H9ASA: Applied Security Analysis

Module Code:	H9ASA
Long Title	Applied Security Analysis APPROVED
Title	Applied Security Analysis
Module Level:	LEVEL 9
EQF Level:	7
EHEA Level:	Second Cycle
Credits:	5
Module Coordinator:	CORINA SHEERIN
Module Author:	JOE NAUGHTON
Departments:	School of Business
Specifications of the qualifications and experience required of staff	

Learning Outcomes	
On successful completion of this module the learner will be able to:	
#	**Learning Outcome Description**
LO1	Evaluate and appraise the principles of asset valuation, and apply these principles in a variety of situations.
LO2	Critically evaluate equity valuation techniques and understand in what circumstances it is appropriate to apply each modelandunderstand the assumptions and limitations inherent in each model.
LO3	Select, categorise and appraise a variety of fixed income security valuation and relative value techniques and understand how these may be applied to a variety of bonds including bonds with embedded options.
LO4	Demonstrate an advanced knowledge of the Mortgage and Asset Backed sector of the bond market with a comprehensive knowledge of the risk characteristics and pricing techniques for various types of Mortgage and Asset Backed Securities.
LO5	Apply credit risk principles to the valuation of derivative securities

Dependencies
Module Recommendations
No recommendations listed
Co-requisite Modules
No Co-requisite modules listed

Entry requirements	There are no additional entry requirements for this module. The programme entry requirements apply.

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Module Content & Assessment

Indicative Content

Dividend Discount Models
Use CAPM and APT to select an appropriate discount rate Review of the derivation of the Gordon Growth Model Present Value of Growth Opportunities (PVGO) Calculate the value of common stock using the dividend discount model, one stage, two stage, H-model, constant growth model Determination of terminal value

Free Cash Flow Models
Analysis of financial statements to infer FCFE and FCFF Weighted Average Cost of Capital Approaches for forecasting FCFE and FCFF Use of constant growth, multistage and spreadsheet based free cash flow valuation models Sensitivity of models to dividends, share repurchases, changes in leverage

Market Multiples
Method of comparables vs. method of forecasted fundamentals Definition and justification of marker multiples: P/E, P/B, P/S, earnings yield, and dividend yield Use of the P/E-to-growth ratio (PEG) Use of maker multiples in the terminal value of discounted cash-flow valuation

Residual Income Models
Definition and interpretation of the terms residual income, economic value added, and market value added Discussion of the nature of residual income valuation models and the circumstances in which they should be used Accounting issues: violations of the clean surplus relationship Single and multi-stage residual income models.

Credit and Interest Rate Risk in Fixed Income Securities
Analysis of default, downgrade and credit spread risks Credit analysis of corporate, sovereign, municipal and asset backed securities Term Structure of Interest Rates Yield curve dynamics Theories of the shape of the yield curve Interest rate risk: duration and convexity Derivation of Macaulay Duration expression using calculus Quantification of Convexity adjustment Interest rate risk: key rate duration and present value of a basis point Analysis of interest rate volatility.

Bonds with Embedded Options
Overview of short rate interest rate models Use of binomial trees to value bonds Extension of the model to price callable and puttable bonds Spreads: nominal spread, z-spread, and Option Adjusted Spread Characteristics and risk analysis of convertible bonds

Mortgage-Backed Securities
Analysis of the characteristics of amortising loans Mortgage pass-through securities Prepayment characteristics – PSA benchmark Collateralised mortgage obligations and structures –Sequential Pay Tranches, Planned Amortisation Class CMOs, IO and PO strips Commercial Mortgage-Backed Securities

Asset Backed Securities
Analysis of the basic structural features of different types of asset backed securities: auto-loans, credit card receivables, home equity loans, student loans, and manufactured housing loans Analysis of the credit enhancements on various asset backed securities Analysis of the structure and characteristics of cash and synthetic Collateralised Debt Obligations

Valuation of Mortgage Backed and Asset Backed Securities
Overview of Monte Carlo simulation for MBS valuation Computation of spreads and effective duration Analysis of convexity for mortgage-backed securities

Modelling of Credit Risk and Valuation of Credit Derivatives
Constant hazard rate for default modelling Credit Default Swap Valuation Valuation of Basket CDS and CDO Use and limitations of Gaussian Copula models Overview of Credit Value Adjustment (CVA) for Derivatives Methods of computing CVA Risk dynamics of CVA

Assessment Breakdown	%
Coursework	40.00%
End of Module Assessment	60.00%

Assessments

Full Time

Coursework

Assessment Type:	Continuous Assessment	**% of total:**	40
Assessment Date:	n/a	**Outcome addressed:**	1,2,3,4
Non-Marked:	No		

Assessment Description:
Candidates are required to complete an equity valuation assignment.

End of Module Assessment

Assessment Type:	Terminal Exam	**% of total:**	60
Assessment Date:	End-of-Semester	**Outcome addressed:**	1,5
Non-Marked:	No		

Assessment Description:
Final Examination, which will cover the entire course and will be a mix of theory and computational questions

No Workplace Assessment

Reassessment Requirement

Repeat examination
Reassessment of this module will consist of a repeat examination. It is possible that there will also be a requirement to be reassessed in a coursework element.

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Module Workload

Module Target Workload Hours 0 Hours

Workload: Full Time

Workload Type	*Workload Description*	*Hours*	*Frequency*	*Average Weekly Learner Workload*
Lecture	Classroom and demonstrations	24	Per Semester	2.00
Directed Learning	Directed e-learning	24	Per Semester	2.00
Independent Learning	Independent learning	77	Per Semester	6.42
			Total Weekly Contact Hours	4.00

Workload: Part Time

Workload Type	*Workload Description*	*Hours*	*Frequency*	*Average Weekly Learner Workload*
Practical	No Description	2	Every Week	2.00
Assignment	No Description	4	Every Week	4.00
Independent Learning	No Description	4.5	Every Week	4.50
			Total Weekly Contact Hours	2.00

Module Resources

Recommended Book Resources

CFA Level 2 Kaplan Schweser notes, books 3 and 5, Equity Investments and Fixed Income.

Petitt, B, (2019), Fixed Income Analysis Workbook, CFA Institute Investment Series.

Cuthbertson, K, (2009) ,Investments ,2nd Edition, Wiley.

Pinto, J, (2015), Equity Asset Valuation, CFA Institute Investment Series.

Hull, J, (2021) Options, Futures, and Other Derivatives, Global Edition Pearson.

This module does not have any article/paper resources

Other Resources

[Website], http://www.wilmott.com.

[Website], http://www.mathfinance.de.

[Website], www.garp.com.

[Website], www.bloomberg.com.

[Website], www.reuters.com.

Discussion Note:	