

GRADUATE – Disciplines Menu
Doctorate and Masters in Economics

DISCIPLINE: Stochastic Integration	CODE: MDPMAT017
ACRONYM: IEST	
PROFESSOR: Paulo Klinger Monteiro	WORKLOAD: 40h CREDIT HOUR: 4
MANDATORY: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	COURSE: <input type="checkbox"/> M <input type="checkbox"/> D <input checked="" type="checkbox"/> MD
PREREQUISITES: Calculus Course	
CONCENTRATION AREA: Mathematics	
STUDY PLAN	
<p>Course in Stochastic Integration</p> <p>1. Probability</p> <ul style="list-style-type: none"> a. Definition and basic properties b. Distribution c. Integration—monotone convergence theorem and dominated convergence theorem <p>2. Stochastic processes</p> <ul style="list-style-type: none"> a. Independence b. Conditional expectation c. Martingales and Markov processes d. Brownian motion <p>3. Stochastic calculus</p> <ul style="list-style-type: none"> a. Ito integral b. Girsanovs formula c. Feynman-Kac formula <p>4. Risk neutral pricing</p> <ul style="list-style-type: none"> a. Options and other derivatives b. Exotic options c. American options 	
GOALS To use the theory to calculate derivative prices.	
BIBLIOGRAPHY Book text: Stochastic Differential Equations, Bernt Oksendal, Springer.	

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