Planning and Quality Assurance Affairs

Course Specifications

General Information

Course name	Financial Mathematics
Course number	STAT1303
Faculty	
Department	
Course type	Major Needs
Course level	1
Credit hours (theoretical)	3
Credit hours (practical)	0
Course Prerequisites	

Course Objectives

1 - The course unit aims to enable students to acquire active knowledge and understanding of some basic concepts in financial mathematics including stochastic models for stocks and pricing of contingent claims.

Intended Learning Outcomes

Knowledge and Understanding	
	* Understand the dynamics of cash flows
	* Calculate the various yield measures such as current yield & yield-to-maturity
	* Calculate the price of option-free bonds and price/volatility characteristics of bonds with embedded options
	* Comprehend volatility and correlation and methods to calculate them

Course Contents

1 - Introduction
2 - Basic financial arithmetic
3 - Cash flows
4 - Bonds calculations
5 - Bonds risks
6 - Floating rate securities
7 - Amortization and depreciation
8 - Swaps
9 - Forward interest rates
10 - Futures
11 - Foreign exchange
12 - Options
13 - Real options
14 - Valuation
15 - Leasing

Teaching and Learning Methods

1 - lectures

Students Assessment

Assessment Method	TIME	MARKS
homework		10 %
midterm exam	1 hour	40 %
final exam	2 hours	5 %

Books and References

Course note	mathematics of finance , petr zima et al. ,2007
Essential books	ALASTAIR L. DAY ,Mastering Financial Mathematics ,2015