

FIN-606

**Mathematics for Financial Economics**

Malamud Semyon

<b>Cursus</b>	<b>Sem.</b>	<b>Type</b>
Finance		Obl.

Language of teaching	English
Credits	3
Session	
Exam	Written
Workload	90h
<b>Hours</b>	<b>28</b>
Courses	28
<b>Number of positions</b>	

**Frequency**

Every year

**Summary**

The course is focused on continuous time models and their use in financial economics. Our objective is to study the tools employed in solving dynamic optimization and valuation problems. We will illustrate each technique with a financial application.

**Content**

1. Basic Probability Theory
2. Stochastic Processes in Discrete Time
3. Brownian Motion and Stochastic Calculus
4. Dynamic Optimization and Optimal Stopping

**Learning Prerequisites****Important concepts to start the course**

Familiarity with basic concepts of analysis and probability.

**Assessment methods**

Written exam.

**Resources****Websites**

- <http://sfi.epfl.ch/page-12801-en.html>