

Annexe A: New/Revised Course Content in OBTL+ Format

Course Overview

The sections shown on this interface are based on the templates [UG OBTL+](#) or [PG OBTL+](#)

If you are revising/duplicating an existing course and do not see the pre-filled contents you expect in the subsequent sections e.g. Course Aims, Intended Learning Outcomes etc. please refer to [Data Transformation Status](#) for more information.

Expected Implementation in Academic Year	AY2024-2025
Semester/Trimester/Others (specify approx. Start/End date)	Semester 1
Course Author * Faculty proposing/revising the course	Ciyu Nie
Course Author Email	cynie@ntu.edu.sg
Course Title	Valuation and Risk Models
Course Code	BR3213
Academic Units	3
Contact Hours	39
Research Experience Components	Not Applicable

Course Requisites (if applicable)

Pre-requisites	BR2210 Financial Markets and Products
Co-requisites	
Pre-requisite to	
Mutually exclusive to	
Replacement course to	
Remarks (if any)	

Course Aims

This course introduces several valuation techniques and risk models, including specific measures of financial risk, the definition of economic and regulatory capital, the models on option and fixed income valuation etc. The purpose of the course is to equip students with right mindsets and necessary knowledge and skillsets of completing Valuation and Risk Models in the GARP FRM® Exam Part I.

Course's Intended Learning Outcomes (ILOs)

Upon the successful completion of this course, you (student) would be able to:

ILO 1	Calculate and describe different measures of financial risk;
ILO 2	Define different types of risks faced by financial institutions and apply different models to assess these risks;
ILO 3	Describe and apply different valuation methods for fixed income assets;
ILO 4	Describe and apply different valuation methods for derivatives.

Course Content

Measures of financial risk; measuring and monitoring volatility
External and internal credit ratings;
Country risk, credit risk and operational risk
Stress testing;
Valuation of fixed income assets and model for interest rates;
Valuation methods for derivatives including binomial tree and the Black-Scholes-Merton model.

Reading and References (if applicable)

Hull, John C. Risk Management and Financial Institutions: Risk Management and Financial Institutions (4th Edition).
Fourth Edition. New York: John Wiley & Sons, Incorporated, 2015.

Planned Schedule

Week or Session	Topics or Themes	ILO	Readings	Delivery Mode	Activities
1	Measures of financial risk	IOL1	Handouts & Tutorial questions		
2	Measuring and monitoring volatility; External and internal credit ratings	IOL1	Handouts & Tutorial questions		
3	Country Risk & Credit Risk	IOL2	Handouts & Tutorial questions		
4	Operational Risk	IOL2	Handouts & Tutorial questions		
5	Stress Testing	IOL2	Handouts & Tutorial questions		
6	Pricing, Discounting and Arbitrage	IOL3	Handouts & Tutorial questions		
7	Interest Rates, Bond Yields and returns	IOL3	Handouts & Tutorial questions		
8	Recess				
9	Duration and Convexity; Hedging	IOL3	Handouts & Tutorial questions		
10	Binomial Trees	IOL4	Handouts & Tutorial questions		
11	The Black-Scholes-Merton Model	IOL4	Handouts & Tutorial questions		
12	The Greeks	IOL4	Handouts & Tutorial questions		
13	Review	IOL1 -4	Handouts & Tutorial questions		

Learning and Teaching Approach

Approach	How does this approach support you in achieving the learning outcomes?
Seminars	The interactive seminar session where there is ample opportunities for open discussion on the conceptual questions raised in the class allows you to think critical and share their ideas and concept with the class. This also allows me to get the concepts clearly through the entire class by involving you and ensure that the targeted learning outcomes are being achieved
In-Class activities	Some learning outcomes for this course are skills which are practical in nature and cannot be achieved by reading and writing. The achievement of such learning outcomes requires hands-on experience, in-class activities provide such opportunities.

Assessment Structure

Assessment Components (includes both continuous and summative assessment)

No.	Component	ILO	Related PLO or Accreditation	Weightage	Team/Individual	Rubrics	Level of Understanding
1	Summative Assessment (EXAM): Final exam()	ILO1-4	Critical Thinking, Acquisition of knowledge	50	Individual	Analytic	Multistructural
2	Continuous Assessment (CA): Test/Quiz(Mid-term Quiz)	IOL1-2	Critical Thinking, Acquisition of Knowledge	30	Individual	Analytic	Multistructural
3	Continuous Assessment (CA): Presentation(Coursework: Class presentation*)	IOL1-4	Oral Communication & Written Communication, Acquisition of Knowledge	10		Holistic	Multistructural
4	Continuous Assessment (CA): Class Participation(Coursework: Class participation)	IOL1-4	Oral Communication	10	Individual	Holistic	Multistructural

Description of Assessment Components (if applicable)

* Presentation will take place in group form where every member is required to present.

Formative Feedback

You will receive verbal feedback from me about your presentations, as well as in-class discussion. You will receive summative group feedback on the exam following the conclusion of the module.

NTU Graduate Attributes/Competency Mapping

This course intends to develop the following graduate attributes and competencies (maximum 5 most relevant)

Attributes/Competency	Level
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Course Policy

Policy (Academic Integrity)

Good academic work depends on honesty and ethical behaviour. The quality of your work as a student relies on adhering to the principles of academic integrity and to the NTU Honour Code, a set of values shared by the whole university community. Truth, Trust and Justice are at the core of NTU's shared values. As a student, it is important that you recognize your responsibilities in understanding and applying the principles of academic integrity in all the work you do at NTU. Not knowing what is involved in maintaining academic integrity does not excuse academic dishonesty. You need to actively equip yourself with strategies to avoid all forms of academic dishonesty, including plagiarism, academic fraud, collusion and cheating. If you are uncertain of the definitions of any of these terms, you should go to the academic integrity website for more information. On the use of technological tools (such as Generative AI tools), different courses / assignments have different intended learning outcomes. Students should refer to the specific assignment instructions on their use and requirements and/or consult your instructors on how you can use these tools to help your learning. Consult your instructor(s) if you need any clarification about the requirements of academic integrity in the course.

Policy (General)

You are expected to complete all assigned readings, activities, assignments, attend all classes punctually and complete all scheduled assignments by due dates. You are expected to take responsibility to follow up with assignments and course related announcements. You are expected to participate in all project critiques, class discussions and activities.

Policy (Absenteeism)

Absence from class without a valid reason will affect your overall course grade. Valid reasons include falling sick supported by a medical certificate and participation in NTU's approved activities supported by an excuse letter from the relevant bodies.

If you miss a lecture, you must inform the course instructor via email prior to the start of the class.

Policy (Others, if applicable)

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Last Updated By: Susan Tan