programme - International - Spanish
- Business and Economics Programme - International - German
- Business and Economics Programme

Entry requirements
- Bachelor's degree equivalent to a Swedish Kandidatexamen in in Business Administration
- 15 ECTS credits in Finance
- English and Swedish corresponding to the level of English and Swedish in Swedish upper secondary education (Engelska 6 and Svenska 3)

Intended learning outcomes

On completion of the course, the student should:

- have a deeper theoretical and practical knowledge of financial investments and financial risk management via portfolio diversification and via derivatives
- have the ability to independently build portfolio and derivative models in Excel with the support of simple VBA programming
- have the ability to independently evaluate derivatives (forwards, futures, swaps and options) and account for their different properties
- have the ability to independently and critically formulate and implement investment strategies that both aim to achieve risk reduction and increased risk exposure in speculation
- have the ability to independently acquire financial information via financial databases, interpret the information and critically process it by means of statistical programs with the purpose of designing better asset allocations
- have the ability to independently and critically formulate policy/strategy documents for administration of financial assets that take into consideration the customer's needs, market conditions and available/allowed financial instruments and risk management techniques
- have the ability to independently and critically evaluate portfolio management and risk management
- have knowledge of and ability to reflect critically on irrational human behaviour in financial investment, portfolio management, speculation and risk management ("Behavioural Finance")

Course content

The course comprises modern financial investment theory with a focus on the investment process, yield management and risk management on stock and derivatives markets. The theories that are covered are portfolio selection theory and theory of pricing and value assessment of financial instruments with an emphasis on shares and derivatives. Investment and risk analysis with the help of financial Excel models and statistical methods is included in the course. The course takes a holistic perspective and also covers qualitative aspects on investment strategies, risk and risk management. One such qualitative perspective is current findings on irrational behaviour and systematic fallacies ("Behavioural Finance") in financial markets.

The following is covered in the course:

- design of valuation and risk management models in Excel
- programming in VBA with the purpose of automatising the collection of financial data and automation of calculations in Excel
- the option market and option strategies
- valuation of futures instruments, swaps and options
- implementation of hedge strategies
- sensitivity analysis of derivative positions via the Greeks
- the implicit volatilities of options
- portfolio selection theories and calculation of optimum asset allocations by means of Excel
- factor models and portfolio composition
- price theory and processing of input data
- evaluation of portfolio administration
- policy, policy documents and the investment process

Teaching and working methods

The teaching takes the form of lectures, finance laboratory exercises, case seminars and literature seminars.

Examination

The course is examined in the form of finance laboratory, case study, active seminar participation, a written report and a written test.

If the LiU coordinator for students with disabilities has granted a student the right to an adapted examination for a written examination in an examination hall, the student has the right to it. If the coordinator has instead recommended for the student an adapted examination or alternative form of examination, the examiner may grant this if the examiner assesses that it is possible, based on consideration of the course objectives.

Students failing an exam covering either the entire course or part of the course twice are entitled to have a new examiner appointed for the reexamination.

Students who have passed an examination may not retake it in order to improve their grades.

Grades

Three-grade scale, U, G, VG

Other information

Planning and implementation of a course must take its starting point in the wording of the syllabus. The course evaluation included in each course must therefore take up the question how well the course agrees with the syllabus.

The course is carried out in such a way that both men´s and women´s experience and knowledge is made visible and developed.

Department

Institutionen för ekonomisk och industriell utveckling