REPORT ON EXAMINATIONS

M.Sc. in Mathematical Modelling and Scientific Computing 2018/19

Part I

A. Statistics

(1) **Numbers and percentages in each class/category**

Class	Number				%			
	2018/9	2017/8	2016/17	2015/16	2018/9	2017/8	2016/17	2015/16
Distinction	6	8	10	6	22	27	36	26
Merit	5	N/A	N/A	N/A	19	N/A	N/A	N/A
Pass	14	20	18	17	52	70	64	74
Fail	0	2	0	0	0	7	0	0
Incomplete	2	0	0	0	7	0	0	0

(2) **Vivas**

The 25 candidates who submitted dissertations were examined by *viva voce*.

(3) Marking of scripts

Written examinations were sat in Weeks 0 of Hilary and Trinity Terms 2019. Scripts were single-marked by assessors followed by a script check carried out by the Course Director. Finalisation of marks by the examiners took place during an examiners' meeting in week 2 of each term. Special topics and case studies were double-marked by assessors. In cases where marks varied over the pass/fail borderline, or the difference in marks was greater than ten, the assessors were asked to meet and reconcile their marks. All marks were approved by the examiners during the meetings held in week 7 of Hilary and Trinity terms, as well as at the final examiners' meeting, before being released to the candidates. All dissertations were read and marked by at least two examiners; marks were approved by all examiners at the final examiners' meeting.

B. New examining methods and procedures

The awarding of a merit to candidates was introduced.

C. Changes in examining methods etc. which the examiners would wish the faculty/department and the divisional board to consider

None.

D. How candidates are made aware of conventions

The conventions are posted on the course website and hard copies are circulated to the students. The Course Director discusses the conventions with the candidates and the candidates are reminded of them by email on several occasions during the year.

Part II

A. General comments on the examination

None.

B. Equal opportunities issues and gender breakdown

There were 27 students in total; 17 male and 10 female candidates; 16 male candidates and 9 female candidates passed; 5 male candidates and 1 female candidates were awarded distinctions; 5 male candidates and 0 female candidates were awarded merits; 2 candidates have not yet completed the course.

C. Candidates' performance in each part of the examination

This course administers examinations internally in January and April, with each student sitting 4 papers. Each of the two sets of examinations is split into Paper A (Mathematical Methods) and Paper B (Numerical Analysis). Both sets of examinations went smoothly this year, with a good distribution of marks between failure and distinction ranges. Performances on the case studies, special topics and dissertations also ranged from fail to distinction level.

D. Distribution of special topics

Of the 30 topics offered this year, 14 failed to attract any students.

Michaelmas Term	*Passed*	*Failed*
Approximation of Functions	2	0
Further Mathematical Biology	3	2
Graphical Models	3	0
Integer Programming	7	0
Mathematical Geoscience	3	0
Stochastic Differential Equations	1	0
Viscous Flow	2	1

Hilary Term	*Passed*	*Failed*
Finite Element Methods for Partial Differential Equations	4	0

Mathematical Models of Financial Derivatives	14	0
Mathematics and Data Science for Development	1	0
Networks	3	0
Stochastic Modelling of Biological Processes	2	1

Trinity Term	*Passed*	*Failed*
C++ for Scientific Computing	5	1
Finite Element Methods for Partial Differential Equations	2	0
Further Case Study in Scientific Computing	1	0
Mathematical Models of Financial Derivatives	1	0
Mathematics and Data Science for Development	4	0
Networks	1	0
Python in Scientific Computing	14	0
Stochastic Modelling of Biological Processes	2	1
Theories of Deep Learning	1	0

E. Names of members of the board of examiners

Prof P Farrell (Chair)
Prof P Grindrod
Prof P Howell
Prof J Tanner
Prof S Langdon (External Examiner)

18 October 2019