



Course and Examination Fact Sheet: Autumn Semester 2017

9,164: Fixed Income Instruments

ECTS credits: 2

Overview examination/s

(binding regulations see below)

Decentral - Written examination (100%, 60 mins.)

Attached courses

Timetable -- Language -- Lecturer

[9,164,1.00 Fixed Income Instruments](#) -- Englisch -- [Süss Stephan](#)

Course information

Course prerequisites

'Fixed Income Instruments' is an advanced derivatives class. The lectures 'Financial Markets', 'Quantitative Methods', and 'Derivatives' are prerequisites. We expect students to be familiar with e.g. Black-Scholes and binomial option pricing.

The course is recommended for MBF-students in their third semester of the program.

Course content

'Fixed Income Instruments' is for all students who want to get a closer look at interest rate derivatives and look for a position in this area. The course provides the theoretical foundations of fixed income derivatives modeling. In addition, it covers the implementation concepts at trading desks.

The course provides an overview of several interest rate derivatives such as bond options, caps, floors, collars, and swaptions. The main part of the lecture is on valuation models for interest rate derivatives. We will cover Black's model, equilibrium models (Vasicek, Cox/Ingersoll/Ross), and the concept of common no-arbitrage models (Hull/White). In addition, this course covers current market standard models (LIBOR Market Model) and their theoretical foundations (Heath, Jarrow, and Morton Model).

Course structure

The course is structured as follows:

1. Overview on interest rate derivatives
2. Black's model



3. Equilibrium models

- Vasicek Model

- Cox, Ingersoll, and Ross Model

4. Hull and White Model

5. Heath, Jarrow, and Morton Model

6. LIBOR Market Model

Course literature

1. Slides on StudyNet

2. For additional literature, please see the separate file.

3. Hull, J. C. (2012): Options, Futures, and Other Derivatives. 8th ed., Prentice-Hall, Chapters 28-31:

- "Interest rate derivatives: The standard market models"

- "Convexity, timing, and quanto adjustments"

- "Interest rate derivatives: Models of the short rate"

- "Interest rate derivatives: HJM and LMM"

Additional course information

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Examination information

Examination sub part/s

1. Examination sub part (1/1)

Examination time and form

Decentral - Written examination (100%, 60 mins.)

Remark

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Examination-aid rule

Open Book



Students are free to choose aids but will have to comply with the following restrictions:

- At such examinations, all the pocket calculators of the Texas Instruments **TI-30 series** are admissible. Any other pocket calculator models are inadmissible.
- In addition, any type of communication, as well as any electronic devices that can be programmed and are capable of communication such as electronic dictionaries, notebooks, tablets, PDAs, mobile telephones and others, are inadmissible.
- Students are themselves responsible for the procurement of examination aids.

Supplementary aids

The exam is based on the presentations in class, including the compulsory readings.

Examination languages

Question language: English

Answer language: English

Examination content

The exam is based on the presentations in class, including the compulsory readings.

Examination relevant literature

Hull, J. C. (2012): Options, Futures, and Other Derivatives. 8 th ed., Prentice-Hall, Chapters 28-31:

- "Interest rate derivatives: The standard market models"
- "Convexity, timing, and quanto adjustments"
- "Interest rate derivatives: Models of the short rate"
- "Interest rate derivatives: HJM and LMM"



Please note

We would like to point out to you that this fact sheet has absolute priority over other information such as StudyNet, faculty members' personal databases, information provided in lectures, etc.

When will the fact sheets become binding?

- Information about courses and examination time (central/decentral and grading form): from the start of the bidding process on 24 August 2017
- Information about decentral examinations (examination-aid rule, examination content, examination relevant literature): after the 4th semester week on 16 October 2017
- Information about central examinations (examination-aid rule, examination content, examination relevant literature): from the start of the enrolment period for the examinations on 06 November 2017

Please look at the fact sheet once more after these deadlines have expired.