

Option Pricing

MA ECON AM FIE OPTPR



Content and learning outcome

Content
The course presents the pricing and hedging of options in the continuous time model by Black and Scholes. The model dependency of the perfect duplication strategy and its applications to risk management will be discussed. This includes a discussion of the differences between dynamic hedging strategies and static or robust hedging. Beside standard options the pricing of more complex financial contracts will be analysed. Numerical approximations like the Monte Carlo method will be applied to these contracts.

Learning outcome
The course aims to provide students with an understanding of the Black and Scholes option pricing model. It enables them to recognize the significant role of risk neutral pricing as the basis of modern option pricing theory. Students learn to apply the technique including numerical methods of risk neutral pricing to nonstandard financial products and to review the hedging strategies with respect to the risk management of options.

Teaching and learning methods

Type of course/learning methods	Topic	Language of instruction	Group size	Contact time	Workload [h]
Lecture	Option Pricing	English	30	4 hours	60
Self-study					165

Prerequisites

obligatory	none
recommended	Basic Module <i>Finance</i>

Degree program allocation

Study Program/Study Field/Module Number/Lecture Number	obligatory/elective	Semester
Economics (M.Sc.)/Financial Economics/332124023/332024023	elective	2 nd
Export*(332192423/332024023)		

Requirements for the awarding of credit points (ECTS)

	Credits
Prerequisites for participation	7,5 CP
Types of Assessment	
Examination language	

Course Cycle	Workload	Duration
Winter term <input type="checkbox"/> Winter and Summer term <input checked="" type="checkbox"/> Summer term <input type="checkbox"/>	225 h	1 Term

Module coordination

Teaching person	See https://basis.uni-bonn.de
Module coordinator	Prof. Dr. Hendrik Hakenes
Institute/Department	Department of Economics

Further Information

Literature	The recommended literature will be announced at the beginning of the course.
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