

**Mathematical, Physical, and Life Sciences Division**  
**PG Cert, PG Dip, and MSc in Software Engineering**  
**PG Cert, PG Dip, and MSc in Software and Systems Security**

**Report of the Examiners 2015-16**

Covers the examiners' meetings and results released in December 2015 (assessing work from MT 2015 courses), April 2016 (HT 2016 courses), June 2016 (assessing available assignments only) and October 2016 (TT 2016 courses).

## **Part I**

### **A. Statistics**

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

##### **(a) Classified examinations**

There were no classified examinations.

##### **(b) Unclassified examinations**

#### **MSc in Software Engineering**

Category	Number					
	2015/16	2014/15	2013/14	2012/13	2011/12	2010/11
Distinction	15	14	15	27	4	7
Pass	34	20	25	31	18	23
Fail	9	10	6	6	6	3
Totals	58	44	46	64	28	33

Category	Percentage					
	2015/16	2014/15	2013/14	2012/13	2011/12	2010/11
Distinction	26	32	33	42	14	21
Pass	59	45	54	48	64	70
Fail	16	23	13	9	21	9

#### **MSc in Software & Systems Security**

Category	Number					
	2015/16	2014/15	2013/14	2012/13	2011/12	2010/11
Distinction	5	1	3	3	1	0
Pass	9	8	4	6	1	2
Fail	4	5	2	0	0	1
Totals	18	14	9	9	2	3

Category	Percentage					
	2015/16	2014/15	2013/14	2012/13	2011/12	2010/11
Distinction	28	7	33	33	50	0
Pass	50	57	44	67	50	67
Fail	22	36	22	0	0	33

#### PG Cert in Software Engineering

Category	Number					
	2015/16	2014/15	2013/14	2012/13	2011/12	2010/11
Distinction	0	0	2	1	0	1
Pass	0	0	3	1	4	4
Fail	1	0	0	0	2	1

#### PG Cert in Software and Systems Security

Category	Number					
	2015/16	2014/15	2013/14	2012/13	2011/12	2010/11
Distinction	0	1	0	1	0	1
Pass	0	0	0	0	0	2
Fail	0	0	0	0	0	0

#### PG Dip in Software Engineering

Category	Number					
	2015/16	2014/15	2013/14	2012/13	2011/12	2010/11
Distinction	0	1	3	0	0	2
Pass	2	2	0	5	1	1
Fail	0	0	0	1	0	0

#### PG Dip in Software and Systems Security

Category	Number					
	2015/16	2014/15	2013/14	2012/13	2011/12	2010/11
Distinction	0	0	0	0	0	0
Pass	0	2	1	1	0	0
Fail	0	0	0	0	0	0

## **(2) If vivas are used:**

There were no vivas used.

## **(3) Marking of scripts**

All assignments are double marked by the assessor for the course in question (who may also be an examiner) and a second assessor (usually the course Teaching Assistant), and are then moderated by an examiner (who cannot examine a course they are assessing). Where the resulting marks differ significantly, the examiner will invite the assessors to reconcile their marks. Contentious cases are additionally reviewed by the external examiners.

All dissertations are independently marked by an assessor and an examiner. Where the resulting marks differ significantly, the examiner and assessor are invited to reconcile their marks prior to the Examiners' meeting (this happened in nineteen cases). Contentious cases are additionally reviewed by the external examiners.

## **B. New examining methods and procedures**

There were no new examining methods or procedures in 2015/16.

## **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.**

There were no changes in 2015/16.

## **D. Please describe how candidates are made aware of the examination conventions to be followed by the examiners.**

The Programme Handbook is presented through the Software Engineering website, and incorporates a set of examination conventions.

<http://www.softeng.ox.ac.uk/handbook/index.html>

The website is periodically drawn to the attention of all students.

## Part II

### A. General comments on the examination

The form of the Software Engineering Programme means that this examination is unlike most others in MPLS. Students attend one-week modular courses at their own choice, spread over several years. After each course they are given a take-home assignment, for which they submit a script six weeks later. Each script is marked by two assessors—almost invariably the course lecturer and teaching assistant—and moderated by an examiner. The marking process entails producing an extensive (1–3 pages) report for the student, with formative assessment as well as a final summative grade on the University's standard scale. Students accumulate these grades through the years of their study, and these are normally averaged according to a process in the Examination Conventions to give an overall result. This is combined with a dissertation mark to give an overall fail/pass/distinction result.

#### Marking of dissertations

Each dissertation is marked independently by an assessor and an examiner, who each supply a written report and a proposed mark. Where the examiner and assessor propose marks with a difference of 10 or less, and not crossing a fail/pass/distinction boundary, the mean of the two marks is used—with discussion between the two to agree that this is appropriate. In the other cases, an attempt is made to resolve the mark prior to the Examiners' meeting. Any remaining contentious cases are additionally reviewed by the external examiner.

#### Examiners' meetings

The examiners' main meetings occur three times each year, coinciding with each academic term, with an additional meeting being held in June to approve the release of assignment results. Dissertations are considered at each of the three examiners' main meetings. These meetings are scheduled during or shortly before 0<sup>th</sup> week of the following term. A submission deadline falls four weeks before the Examiners' meeting. For those students who have reached the end of their period of study, this is a hard deadline. Those wishing to complete their studies sooner can submit in time for an earlier deadline. Because the examiners meet to consider student results four times in the year, the examiners keep detailed minutes of their meetings, in addition to preparing this report.

#### Prizes

The examiners nominated two dissertations to be considered for the Richard Bird prize. In addition, the following new prizes were awarded:

The Tony Hoare Prize for best performance in the examination

The Tony Hoare Prize for best performance in the dissertation.

#### Plagiarism

There were two cases of suspected plagiarism in the dissertation, which were reported to the Proctors. One of these cases was a re-submission from 2014/15; the original attempt was also referred to the Proctors for suspected plagiarism. After investigation, the Proctors deemed both cases in 2015/16 to be extremely poor academic practice rather than intentional plagiarism.

The External Examiner for the MSc in Software & Systems Security expressed serious concerns about the treatment of suspected plagiarism in both his 2014/15 and 2015/16 reports.

### B. Equality and diversity issues and breakdown of the results by gender

#### Gender differences

The regrettably low number of female candidates means that a breakdown of results by gender does not yield statistically-significant data.

#### Trends

Overall, the trend in results appears to be positive. It may be noted that 2015/16 saw an increase in students being examined for both MScs and a decrease in the number of students failing for both MScs. However, it may also be noted that the number of distinctions in the MSc in Software Engineering has decreased slightly again whereas the number of distinctions awarded for the MSc in Software & Systems Security appears to be stabilising after a sharp dip last year.

It should be noted that the fails are mostly due to the submission of incomplete or inadequate dissertations. Those who failed in this way are able to re-submit their dissertation on a subsequent occasion, and are generally found to pass.

### **C. Detailed numbers on candidates' performance in each part of the examination**

Presented as an Annex.

### **D. Comments on papers and individual questions**

Through detailed personal feedback, students receive extensive comments on their assignments and individual questions. Where appropriate, the assessor includes information for the whole class on what might have been found in a model answer.

### **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. Ivan Martinovic (Chair, prepared this report)  
Prof. Jeremy Gibbons (Programme Director, ex officio)  
Dr Juliana Küster Filipe Bowles (external)  
Dr Alastair Beresford (external)  
Prof. Cas Cremers  
Prof. Andrew Markham  
Prof. Vojtech Forejt

Annex

**Distribution of marks awarded in each modular course:**

Course	Date	Mean Grade	Registered to submit	Submitted	90-100	80-89	70-79	60-69	55-59	50-54	40-49	30-39	20-29	20-
DPA	9th February 2015	60.07	15	15	0	2	3	4	0	1	4	1	0	0
DES	16th February 2015	66.89	11	9	0	1	2	4	1	1	0	0	0	0
SWN	16th February 2015	65.57	7	7	0	0	3	3	0	1	0	0	0	0
AGM	2nd March 2015	69.83	12	12	0	2	5	4	0	0	1	0	0	0
RIS	2nd March 2015	60.36	19	14	0	1	2	5	5	0	0	1	0	0
CLS	9th March 2015	62.76	19	17	0	3	1	5	3	4	1	0	0	0
XML	9th March 2015	56.88	12	8	0	1	1	0	3	1	1	1	0	0
STE	16th March 2015	58	13	9	0	0	1	4	1	0	3	0	0	0
ESS	23rd March 2015	69.86	10	7	0	1	3	2	1	0	0	0	0	0
OOD	23rd March 2015	64.29	16	14	0	0	5	5	1	2	1	0	0	0
FOR	13th April 2015	71.43	15	14	1	2	5	4	2	0	0	0	0	0
PAS	13th April 2015	56.88	9	8	0	1	1	3	0	2	0	0	0	1
OOP	27th April 2015	68.57	14	14	1	1	5	4	0	2	1	0	0	0
SPR	27th April 2015	63.38	20	16	0	1	3	8	1	3	0	0	0	0
DAT	11th May 2015	70.08	15	13	0	3	4	4	1	0	0	1	0	0
PRO	11th May 2015	62.33	7	6	0	0	2	0	1	3	0	0	0	0
NES	18th May 2015	63	16	14	0	0	6	4	0	2	2	0	0	0
PMO	18th May 2015	63.36	12	11	0	2	4	1	2	0	0	1	0	1
MSS	8th June 2015	66.78	12	9	0	0	3	5	1	0	0	0	0	0
SEM	8th June 2015	61.11	19	19	0	3	3	5	4	2	0	0	0	2
CPR	15th June 2015	69.08	12	12	0	2	6	3	0	0	0	0	1	0
EAR	15th June 2015	71.76	18	17	2	2	4	5	4	0	0	0	0	0
ALG	22nd June 2015	64.93	17	15	1	2	1	6	2	1	1	1	0	0
BIG	29th June 2015	56.75	13	12	0	0	3	2	1	3	2	0	0	1
REN	29th June 2015	66.17	7	6	0	1	0	5	0	0	0	0	0	0
APE	6th July 2015	66.29	19	17	0	2	5	4	5	1	0	0	0	0
SPR	6th July 2015	61.67	18	12	0	0	3	4	2	2	0	1	0	0
ROP	13th July 2015	65.33	10	9	0	2	3	3	0	0	0	0	1	0
MRQ	14th September 2015	62.55	13	11	0	1	3	2	1	4	0	0	0	0
OOD	14th September 2015	64.5	5	4	0	0	1	2	1	0	0	0	0	0
PAS	21st September 2015	70.86	17	14	1	5	1	3	1	3	0	0	0	0
SOA	21st September 2015	65.6	18	15	0	2	5	3	2	1	2	0	0	0
FOR	28th September 2015	71.85	19	13	2	1	5	4	0	1	0	0	0	0
FPR	28th September 2015	56.85	15	13	0	0	1	5	5	1	0	0	0	1
SPR	12th October 2015	63.69	18	16	0	1	2	7	6	0	0	0	0	0
STE	12th October 2015	58.29	9	7	0	0	3	0	0	1	2	1	0	0
NES	26th October 2015	64	14	10	0	0	4	3	2	0	1	0	0	0
MSS	2nd November 2015	64.2	6	5	0	0	2	2	0	0	1	0	0	0
TCI	9th November 2015	67.8	6	5	0	0	2	3	0	0	0	0	0	0
SWN	16th November 2015	61.8	7	5	0	0	1	2	2	0	0	0	0	0
CLO	23rd November 2015	72.8	12	10	0	4	3	1	1	1	0	0	0	0

Course	Date	Mean Grade	Registered to submit	Submitted	90-100	80-89	70-79	60-69	55-59	50-54	40-49	30-39	20-29	20-
CDS	23rd November 2015	77	6	6	0	3	2	1	0	0	0	0	0	0
SCP	30th November 2015	66.58	12	12	0	0	6	3	2	1	0	0	0	0
SEM	30th November 2015	63.19	17	16	0	1	6	3	2	1	3	0	0	0
RIS	7th December 2015	61.14	18	14	0	1	5	2	1	1	4	0	0	0
SCS	14th December 2015	63.46	13	13	0	2	3	3	3	1	0	0	0	1
XML	4th January 2016	57.6	11	10	0	0	1	5	0	2	0	2	0	0
DES	11th January 2016	68.64	17	14	1	3	2	6	1	0	1	0	0	0
APE	18th January 2016	68.17	6	6	0	0	3	2	1	0	0	0	0	0
SPR	18th January 2016	62	22	18	0	0	7	4	3	1	2	1	0	0
ALG	25th January 2016	60.26	19	19	0	1	5	5	1	1	6	0	0	0
CLS	25th January 2016	66.64	12	11	0	4	0	2	3	1	1	0	0	0
ESS	1st February 2016	72.5	12	12	0	3	4	4	0	0	1	0	0	0
SIM	8th February 2016	63.65	19	17	0	4	0	9	2	0	0	1	1	0
FPR	15th February 2016	62	15	11	1	0	1	3	3	3	0	0	0	0
STC	15th February 2016	73.33	10	9	0	3	2	3	1	0	0	0	0	0
REN	29th February 2016	67.92	14	12	0	3	3	4	1	0	0	0	1	0
OOD	7th March 2016	69.83	7	6	0	2	1	2	1	0	0	0	0	0
STE	14th March 2016	58.55	12	11	0	1	2	4	1	0	1	0	2	0
FOR	4th April 2016	73	17	15	1	4	5	3	1	1	0	0	0	0
OOP	4th April 2016	74.5	9	6	0	1	4	1	0	0	0	0	0	0
MOB	11th April 2016	71.88	9	8	0	1	4	2	1	0	0	0	0	0
PAS	11th April 2016	69.88	20	16	0	2	7	6	0	1	0	0	0	0
RIS	18th April 2016	62.92	20	13	0	2	4	1	2	2	2	0	0	0
PMO	25th April 2016	65.1	12	10	0	1	3	1	4	1	0	0	0	0
SPR	25th April 2016	64.5	23	16	0	0	5	8	1	2	0	0	0	0
SWN	9th May 2016	60.5	9	8	0	0	2	3	1	0	2	0	0	0
DAT	16th May 2016	71.17	12	12	0	1	8	2	1	0	0	0	0	0
DES	16th May 2016	61.15	16	13	0	3	3	3	1	0	1	1	0	1
DAS	23rd May 2016	67.93	17	14	0	2	6	3	2	0	1	0	0	0
MSS	6th June 2016	68.17	7	6	0	1	3	1	0	0	1	0	0	0
SDM	6th June 2016	68.2	12	10	1	1	2	3	1	2	0	0	0	0
EAR	13th June 2016	71	18	13	0	5	2	4	0	2	0	0	0	0
CPR	20th June 2016	57	11	11	0	2	1	3	1	2	1	0	0	1
BIG	4th July 2016	57.36	12	11	0	2	1	2	2	2	0	0	1	1