

| M14 Advanced Risk Management | |
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| Lecturer Prof. Dr. Michael Feucht | Module coordinator Prof. Dr. Michael Feucht |
| Content <ul style="list-style-type: none"> • Introduction to financial institutions (banks, insurance companies and pension plans, mutual funds and hedge funds) • Financial instruments (including non-traditional derivatives, exotic options and structured products) • How traders manage their exposure • Market Value at Risk • Volatility • Correlation and Copulas • Interest Rate Risk (including duration and convexity) • Credit Risk and Credit VaR • Asset Backed Securities and Credit Default Options • Overview: Operational Risk and Liquidity Risk • Critical discussion: Model Risk and mistakes to avoid | |
| Prerequisite for participation <ul style="list-style-type: none"> • Module M1 is required as a prerequisite | |
| Preparation / Reading <ul style="list-style-type: none"> • The course is closely following certain chapters from Hull, Risk Management and Financial Institutions (Wiley 2012) • Additional reading is provide in class | |
| Intendend learning outcomes <ul style="list-style-type: none"> • Based upon the knowledge of Module M1 (Financial Market Decisions) about stock market, currencies and interest rates, students obtain a more detailed understanding of mathematical models for the behavior of standard financial derivatives (futures, options, swaps) • Modern approaches to model financial risk are derived and discussed • Students apply the acquired knowledge to empirically test the models in the faculty's Finance & Research Lab • They learn how to analyze structured financial products • They understand how financial institutions (banks, insurance companies, funds) manage financial risk and critically reflect the shortcomings of the models discussed in class | |
| Teaching & Learning methods <ul style="list-style-type: none"> • Lecture including small case studies • Questions for discussion/practical problems (as homework assignments) • "Semester project" organized in small groups | |
| Practicability of course within other courses of the program <ul style="list-style-type: none"> • The module is one of the three electives the students have to choose in the third the semester out of a canon of five electives | |

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| <p>Literature</p> <ul style="list-style-type: none"> • Hull, Risk Management and Financial Institutions, 3rd ed., Wiley 2012 (required reading) • Hull, Options, Futures and Other Derivatives, 8th ed., Prentice Hall International 2011 • Recent scientific papers and news reports to be provided in class |
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Course organisation

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| ECTS-Credits 4 | SWS 2 (blocked in 6 weeks with 4 lecture hours each and 2 weeks with semester project presentations) | Language English |
| Kind of module Elective module | Turnus Winter term | Duration 1 semester |
| <p>Workload</p> <p>4 ECTS-Credits: 120 hours combined out of:</p> <ul style="list-style-type: none"> • 18 hours lecture • 18 hours preparation/homework/self-study • 18 hours exercises and group work • 48 hours for semester project and presentations • 16 hours exam preparation • 2 hours exam | | |
| Attendance 6 weeks * 3 hours = 18 hours | Preparation / Homework / Self-study 6 weeks * 3 hours = 18 hours | Time for exercises and group work 12 weeks * 1.5 hours = 18 hours |
| Semester Project / Presentation <ul style="list-style-type: none"> • 40 hours for scientific work • 10 hours for presentations | Exam preparation 16 hours | Exam time 120 minutes |
| <p>Prerequisite for the exam</p> <ul style="list-style-type: none"> • Homework presentation (at least once) • All students have to work on a semester project. As a prerequisite for the exam, students have to hand in a 20 page scientific paper and present their topic in a 20 minute presentation plus 10 minutes discussion. | | |
| <p>Exam requirements</p> <ul style="list-style-type: none"> • Pocket calculator • No other material allowed in the exam („closed book“) • Semester project and final exam are combined into one grade. They don't have to be passed separately. | <p>Weighting in examination</p> <p>Final grade:</p> <ul style="list-style-type: none"> • 50% written exam • 25% scientific paper from semester project • 25% presentation | |