

National College of Ireland

Annual Programme Review

Proposal for Change



MSc Finance

March 2015

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1 Rationale for Change

The MSc Finance, validated in 2011 with the first cohort intake in the academic year 2012/2013. The full time version of the programme has to date attracted a predominantly international cohort while the part-time version of the programme has tended to recruit from the local financial services organisations located here in the IFSC. The MSc Finance is the only postgraduate programme currently within the School of Business which is not block delivered and is not open to modular students. The nature of the programme and content is such that a block delivery approach would not be appropriate as students need time to practice and internalise many of the concepts addressed and these build upon one another with high levels of interdependency between core skills required for many of the modules.

The numbers recruited to date have been low and this issue is one which the Programme Team have considered. There are a number of issues potentially at play. The programme content and delivery is believed to be of a very high quality and the student/graduate feedback has been very positive to date. The School has taken a strategic decision to support the programme in its initial development phase to allow the programme time to establish itself in a competitive market place. The disappointing recruitment numbers to date may be a reflection of the absence of a dedicated marketing campaign to launch the programme onto the market with an aligned strategy to target local financial services organisations in a focused manner. The Marketing team in the College have been charged with addressing this concern. As a result, the programme team opted not to programmatically review this programme as part of the overall School of Business review and will review the programme in 2015/6 when results of the marketing work can inform that process. .

However, as part of the self-reflection process, the programme team has identified a trend within the postgraduate finance arena whereby specialisation appears to be increasingly popular. So those postgraduate finance programmes that are recruiting well have tended to focus on an aspect of finance and specialised within that – DCU for example with their emphasis on Green Finance. The Programme Team were of the view that while a more generic MSc offering for full time students may be appropriate it is likely that a more specialised focus is more appealing to those already working in the financial services industry. The difficulty from a school perspective, is the ability to resource a specialist programme while also attracting sufficient interest in that particular area.

As a result of these considerations the Programme Team is proposing a number of changes within College's major modification of programme process to allow for greater specialisation within the programme structure while remaining mindful of the constraints that face the team. The College has proposed to QQI that these amendments be considered by members of the original validation panel.

1.1.1 Programme Level Changes

.The proposal is to introduce a 15 credit dissertation (as opposed to the previous research project which will be preceded by a Capstone Project Seminar Series attracting a 5 credit weighting. The idea behind the seminar series is to identify a number of themes/contemporary topical areas each year and leverage off the expertise of the current programme team while simultaneously inviting in guest lecturers to team teach the module thereby allowing students to develop an interest or specialism relevant to them or their future career direction. The seminar series will require team teaching to introduce students to a number of specialisms which

are likely to be limited to a maximum of four in any given year. The themes to be addressed will be agreed by the Programme Team in advance at the beginning of the programme and are open to change from year to year depending on developments within the sector.

The Programme Team feel that a dissertation is considered the norm within the sector and is likely to be a pivotal part of any interview process as it allows a potential employer to quiz a student on technical aspects to their programme and provides the student with a platform to speak intelligently around an area where they have developed a deeper level of understanding.

In order to accommodate the introduction of the Capstone Project Seminar Series a number of amendments to modules and credit weightings are proposed. The most noticeable of these is the movement of Portfolio Management from a 10 credit module to a 5 credit module with an attaching decrease in the number of contact hours from 39 hours to 30 hours.

The Programme Team felt, following from student feedback, that there was a need for more lab based sessions particularly in relation to software applicable to working in the financial services sector notably MatLab and Excel. It was considered that such a skills deficit is more pronounced amongst the full time cohort. The team felt that the previous Managing in a Financial Environment module was not adding value in terms of employability skills for the full time group in particular and hence felt that a skills based module such as the proposed Financial and Quantitative Modelling module would be more appealing to this group.

Equally however the Programme Team felt that there are those on the part-time programme in particular who are very adept at MatLab and Excel for whom their skill deficit lies in their management skills and people interaction competencies for whom a general leadership/management skills module would be more appropriate. For this reason the programme team are proposing an elective choice allowing students, subject to sufficient numbers, to choose between the two skills deficit areas.

1.1.2 Module level changes

In addition to those changes proposed above, the Programme Team are proposing the de-coupling of Financial Regulation and Ethics and Governance for the purpose of the assignment. The lecturers concerned have tried the integrated assessment approach over the past number of iterations of the modules and have found it to be unsatisfactory for both students and themselves.

As noted above the Managing in the Financial Environment module will be removed from the programme going forward. In its place will be a choice between two five credit modules, either the Financial and Quantitative Modelling module or the Strategic Management and the Global Environment module. The Financial and Quantitative Modelling module is a new module developed specially for this programme while the Strategic Management and the Global Environment is an existing five credit module at level 9.

1.1.3 Assessment structure

As previously mentioned the only change to the assessment structure of the programme is in relation to the de-coupling of Financial Regulation and Ethics and Governance modules.

2 Current Programme Schedule

Name of Provider		National College of Ireland											
Programme Title (i.e. named award)		Master of Science in Finance											
Award Title (HETAC named award)		Master of Science in Finance											
Stage Exit Award Title		n/a											
Modes of Delivery (FT/PT/ACCS/BLENDED/OC etc.)		Full Time, ACCS											
Award Class	Award NQF Level	Award EQF Level	Stage	Stage Level	Stage NQF Level	Stage EQF Level	Stage Credit (ECTS)	Date Effective	ISCED Subject Code				
MAJOR	9	7	AWARD	9	7	90		343					
Ref	Module Title		Semester		ECTS		Total Student Effort			Allocation of Marks			
	Award NQF Level	Award EQF Level	Status (M/E)	NQF Level	Credit Number	Total Hours	Contact Hours	Independent Learning	CA %	Project %	Practical %	Final %	Total %
H9ECON			1	9	5	125	26	99		40		60	100
H9QMFIN			1	9	5	125	26	99	100				100
H9FSA			1	9	10	250	39	211		30		70	100
H9ASSVAL			1	9	10	250	39	211		30		70	100
H9QAFIN			2	9	5	125	26	99	40			60	100
H9CORFIN			2	9	5	125	30	95	60			40	100
H9PFMGMT			2	9	10	250	39	211		40		60	100
H9DARMGMT			2	9	5	125	26	99	40			60	100
H9ASECAN			2	9	5	125	26	99	40			60	100
H9ETHGOV			3	9	5	121	26	95	30			70	100
H9FINREG			3	9	5	125	26	99	40			60	100
H9MFINENV			3	9	5	125	36	89	60	40			100

3 Proposed Programme Schedule

Name of Provider		National College of Ireland											
Programme Title (i.e. named award)		Master of Science in Finance											
Award Title (HETAC named award)		Master of Science in Finance											
Stage Exit Award Title		n/a											
Modes of Delivery (FT/PT/ACCS/BLENDED/OC etc.)		Full Time, ACCS											
Award Class	Module Title	Award NQF Level	Award EQF Level	Semester	Stage	Stage NQF Level	Stage EQF Level	Stage Credit (ECTS)	Date Effective	ISCED Subject Code			
MAJOR	AWARD	9	7	AWARD	9	9	7	90	343				
Ref	Module Title	Semester	Status (M/E)	NQF Level	ECTS Credit Number	Total Student Effort			Allocation of Marks				
						Total Hours	Contact Hours	Independent Learning	CA %	Project %	Practical %	Final %	Total %
H9ECON	Economics	1	M	9	5	125	26	99	40			60	100
H9QMFIN	Quantitative Methods in Finance	1	M	9	5	125	26	99	100				100
H9FSA	Financial Statement Analysis	1	M	9	10	250	39	211	30			70	100
H9ASSVAL	Asset Valuation	1	M	9	10	250	39	211	30			70	100
H9QAFIN	Quantitative Analysis in Finance	2	M	9	5	125	26	99	40			60	100
H9CORFIN	Corporate Finance	2	M	9	5	125	30	95	60			40	100
H9PFMGMT	Portfolio Management	2	M	9	5	125	30	95	40			60	100
H9DARMGMT	Derivatives and Risk Management	2	M	9	5	125	26	99	40			60	100
H9ASECAN	Applied Security Analysis	2	M	9	5	125	26	99	40			60	100
H9ETHGOV	Ethics and Governance	3	M	9	5	121	26	99	30			70	100
H9FINREG	Financial Regulation	3	M	9	5	125	26	99	40			60	100
New Module	Capstone Project Seminar Series	3	M	9	5	125	26	89	60			40	100
New Module	Dissertation	3	M	9	15	300	24	276	30			70	100
New Module	Financial and Quantitative Modelling	1	E	9	5	125	26	99	100				100

New Module	Strategic Management and the Global Environment	1	E	9	5	125	26	99	100	100				100
<p>Special Regulations: Learners must pass the dissertation module. The dissertation must be passed and may not be used for compensation. The elective choice of Financial and Quantitative Modelling and Strategic Management and Global Environment are subject to minimum numbers. Where minimum numbers are not reached to deliver both modules, the module with the greater number of votes will be delivered.</p>														

4 Revised Module Descriptors

4.1 Capstone Seminar Series

Stage	AWARD						
Semester	3						
Module Title	Capstone Seminar Series						
Module Reference Code	New Module						
Status (M/E)	M						
ECTS Credit	5						
Module NFQ Level	9						
Pre-requisite Modules	Code	Title					
Co-requisite Module	Code	Title					
Capstone (Y/N)							
Teaching Personnel	Title	Name					
	Dr	Corina Sheerin					
		Programme Team					
Contact Hours	Non-Contact Hours						Total
Lecture	Practical	Tutorial	Seminar	Assignment	Placement	Independent	
13			26	46		40	125
Allocation of Marks within the module							
	Continuous Assessment	Project	Practical	Terminal Examination	Total		
% Contribution	100%				100%		

4.1.1 Intended Module Learning Outcomes

On successful completion of this module, learners will be able to:

- LO1. Critically evaluate and disseminate multiple sources of financial research in order to develop a comprehensive understanding of relevant issues.
- LO2. Demonstrate individual led critical thinking skills through synthesis and critique of academic and industry-led research and hence identify and present research questions, business solutions and/or theories and ideas for empirical testing.
- LO3. Communicate, present and articulate a detailed understanding of contemporary issues in finance to a non-technical audience as part of a group.
- LO4. Engage in meaningful discourse with academic peers and finance practitioners on contemporary issues and challenges facing the global financial services sector.

4.1.2 Module Objectives

The aim of this module is to stimulate critical thinking among learners concerning contemporary and topical issues in finance. Learners on completion will be able to articulate a comprehensive and understanding of real-world financial issues. Equally learners will be able to disseminate and assess multiple sources of information from the foreground of

academic research on topics of substantive public interest, thus ensuring they are informed and critical contributors to contemporary debates in finance.

4.1.3 Module Curriculum*

**With the exception of the content outlined in week 1, please note the nature of this module is contemporary and as such the curriculum set out is indicative in nature. The topics for inclusion will be updated by the programme team on an annual basis.*

The Process of Research (Week 1)

Literature Review, Developing a Research Paper, Seminar Requirements Presentation Skills

Topic 1: Post Financial Crisis: Risk Management

e.g. Credit Analytics

Topic 2: Globalisation of Banking and Finance

e.g. Islamic Banking, Fintech

Topic 3: Applying Financial Expertise to Environmental Issues

Renewable Energy, Green Finance, Sustainability

Topic 4: Growth Areas of Financial Services

e.g. Microfinance, Crowd Funding, Aircraft Leasing

Topic 5: Digital Currencies Week

e.g. Bitcoin

Topic 6: Algorithmic Trading: A Black Box?

4.1.4 Reading List & Other Resources*

**Specific prescribed readings will be provided to students on an annual basis which will reflect the topics under discussion. Peer reviewed journal and electronic resources such as those outlined below will be included in the learning plan.*

Resources

Journals

Journal of Finance
 Journal of Quantitative Finance
 Quarterly Journal of Finance
 Journal of Economics and Finance
 Journal of Banking and Finance
 The European Journal of Finance
 Journal of Current Issues in Finance, Business and Economics

Other Resources

The Economist	http://www.economist.com
The Financial Times	http://www.ft.com
The Wall Street Journal	http://www.wsj.com
Bloomberg	http://www.bloomberg.com
Reuters	http://www.reuters.com
The Financial Regulator	http://www.financialregulator.ie
Business and Finance	http://www.businessandfinance.com
The Central Bank	http://www.centralbank.ie
Current Issues in Economics and Finance	http://econpapers.repec.org/article/fipfednci/

4.1.5 Learning Environment

Learning will take place in a classroom/lab/workplace environment with access to IT resources. Learners will have access to library resources, both physical & electronic and to faculty outside of the classroom where required. Module materials will be placed on Moodle, the College's virtual learning environment.

4.1.6 Module Teaching & Learning Strategy

The ethos of this module is to create critical independent thinkers and learners who are able to contribute to modern finance discourse. As such the teaching and learning strategy will focus on the ability to critique information and structure a logical debate and discussion. The module will encourage both interdependent as well as independent learning. Group discussion and presentations will predominately feature. The module will also act as a

training ground for dissertation topic selection, whereby learners will be encouraged to identify research ideas and develop realistic research questions which address contemporary and emergent financial issues and problems. The indicative content will be decided annually by the programme team and influenced by topics of the day pertinent in both academic literature as well as industry research. Module hours will be in the form of seminars primarily. These will be supplemented with traditional classroom led lectures also. There will be a high proportion of lectures featuring both guest lecturers from industry as well as peer academics. Both guest lecturers and peer academics will also inform the annual assessment strategy and they may be directly involved in assessment thought presentations, debates etc. A wide range of classroom materials will be used including academic journals, practitioner led journals, case studies, audio visual information and on-line resources where appropriate.

4.1.7 Module Assessment Strategy

Allocation of marks

Coursework	100%
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Formative Assessment

Formative assessment will be included by the provision of class case studies followed by review of results and group in class feedback. In addition oral and written communication along with in class discussions will be included as part of the practical approach to learning. Provision of individual feedback will be provided individually outside of lecture time or on line through Moodle

Coursework (100%)

The coursework is comprised of two elements, one to be individual and the other groupwork in nature.

Continuous Assessment Groupwork (50%)

Each learner will be randomly allocated to a learning team (max four persons). As part of the learning team there will be a number of requirements throughout the semester. These may include contribution to a module blog, team debates and/or interactive presentations.

Continuous Assessment: Individual (50%)

Each learner will be asked to write a research paper and hence lead a seminar on an article/topic relating to an issue related to any of the topics covered in the last six weeks of the programme of study. The written research paper will be submitted in advance of the seminar and feedback will be provided prior to the seminar session. Each seminar will be approximately twenty-thirty minutes long and learners will be expected to present their seminar/lecture to their peers and/or industry specialists or other academics. The seminar will be marked by the lecturer in the first instance as well as industry specialists or/and peer academics.

***Coursework Regulation: Learners will be required to pass both the groupwork and the individual element.**

Repeat Arrangements

This module is reassessed solely on the basis of re-submitted coursework. There is no repeat written examination. Learners will be required to pass both the groupwork and the individual element. If a learner fails one element, it must be repeated. If both elements are failed, both elements must be re-taken.

4.2 Dissertation

Stage		AWARD					
Semester		3					
Module Title		Dissertation					
Module Reference Code		H9DISSER					
Status (M/E)		M					
ECTS Credit		15					
Module NFQ Level		9					
Pre-requisite Modules		Code		Title			
Co-requisite Modules		Code		Title			
Capstone (Y/N)							
Teaching Personnel		Title		Name			
		Dr		Colette Darcy			
Contact Hours				Non-Contact Hours			Total
Lecture	Practical	Tutorial	Seminar	Assignment	Placement	Independent	
		4				396	400
Allocation of marks within the Module							
	Continuous Assessment	Project	Practical	Terminal Examination	Total		
% Contribution	100%			0%	100%		

4.2.1 Intended Module Learning Outcomes

On successful completion of this module, learners will:

- LO 1. Demonstrate scientific inquiry skills to assess the effectiveness of any research approach when faced with potential organisational research questions.
- LO 2. Critically evaluate the existent literature at the forefront of knowledge in the field and draw inferences from that literature.
- LO 3. Demonstrate the ability to evaluate and select the appropriate research method for gathering empirical data relevant to the research question posed
- LO 4. Demonstrate the ability to analyse data gathered and to draw appropriate conclusions and recommendations based on that data
- LO 5. Develop the capacity for self-directed enquiry and the ability to manage a complex research project
- LO 6. Formulate rigorous explanations for the research findings presented
- LO 7. Critically evaluate the significance of the research findings presented

4.2.2 Module Objectives

The module aims to:

The dissertation module requires students to demonstrate the mastery of core academic research and writing skills in the design and production of an original research-based piece of work.

4.2.3 Module Curriculum

Teaching Methodology

Each student is allocated an academic supervisor to provide support, advice and guidance over the duration of the dissertation period. It is a requirement of any academic advisor to meet with students for a minimum of four hours during this time. The student will work with the academic advisor to identify and refine an appropriate research question, suitable for Level 9 qualification. The academic advisor is not responsible for ensuring students meet the submission deadline however they are expected to provide timely feedback on draft proposals and final document submissions

4.2.4 Teaching & Learning Strategy

The dissertation is a stimulating and challenging part of the programme. It is a major piece of independent work of no more than 20,000 words in length. The objective of the dissertation is to give learners the opportunity to bring to bear the techniques and perspectives covered in the taught modules upon a specific academic area of interest. The dissertation should provide an independent and critical appraisal of an issue, normally involving an empirical analysis of the topic being investigated.

4.2.5 Reading List & Other Resources

Recommended Book Reading

Collis, J. & Hussey, R. (2014), *Business Research: A practical guide for undergraduate and postgraduate students*, 4th Ed., Palgrave Hampshire, UK

Quinlan, C (2011), *Business Research Methods*, Cengage Learning EMEA Hampshire, UK

Rugg, G. & Petre, M. (2010), *A Gentle Guide to Research Methods*, Open University Press Berkshire, UK

Blaxter, L., Hughes, C. & Tight, M. (2010), *How to Research*, 4th Ed., Open University Press Berkshire, UK

Saunders, M., Lewis, P., & Thornhill, A. (2012), *Research Methods for Business Students*, 6th Ed., Financial Times/Prentice Hall, Harlow, UK

Bryman, A. & Bell, E., (2011), *Business Research Methods*, 3rd Ed., Oxford University Press UK

Crewell, J.W. (2013), *Qualitative, Quantitative, and Mixed Methods Approaches*, 4th Ed., SAGE Publications

Fisher, C. (2010), *Researching and Writing a Dissertation*, Prentice Hall Harlow, UK

4.3 Strategic Management and the Global Environment

Stage	AWARD						
Semester	3						
Module Title	Strategic Management and the Global Environment						
Module Reference Code	H9GLENV						
Status (M/E)	E						
ECTS Credit	5						
Module NFQ Level	9						
Pre-requisite Modules	Code	Title					
Co-requisite Modules	Code	Title					
Capstone (Y/N)							
Teaching Personnel	Title	Name					
	Dr	John Lynch					
Contact Hours	Non-Contact Hours					Total	
Lecture	Practical	Tutorial	Seminar	Assignment	Placement	Independent	
30						95	125
Allocation of marks within the Module							
	Continuous Assessment	Project	Practical	Terminal Examination	Total		
% Contribution	100%			0%	100%		

4.3.1 Intended Module Learning Outcomes

On successful completion of this module, learners will:

- LO 1. Construct a theoretical framework which integrates the basic concepts and approaches to the strategic management of organisations
- LO 2. Discriminate between the different effects that environmental factors and forces have on the organisation and the strategy process.
- LO 3. Interpret the findings of level specific analytical tools when applied to a specific business situation
- LO 4. Develop a reflective approach to analyse and evaluate strategic situations
- LO 5. Develop the ability to synthesise different schools of thought in relation to the analysis of strategic issues faced by organisations.

4.3.2 Module Objectives

The aim of the module is to: provide an overview of the business context and environmental factors and forces that are at work in it; to encourage understanding of the many and sometimes conflicting schools of thought on Strategic Management; to experience through case studies and discussion, the real-life strategic management issues experienced by practitioners; to develop the ability to define strategic issues, and critically reflect on the applicability of existing theories; and to promote continuous learning habits

4.3.3 Module Curriculum

Introduction to the Strategy Process

- Key concepts.
- Strategy formulation vs. Strategy formation.
- Strategy as a pattern, plot, plan, position and perspective.
- Strategic purpose

Strategic Context

- International context: globalisation vs. localisation.
- Industry context.
- Organisational context

Strategy Content

- Business level strategy and competitive advantage.
- Markets view vs. Resource Based View.
- Corporate level strategy and the issue of corporate configuration.
- Responsiveness vs. synergy from a global perspective.
- Network level strategy and the issue of inter-organisational relationships.
- Competition vs. Cooperation.

4.3.4 Module Teaching and Learning Strategy

The module is delivered through the case study methodology with a problem based learning (PBL) approach. It's organised on a series of lectures and case study sessions. Case studies will be used as exemplars of contextual situations, and their effect on organisations and their strategy development process. For the purpose of continuous feedback and assessment, students are required to hand in a series of assignments associated with the case studies in order to develop specific analytical skills through group work and discussion. The module is assessed 100% through continuous assessment. Topics for discussion and development in the individual assignments are not related to specific concepts or theories in the literature, but about their application in the analysis of strategic situations.

4.3.5 Module Assessment Strategy

Continuous Assessment (100%)

Students will be given 3 to 5 different assignments to work on a long case study (typically 20 to 40 pages) which covers a range of issues related to the process, content and context of strategy. In each assignment students will conduct their analysis from a specific viewpoint (business level strategy, network level strategy, industry context, international context, strategic capabilities, punctuated equilibrium, etc.) and will be asked to synthesise their own theoretical framework from the content of the course and to analyse the strategic situation in the case study using such theoretical framework. Discussion on the case study will take place at the class level, guided by the lecturer, and in small groups outside contact hours. Submissions will be in the form of individual written essays. Final marks will be calculated averaging all submissions.

4.3.6 Reading List & Other Resources

Recommended Book Reading

DeWit, B. & Meyer, R., (2014), *Strategy Synthesis: Resolving Strategy Paradoxes to Create Competitive Advantage 5th ed.*, Thomson Learning.

Supplementary Book Reading

Johnson, G., Scholes, K. & Whittington, R., (2008) *Exploring corporate strategy 8th ed.*, Pearson Education.

Mintzberg, H. & Ghoshal, P.S., (2002), *The Strategy Process: Global Edition: Concepts, Contexts, Cases 4th ed.*, Financial Times/ Prentice Hall.

Repeat Arrangements

This module is reassessed solely on the basis of re-submitted coursework. There is no repeat written examination.

4.4 Financial and Quantitative Modelling

Stage	AWARD							
Semester	3							
Module Title	Financial and Quantitative Modelling							
Module Reference Code	20919							
Status (M/E)	E							
ECTS Credit								
Module NFQ Level								
Pre-requisite Modules	Code		Title					
Co-requisite Module	Code		Title					
Capstone (Y/N)								
Teaching Personnel	Title		Name					
	Dr		Deirdre Bane					
	Mr		Joe Naughton					
Contact Hours	Non-Contact Hours					Total		
Lecture	Practical	Tutorial	Seminar	Assignment	Placement	Independent		
	26			50		49	125	
Allocation of Marks within the module								
	Continuous Assessment		Project		Practical		Terminal Examination	Total
% Contribution	100%							100%

4.4.1 Intended Module Learning Outcomes

- LO1:** Identify and analyse spreadsheet modelling techniques applied to a financial modelling environment.
- LO2:** Conduct financial forecasting, sensitivity analysis and scenario management.
- LO 3:** Analyse modelling frameworks used across various financial functions within an organisation.
- LO4:** Construct or create models for advanced quantitative techniques and financial concepts providing an audit trail of results.
- LO5:** Evaluate and interpret results of modelling in multiple financial environments.

4.4.2 Module Objectives

The aim of this module is to ensure graduates are successful in the application of financial modelling techniques within complex business scenarios. Business leaders and managers

increasingly rely on quantitative models and big data to make financial decisions that have a profound impact on the performance of their organisations. The aim of this module is to equip learners with the frameworks, tools, and methodologies necessary to apply the quantitative and financial techniques and tools acquired within the programme. Students in particular will gain skills in building and presenting quantitative and financial models for decision making. Financial modelling will facilitate students broadening their general modelling skills with particular emphasis on the setting of finance. The modelling tools will be illustrated by applying them to a variety of real-world cases.

4.4.3 Module Curriculum

The syllabus will update regularly to reflect development in business analytics practice in the real world. Below is a sample of the issues to be examined by the learners:

Week 1 Basic Maths for Modelling

Matrix algebra (useful for portfolio optimisation and principal component analysis): Matrix operations, inverses of matrices, eigenvalues and eigenvectors, positive definite matrices and eigenvalue decomposition of positive definite matrices. The Central Limit Theorem (useful in Monte Carlo simulation) and elementary calculus (useful for understanding the sensitivities in the Black Scholes formula)

Week 2 & 3: Introduction to Financial Modelling and Data Visualisation

Spreadsheet modelling best practices (features such as data tables, database operations, pivot tables and charts, the data analysis tool pack, and other statistical built-in functions, the use of macros to automate spreadsheet tasks will be illustrated) including designing an efficient layout. Data Quality/Data Capture, Functions of Visualisations, Graphic Integrity, Data-Ink Ratio, Tables & Graphs, Multiple Datasets, Interactive Graphs.

Building and using simple Visual Basic for Applications (VBA) functions in Excel. Simple control structures – for next loops, do while loops etc. MATLAB / R / SPSS.

Week 4: Financial Statement Modelling

Historical ratio analysis, projecting income statements, projecting working capital, depreciation schedules, amortization schedules, shareholders equity schedule and shareholders outstanding schedule. Students will cover cash flow statements, setting up debt schedules, and circular reference.

Week 5 & 6: Corporate Valuation Modelling

Including the dividend discount model, DCF, DCF-FCFF, WACC, CAPM, Terminal Value, TV and Enterprise Value Analysis (EVA).

Week 7: Project Finance Modelling

NPV, IRR, building CAPEX schedule and finance schedules. Modelling delays and credit risks, debt and revenue schedules. Understanding and implementing depreciation and deferred taxes schedule.

Real options valuation – incorporating the value of choice into capital budgeting decisions.

Week 8: Measuring Risk

Measurement of Beta, comparative beta, testing market efficiency with regression analysis and with pivot tables.

Value at Risk measurement: variance covariance, historical simulation, principal component analysis, Monte Carlo simulation.

Expected Tail Loss: parametric and historic simulation

Backtesting of VaR and Expected Tail Loss models

Week 9 & 10: Portfolio Optimization

Mean-variance portfolio selection (computing mean-variance portfolios, Back-testing portfolio performance, research on portfolio selection, bond portfolio selection, term structure estimation, capital budgeting). These sessions include instruction on spreadsheet features including matrix operations in Excel, using solver for optimization, using macros to generate the efficient frontier.

Week 11- 12: Advanced Risk Analysis Concepts

For example, Binomial Trees, Monte-Carlo simulation, Black-Scholes formula, etc.

Applications of Financial Modelling to financial instrument valuation: binomial trees, Monte Carlo simulation, Black Scholes etc.

4.4.4 List & Other Resources**Required Reading**

Hull, J.C. (2014) *Options, Futures and Other Derivatives* , Prentice Hall.

De Fusco R.A., Pinto J.E., Runkle D.E., and McLeavey D.W.,(2007) *Quantitative Investment Analysis*, Wiley (CFA Institute)

Jaeckel, P. (2002) *Monte Carlo Methods in Finance* Hardcover – April 11, 2002

Ragsdale, C. (2014) *Spreadsheet Modelling and Decision Analysis: A Practical Introduction to Business Analytics* , Cengage Learning; 7 edition (January 1, 2014).

Winston, W. (2014) *Microsoft Excel 2013 Data Analysis and Business Modelling*, Microsoft Press.

Supplementary Reading

Albright, B.A. (2011) *VBA for Modelers: Developing Decision Support Systems*, Cengage Learning.

Brandimarte, P. (2014) *Handbook in Monte Carlo Simulation: Applications in Financial Engineering, Risk Management, and Economics (Wiley Handbooks in Financial Engineering and Econometrics)*, Wiley Handbooks in Financial Engineering and Econometrics.

Hillier, D., Ross, S.A., Westerfield, R.W., Jaffe, J., Jordan, D.B. (2010) *Corporate Finance*, McGraw-Hill Higher Education; European ed edition.

Watson, D. & Head, A. (2013) *Corporate Finance: Principles and Practice* (current edition), Pearson.

Ferrari, A. and Russo, R. (2013) *Microsoft Excel 2013 Building Data Models with PowerPivot*, Microsoft Press

4.4.5 Learning Environment

Learning will take place in a classroom/lab/workplace environment with access to IT resources. Learners will have access to library resources, both physical & electronic and to faculty outside of the classroom where required. Module materials will be placed on Moodle, the College's virtual learning environment. In particular access to SPSS, MATLAB, Microsoft Excel and other analytical software is essential for this module.

4.4.6 Module Teaching and Learning Strategy

In this module students will be encouraged to develop multiple intelligences and skills while integrating experiential learning in a data and digital environment. A collaborative constructivist learning environment will support application and understanding where students will go beyond the information given to create something new by reshaping, expanding, extrapolating from, applying, and building on what they already know. Group discussions and presentations will be encouraged through modern (discussions boards, blogs, in person, etc.) means facilitated through traditional classroom led lectures. Traditional lectures and seminar will support the analytics demands while tutorials and online facilities will be used to develop problem based learning techniques. A wide range of classroom materials will be used including academic journals, practitioner led journals, case studies, audio visual information and on-line resources where appropriate.

4.4.7 Module Assessment Strategy

Allocation of marks

Continuous Assessment	100%
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Assessment Links to Learning Outcomes

Formative Assessment:

Formative assessment will be included by the provision of class case studies followed by review of results and group in class feedback. In addition oral and written communication along with in class discussions will be included as part of the practical approach to learning. Provision of individual feedback will be provided individually outside of lecture time or on line through Moodle.

Continuous Assessment (100%)

The method of assessment for this course will be via FIVE continuous assessments (100%). Each continuous assessment must be accompanied by an audit trail report illustrating student's understanding of the work performed:

- Continuous Assessment 1 (20%) Basic maths, modelling and visualisations.
- Continuous Assessment 2 (20%) Financial Statement Modelling
- Continuous Assessment 3 (20%) Corporate valuation and/or project finance modelling
- Continuous Assessment 4 (20%) Risk and/or portfolio optimization
- Continuous Assessment 5 (20%) Advanced risk analysis.

Repeat Arrangements

Learners are required to repeat each component for which they do not receive a pass mark.

Sample Assessments

Reference to Appendix A of the validation document will contain sample assessments and criterion referenced marking schemes

4.5 Portfolio Management

Stage	AWARD						
Semester	2						
Module Title	Portfolio Management						
Module Reference Code	H8PFMGMT						
Status (M/E)	M						
ECTS Credit	5						
Module NFQ Level	9						
Pre-requisite Modules	Code	Title					
Co-requisite Module	Code	Title					
Capstone (Y/N)							
Teaching Personnel	Title	Name					
	Mr	Padraic Nolan					
	Dr	Donie O'Brien					
Contact Hours	Non-Contact Hours						Total
Lecture	Practical	Tutorial	Seminar	Assignment	Placement	Independent	
30				35		60	125
Allocation of Marks within the module							
	Continuous Assessment	Project	Practical	Terminal Examination	Total		
% Contribution		40%		60%	100%		

4.5.1 Intended Module Learning Outcomes

On successful completion of this module, learners will be able to:

- LO1. Demonstrate a critical awareness of the theoretical underpinnings of modern portfolio management.
- LO2. Apply the theoretical and analytical skills necessary to analyse each type of financial security

- LO3.** Critically assess the role of fundamental, economic and technical analysis in the security selection process.
- LO4.** Apply modern portfolio theory in the selection of securities and construction of portfolios.
- LO5.** Demonstrate familiarity with the key principles of portfolio management and identify its use in the modern business.
- LO6.** Have a practical understanding of the application of asset pricing models.
- LO7.** Demonstrate practical knowledge of trading in financial markets.
- LO8.** Demonstrate an understanding of the various methodologies applied in evaluating portfolio performance.

4.5.2 Module Objectives

This module will enable learners to develop an understanding of the key components of portfolio theory and introduce learners to modern methods of portfolio theory and investment analysis.

4.5.3 Module Curriculum

Introduction to Modern Investment Theory

Financial Securities and Markets
Statistical Concepts

Portfolio Analysis

Security Risk and Return
The risk and return of a two and three stock portfolio
The role of correlation in diversification
Calculating the efficient frontier

Utility and Risk Aversion

Constructing the Portfolio- Practical Considerations
Selecting the Optimum Portfolio
Safety First Criterion
Introduction to Markowitz theory

Asset Pricing Theories

Capital Asset Pricing Model (CAPM)
Introduction to the Capital Asset Pricing model
CAPM with unlimited borrowing and lending
CAPM plus risk free assets
Empirical Tests of CAPM Arbitrage Pricing Model (APT)
Deriving the APT model
APT and CAPM
Empirical Tests of APT

Introduction to Investor Research Tools

Data Collection and Classification
 Regression Analysis in Prediction
 Top Down/Bottom Up Research Strategies

Analysis Tools

Fundamental Analysis Tools
 Economic Analysis
 Technical Analysis

Trading Basics

World Trading Markets
 Trading Regulation – Role of the Irish Stock Exchange
 Exchange Floor versus Electronic Trading Security Trading

Evaluating the Investment Process

Performance Measurement Measures
 Pitfalls in Measuring Performance
 Passive versus Active portfolio Management

4.5.4 Reading List & Other Resources**Required Reading**

Elton E.J., Gruber M. J., Brown S. J. and Goetzmann W. N. (2007), *Modern Portfolio Theory and Investment Analysis*, John Wiley & Sons, 7th edition

Supplementary Reading

Reilly, F. K. and Brown, K. C. (2011), *Investment Analysis & Portfolio Management*, 9th ed, Thomson South-Western,

Solnik, B. and D. McLeavey (2008), *International Investments*, 6th ed, Addison Wesley

Akerlof, G.A and Shiler,R.J (2010), *Animal Spirits: How Human Psychology Drives the Economy and Why it Matters for Global Capitalism*

4.5.5 Learning Environment

Learning will take place in a classroom/lab/workplace environment with access IT resources. Learners will have access to library resources, both physical & electronic and to faculty outside of the classroom where required. Module materials will be placed on Moodle, the College's virtual learning environment. Moodle will be used as a platform for formative assessment and feedback also.

4.5.6 Module Teaching & Learning Strategy

Teaching & Learning will take place via

Lectures

Case studies

Class discussions

In addition to imparting knowledge through lectures and directed learning, the teaching and learning strategy will focus on the application of this knowledge in a practical and applied manner by incorporating case studies and group discussion.

The teaching and learning strategy will introduce learners to the concepts and techniques of Portfolio Management. Through the use of case studies and assessment learners will develop the ability to apply in practise the concepts and techniques of Portfolio Management.

4.5.7 Module Assessment Strategy

Allocation of marks	
Final Examination	60%
Project	40%
Total	100%

Assessment Links to Learning Outcomes

The method of assessment for this course will be a project and a written examination.

Formative assessment

Formative assessment will be included by the provision of class case studies followed by review of results and group in class feedback. In addition oral and written communication along with in class discussions will be included as part of the practical approach to learning. Provision of individual feedback will be provided individually outside of lecture time or on line through Moodle

Project (40%)

This project will require learners to select securities and different types of financial instruments to build a balanced portfolio for various types of investors with different risk profiles. Learners will be required to incorporate the use of leverage. (LO2,LO3,LO4,LO7)

Exam (60%)

The examination will be a minimum of two hours in duration and may include a mix of: short answer questions, essay based questions and case study based questions.

All short answer and essay based questions will be marked according to clarity, structure, contemporary examples (that illustrate points made), reference to materials covered, theories and research in the field. (L01-L08)

Repeat Arrangements

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.

Sample Assessments

Reference to Appendix A of the validation document will contain sample assessments and criterion referenced marking schemes.

1 Review of National College of Ireland MSc in Finance

Based on a desk review by Gerard O'Donovan (CIT) and Terry Twomey (LIT)

We recommend approval of the proposed amendments to the MSc in Finance to QQI. Approval is without conditions and with six recommendations for consideration by the Programme Board. This Master of Science degree is commensurate with national standards and there are no significant issues with the programme proposal.

Six recommendations for consideration by the programme board:

1. Student Choice

The programme board might consider offering students a choice of either doing a project or dissertation. The added value for their employer may be working on a live project. The programme team mention about the importance of specialism yet all modules are mandatory and there are no specialised electives on offer.

2. Dissertation Module

This is a generic module used on other masters programmes. Should there be a stated requirement to have done research methods. Clarify the stipulated contact time with learners to explain what is meant by 4 tutorial hours. A 20,000 word count for dissertation may be too much for a 15 credit module.

3. Financial and Quantitative Modelling Module

Learners are required to repeat each component for which they do not receive a pass mark. This may be unnecessary when they are doing 100% CA. There should be clarity of the repeat assessment strategy.

4. Portfolio Management

The required text could be updated. Repeat assessment strategy should to be clarified - "It is possible that there will also be a requirement to be reassessed in a coursework element". Clarify whether the project worth 40% is an individual or group project.

5. Strategic Management and the Global Environment

Repeat Assessment strategy needs to be included.

6. Capstone Seminar Series

We welcome this Innovative module. Clarify the repeat assessment strategy. Coursework Regulation: Learners will be required to pass both the group work and the individual element - should to be reviewed. This was also discussed on other programmes in the context of learner choice and banking marks. Might be worth recommending that learners keep a learning log through blackboard individually and assess with marks which will show the programme team what was useful for them, this would inform the need for future guest speakers and content.

1.1 Programme Team Response to MSc in Finance Desk Review

April 2015

Recommendation	Response
<p>7. Student Choice</p> <p>The programme board might consider offering students a choice of either doing a project or dissertation. The added value for their employer may be working on a live project. The programme team mention about the importance of specialism yet all modules are mandatory and there are no specialised electives on offer.</p>	<p>The student choice in terms of the dissertation has now been revised to offer students the option of undertaking a work based or industry-led research project or a dissertation.</p> <p>Students are also now offered a choice in semester 3 of undertaking Strategic Management and the Global Environment or Financial and Quantitative Modelling. While the programme team recognise and agree that additional electives would be beneficial at this time this is not a viable option given the student numbers. It is something however that is planned for future consideration as the programme grows and develops.</p> <p>(Section 2.13 [2.13.2, 2.14,2.15])</p>
<p>8. Dissertation Module</p> <p>This is a generic module used on other masters programmes. Should there be a stated requirement to have done research methods. Clarify the stipulated contact time with learners to explain what is meant by 4 tutorial hours. A 20,000 word count for dissertation may be too much for a 15 credit module.</p>	<p>Within the dissertation module, the contact hours have been reconfigured to include 12 seminar hours which will be delivered as four 3 hours sessions. These sessions will address issues such as the process of research, dissertation requirements etc. and will facilitate students in preparing a research proposal which must be completed and passed prior to commencement of the dissertation/research project. In addition a minimum of 4 tutorial hours are set aside for individual supervision for each student.</p> <p>The dissertation module is also underpinned by the capstone project seminar series which in section 1 also addresses key research skills and the process of research along with Quantitative Methods in Finance and Quantitative Analysis in Finance. Given the domain of these student's is finance, it is reasonable to expect the majority will undertake a quantitative based piece of work.</p> <p>The word count has been reconfigured to 15,000 words max.</p> <p>(Section 2.13 [2.12.2, 2.13.4])</p>
<p>9. Financial and Quantitative Modelling Module</p> <p>Learners are required to repeat each component for which they do not receive a pass mark. This may be unnecessary when they are doing 100%</p>	<p>The repeat arrangements have been revised.</p> <p>(Section 2.15[2.15.7])</p>

<p>CA. There should be clarity of the repeat assessment strategy.</p>	
<p>10. Portfolio Management The required text could be updated. Repeat assessment strategy should to be clarified - "It is possible that there will also be a requirement to be reassessed in a coursework element". Clarify whether the project worth 40% is an individual or group project.</p>	<p>This module has been reviewed with the text updated as recommended. The repeat strategy has been clarified. (Section 2.9 [2.9.4,2.9.7])</p>
<p>11. Strategic Management and the Global Environment Repeat Assessment strategy needs to be included.</p>	<p>This has now been included post section 2.1.4.6.</p>
<p>12. Capstone Seminar Series We welcome this innovative module. Clarify the repeat assessment strategy. Coursework Regulation: Learners will be required to pass both the group work and the individual element - should to be reviewed. This was also discussed on other programmes in the context of learner choice and banking marks. Might be worth recommending that learners keep a learning log through blackboard individually and assess with marks which will show the programme team what was useful for them, this would inform the need for future guest speakers and content.</p>	<p>The coursework regulation of requiring students to pass both the groupwork and individual element has been removed. The repeat strategy has been revised (Section 2.12, [2.2.17])</p>

1.2 Panel Acceptance of Response

From: Sinead O'Sullivan [<mailto:Sinead.OSullivan@ncirl.ie>]

Sent: 24 April 2015 13:01

To: Terry.Twomey; Gerard O'Donovan

Subject: NCI response to MSc Finance recommendations

Dear Terry & Gerard

Please find attached the programme team response to your report and revised documentation which will be submitted to QQI.

I would appreciate if you can indicate your acceptance of the response at your earliest convenience.

Kind regards

Sinéad

Sinead

As commented yesterday, I am happy with same.

Regards

Gerard



Gerard O'Donovan | Head of Faculty of Business and Humanities | CIT | Cork, Ireland

☎ 353 (0)21 4335802

Dear Sinead,

Thank you for forwarding the response document which is acceptable to me.

Best regards,

Terry