

MSc in Mathematical and Computational Finance

Examiners' Report 2019-20

August 6th, 2020

Part I

A. STATISTICS

i. Numbers and percentages in each class/category

| Class | Number | | | Percentage (%) | | |
|-------------|---------|---------|---------|----------------|---------|---------|
| | 2019/20 | 2018/19 | 2017/18 | 2019/20 | 2018/19 | 2017/18 |
| Distinction | 13 | 8 | 14 | 35 | 33 | 42 |
| Merit | 14 | 8 | n/a | 38 | 33 | n/a |
| Pass | 10 | 8 | 19 | 27 | 33 | 58 |
| Fail | 0 | 0 | 0 | 0 | 0 | 0 |

ii. If vivas are used:

No candidates were examined viva voce.

iii. Marking of scripts

The three written examinations and two take home exams were set and single-marked by lecturers on examined courses and script-checked by a D.Phil. student.

The two C++ practical exams were marked by a lecturer and checked by a D.Phil student.

All dissertations were read and marked independently by two Examiners/Assessors with discrepancies resolved by the Examiners/Assessors.

B. NEW EXAMINING METHODS AND PROCEDURES

Due to the Covid-19 pandemic, new procedures and examining methods were introduced. Paper A, Paper B, C++ part I practical, and C++ part II practical were unaffected as these examinations were held pre-COVID. Paper C took place in the form of a timed open-book examination. Instead of the standard 3 hour time limit to complete the exam, students were given a 24 hour window to electronically download and submit their exam. The students were also required to uphold an honour code. This extended time period was due to time-zone differences among international students and technical limitations of the

course management platform. Paper D, the elective paper, was cancelled due to the pandemic. As a result, all candidates' written exam mark was an average of the three sat papers, A, B, and C.

Candidates were given the option to request that they be awarded Declared to Deserved Masters (DDM) in lieu of a Distinction, Merit, Pass or Fail classification. In response to the COVID-19 pandemic, substantial changes have been made to the rules for classification of the degree, in particular to the role of exam marks in determining classifications.

Originally to be awarded a Distinction, a candidate must fulfil both the following criteria

- an overall USM of 70 or above;
- USMs of at least 68 on component one and component three. And a USM no less than 50 on component two.

Due to COVID-19 to be awarded a Distinction, a candidate must fulfil both the following criteria

- an overall USM of 70 or above;
- USMs of at least 68 on component three. And a USM no less than 50 on components one and two.

Originally to be awarded a Merit, a candidate must fulfil either of the following criteria

- an overall USM between 65-69, with USMs no less than 50 on each component
- an overall USM of 70 or above, but the USM on component one or three is below 68, with a USM no less than 50 on each component.

Due to COVID-19 to be awarded a Merit, a candidate must fulfil both the following criteria

- an overall USM between 65-69, with USMs no less than 50 on each component
- an overall USM of 70 or above, but the USM on component three is below 68, with a USM no less than 50 on each component.

Originally to be awarded a Pass, a candidate must fulfil either the following criteria

- an overall USM is between 50-64 and the fail criteria below are not met;
- the overall USM is 65 or above but the USM on one component is less than 50

Due to COVID-19 to be awarded a Pass, a candidate must fulfil both the following criteria

- an overall USM is between 50-64 and the fail criteria below are not met;
- the USMs for both of components two and three are at least 45
- The USM for at least one of components two and three is above 50

Originally to be awarded a fail, a candidate must meet one or more of the following criteria:

- the overall USM is less than 50;
- USM on two or more individual components are less than 50
- USM on one or more individual components are less than 45

Due to COVID-19 to be awarded a fail, a candidate must meet one or more of the following criteria:

- the overall USM is less than 50;
- USM on both components two or three are less than 50
- USM on either of components two or three are less than 45

C. Please list any changes in examining methods, procedures and conventions which the examiners would wish the faculty/department and the divisional board to consider.

After the supervisory committee meeting, the 2019-20 course director, 2019-20 chair of examiners, and 20-21 chair of examiners proposed the following changes:

Change the content and weight of the three components in the final assessment from Exams 50%, Computing 16.7%, and Dissertation 33.3% to Exams 45%, Computing and Take Homes 25%, and Dissertation 30%. Currently both Statistics and Machine Learning are assessed via take home, the examiners believe that combining the take homes with the computing courses would be a more natural split to alleviate any potential impact of a poor computing mark.

The optional paper, Paper D, be reduced to a 2 hour paper in which candidates are required to answer 3 questions from a choice of one from each option. Candidates should register for a maximum of 4 options out of the fixed 6 options. This will help alleviate the need for teaching space and balance the increased hours of the Deep Learning Course.

Part II

A. GENERAL COMMENTS ON THE EXAMINATION

None

B. EQUAL OPPORTUNITIES ISSUES AND BREAKDOWN OF THE RESULTS BY GENDER

There were 14 female candidates and 23 males. Among the 14 females, 7 received a distinction, 4 received a merit, and 3 received a pass. While among the 23 males, 6 received distinctions, 10 received a merit, and 7 received a pass.

C. NUMBERS ON CANDIDATES' PERFORMANCE IN EACH PART OF THE EXAMINATION

The written papers required some small amount of scaling from raw marks to USMs. Paper C marks were higher than previous years, however, this was most likely a result of Paper C becoming a take-home exam. The lecturer for C++ part I commented that the students did poorly in comparison to last year's cohort. The examination board considered scaling C++ Part I, but after considering the exceptionally high marks for part II, chose not to scale the raw marks as the average was comparative to previous years.

| Exam | Distinction | Merit | Pass | Fail | Average USM | Standard Deviation |
|---|--------------------|--------------|-------------|-------------|--------------------|---------------------------|
| Paper A | 13 | 7 | 14 | 3 | 65 | 11.80 |
| Paper B | 22 | 5 | 7 | 3 | 69 | 12.16 |
| Paper C | 13 | 13 | 11 | 0 | 69 | 8.70 |
| Component I | 18 | 8 | 9 | 2 | 68 | 8.50 |
| C++ Part I | 0 | 0 | 32 | 5 | 55 | 5.36 |
| C++ Part II | 27 | 4 | 6 | 0 | 72 | 6.70 |
| Component II | 4 | 18 | 15 | 0 | 64 | 5.08 |
| Dissertation (Component III) | 16 | 10 | 11 | 0 | 68 | 5.78 |
| OVERALL | 13 | 14 | 10 | 0 | 67 | 6.00 |

D. COMMENTS ON PAPERS AND INDIVIDUAL QUESTIONS

None

E. COMMENTS ON THE PERFORMANCE OF IDENTIFIABLE INDIVIDUALS AND OTHER MATERIAL WHICH WOULD USUALLY BE TREATED AS RESERVED BUSINESS

None

F. NAMES OF MEMBERS OF THE BOARD OF EXAMINERS

Prof Sam Cohen (Chairman)

Prof Hanqing Jin

Prof Ben Hambly

Prof Kostas Kardaras (External, LSE)