- Faculté des sciences économiques
- www.unine.ch/seco

Derivatives (5AF2002)

Filières concernées	Nombre d'heures	Validation	Crédits ECTS
Master en finance	**Cours: 4 ph**	**Voir ci-dessous**	6
Master en statistique	**Cours: 4 ph**	**Voir ci-dessous**	6

ph=période hebdomadaire, pg=période globale, j=jour, dj=demi-jour, h=heure, min=minute

Période d'enseignement:

- Semestre Printemps

Equipe enseignante

Prof. Florian Weigert
Institute of Financial Analysis
Rue A.-L. Breguet 2
CH-2000 Neuchâtel
Tel. +41 32 718 1331, Email: florian.weigert@unine.ch

Nikolay Pugachyov, teaching assistant, PhD candidate
Institute of Financial Analysis
Rue A.-L. breguet 2
CH-2000 Neuchâtel
Tel. +41 32 718 1468, Email: nikolay.pugachyov@unine.ch

Contenu

This course provides an introduction to derivatives on the master level. We will cover in detail:

- Introduction to derivatives
- Trading strategies
- Pricing of forwards and futures
- Pricing of swaps
- Distribution-independent properties of options
- Pricing of options using the binomial model
- The Black-Scholes formula
- Greeks
- Structured products

The course is structured into lectures, exercises, programming tutorials, and case studies.

Forme de l'évaluation

Grading is based on the following components:

- 20%: Oral participation in class
- 30%: Presentation of a case study (which will be allocated during the first lecture)
- 50%: Final exam, 90-minute written exam during the last lecture of the semester.

Retake exam: 2-hour written exam (100%) during the session.

Students are allowed to use a non-programmable calculator. No documents or connected devices are permitted during the final exam.
In case of violation of these rules, the students are in a situation of fraud and the unauthorized items will be removed. The exam could be deemed as failed.

Documentation

The main textbooks are:

Hull, John C. (2014): Options, Futures, and Other Derivatives, 9th Edition, Pearson.
McDonald, Robert L. (2013): Derivatives Markets, 3rd Edition, Pearson.

- Faculté des sciences économiques
- www.unine.ch/seco

Derivatives (5AF2002)

Pré-requis

Microeconomics, as well as elementary mathematics and probability theory for economists (on the bachelor level)

Forme de l'enseignement

Lectures, exercises, progamming tutorials, and case studies: 4 hours per week.

Objectifs d'apprentissage

Au terme de la formation l'étudiant-e doit être capable de :

- Analyse the price behaviour of futures, forwards, and options
- Compute the fair value of a derivative
- Identify trading strategies associated with derivatives
- Calculate the price of a derivative with the help of a statistical software programme

Compétences transférables

- Present the solution of a case study in a small team in front of your classmates
- Prepare the solution of a case study related to derivative markets
- Discuss the implications of your findings with your professor