



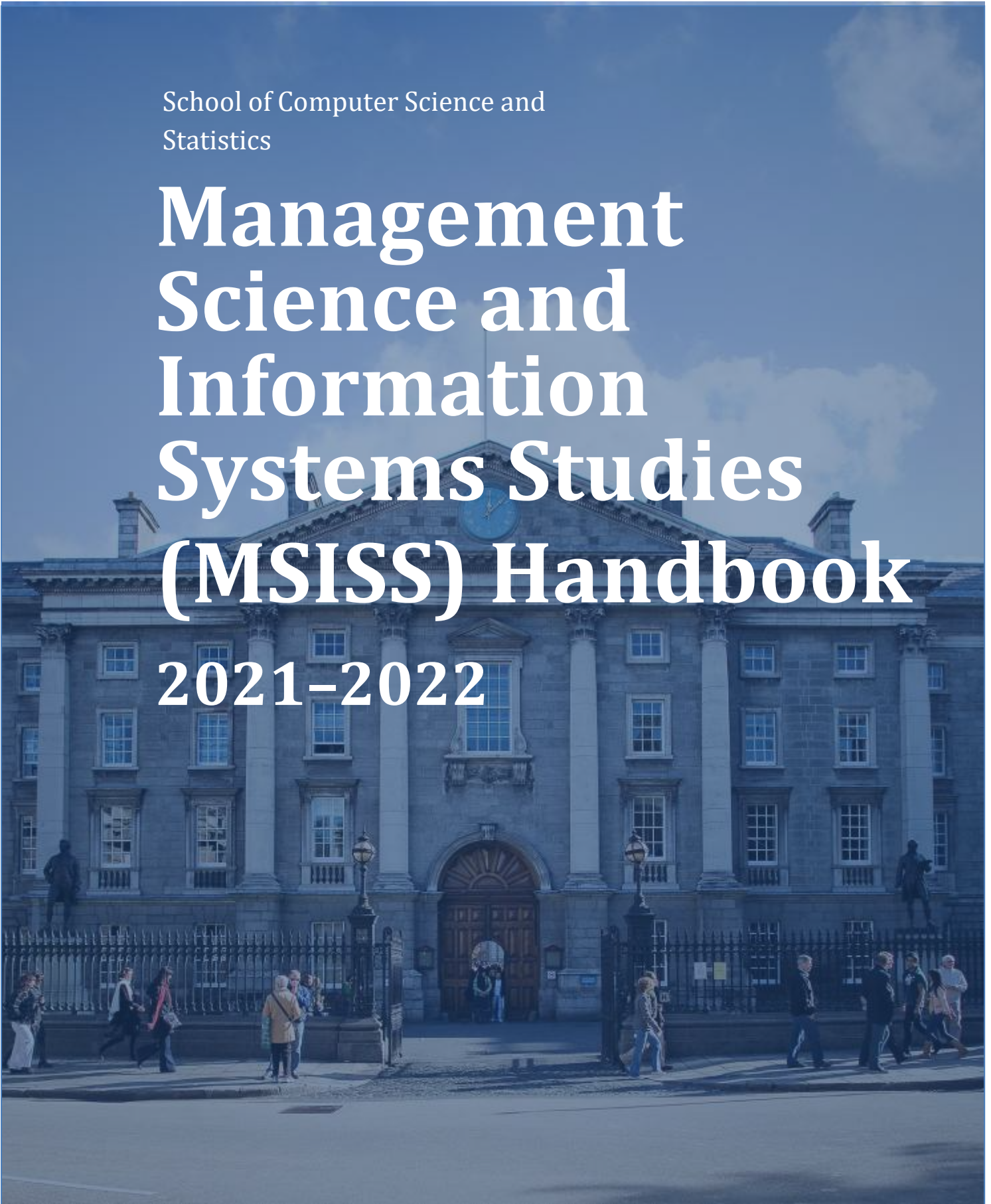
Trinity College Dublin

Coláiste na Tríonóide, Baile Átha Cliath

The University of Dublin

School of Computer Science and
Statistics

Management Science and Information Systems Studies (MSISS) Handbook 2021–2022



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PART I - Information

1. Introduction

This is the course handbook of the Management Science and Information Systems Studies (MSISS) degree programme offered by the School of Computer Science and Statistics in Trinity College Dublin. The MSISS degree programme is a four year honours degree course leading to a BA Moderatorship in Management Science and Information Systems Studies. This handbook contains information and regulations for all MSISS students. It provides a guide to what is expected of you on this programme, and the academic and personal support available to you. Please retain it for future reference.

We are confident that you will find this programme challenging and demanding, and we hope that you will find your studies at Trinity College Dublin both stimulating and rewarding. Our courses have been designed to offer students a dynamic, structured and coherent learning experience. The MSISS programme has several features which we believe will contribute to your studies being an effective and enjoyable period of personal and academic development.

If you are a new student to university, we invite you to read First Year in University (on page 9), which may help you understand what you need to do to have an enjoyable and productive time at college. You are also very strongly recommended to meet your tutor (see page 5) as he or she is your advocate in College and can also provide you with support should you have any difficulties.

We wish you every success in the coming year.

Alessio Benavoli
Course Directors, MSISS

2. A Note on this Handbook

Information provided in this handbook is believed to be accurate at the time of preparation except where noted. Any necessary revisions will be notified by college email. Please note that, in the event of any conflict or inconsistency between the General Regulations published in the University Calendar and information contained in course handbooks, the provisions of the General Regulations will prevail. The University Calendar is available at <http://www.tcd.ie/calendar/>.

This handbook is available from the School of Computer Science and Statistics website. A hard copy of this document is available from the School Reception office on request.

"This Programme Handbook should be read in conjunction with the School of Computer Science and Statistics Undergraduate Student Handbook, which you can find on our website (teaching.scss.tcd.ie)."

3. MSISS Programme Information

MSISS is one of the most challenging and exciting undergraduate degree level courses available in Ireland. It was originally set up in 1980 in the Engineering faculty to provide a degree that would have a greater emphasis on management science and quantitative methods than was to be found in traditional engineering degrees; until 1995, it was called Management Science and Industrial Systems Studies. Over the past 38 years the programme has continuously evolved and changed so that, at this stage, its roots in engineering have almost disappeared to be replaced by a focus on modern information systems.

Today's MSISS programme is designed to bridge a different gap - that between business, information technology and management science. This change reflects changes in society and technology and in particular what our own graduates tell us about what is happening out there in the world of work. The demand for graduates with both business and quantitative skills and a firm understanding of information technology has grown rapidly over the past ten years and is likely to continue to increase for the foreseeable future.

The primary objective of the MSISS programme is to produce graduates who are numerate as well as business and computer literate and who have a solid understanding of how to approach and solve practical problems using a variety of tools and techniques. To do this represents a considerable challenge, which makes MSISS one of the most interesting courses around. We hope you find that MSISS is both an exciting and challenging course that keeps you on your toes for the next four years.

The programme has three main streams:

- **Business and Management** - Subjects covered include economics, management, finance and organisational psychology. Most of the modules in this area are taken in conjunction with Business Studies students.
- **Quantitative Methods** - It is a key objective of the course that students be numerate and at home with important mathematical and statistical tools. To this end, this part of the programme encompasses mathematics, statistics and management science/operations research methods.
- **Information Technology and Systems** - Emphasis is on the practical application of IT, but the programme starts with basics, including fundamentals of computing and use of end user tools such as spreadsheets and word processing. In later years you will go on to study information systems, databases and state of the art systems development techniques.

While the above areas make up the core of the programme, there is also a firm emphasis on personal skills such as verbal communication, interviewing, teamwork and report writing. In some cases, these will be taught explicitly. In other modules, these skills are woven into the fabric of the teaching approach. The course and, in particular, the modules in the third and fourth years, are under constant review, so it is probable that the subjects in the final two years will be slightly different by the time you get there. Changes will be incremental so don't worry too much about this. MSISS subject skills are built up in layers.

PART II - Regulations

3.1. Programme Architecture

Students typically enter Year 1 from secondary school via the Central Applications Office (CAO) system. Suitably qualified students may also join the programme on the recommendation of the Course Director. Students normally exit the programme at the end of Year 4, with a B.A. (Mod.) in Management Science and Information Systems Studies, though provision is made for students to exit the programme with an ordinary B.A. degree at the end of Year 3.

The terms *Junior Fresh*, *Senior Fresh*, *Junior Sophister* and *Senior Sophister* are widely used in Trinity to refer to a first-year, second-year, third-year and fourth-year student respectively; thus, for example, Junior Fresh year, (or JF year), refers to Year 1. The teaching year is divided into two twelve-week semesters. The first semester (running roughly September to December) is known as Michaelmas Term (MT), the second (running roughly January to April) is known as Hilary Term.

In the Fresh years (JF and SF) instruction is given in the foundations of MSISS with compulsory courses taken in its three main strands of *Business and Management*, *Quantitative Methods*, and *Information Technology and Systems*. In the Sophister years (JS and SS), students may select a number of options in addition to core courses. In the final SS year students undertake a capstone project working with a real client.

3.1.1. Rules for Handing in in-term Assessments

Many MSISS modules include an element of continuous assessment. Different departments have their own rules on assessments and homework. You should make sure that you are familiar with these rules and that you understand them.

A coversheet should be completed and attached to **ALL** work submitted in hard or soft copy or via Blackboard. A template is available at: <https://scss.tcd.ie/undergraduate/msiss/quicklinks.php>

The coversheet includes the declaration:

I have read and I understand the plagiarism provisions in the General Regulations of the University Calendar for the current year, found at <http://www.tcd.ie/calendar>.

I have also completed the Online Tutorial on avoiding plagiarism 'Ready Steady Write', located at <http://tcd-ie.libguides.com/plagiarism/ready-steady-write>.

The MSISS rules for handing in and marking of assessments are summarised below.

1. Unless otherwise stated, the deadline for all MSISS continual assessment work will be 12.00 noon on a Monday. The Lecturer-in-Charge will give notice of alternative deadlines. Where non-standard procedures apply, they will give notice of:

- the deadline;
- where and how assessments are to be handed in;
- the penalties for late submission;
- the procedures for granting permission for late submissions.

Otherwise the default rules as set out below will apply.

2. The default procedure for assignment submission is as follows.

All module work must be handed in to the School Reception. When handing in an assignment or project, you must sign the "Student Assessment Sign-in" sheet. The date and time the assessment is handed in is noted on this sheet. Assessments must be clearly labelled and show:

- Your name;
- The correct description of the assignment (e.g. Applied Prob. Exercise 3);
- The name of the appropriate lecturer.

3. **Penalties** for late submission are as follows. Material submitted late will be down marked 20% of the mark that would otherwise have been awarded for each day (or part thereof) that it is late. Thus work that is late at all will incur a penalty of 20%, work submitted more than 24 hours late will incur a penalty of 40% and so on. Work submitted more than 96 hours late will receive a mark of zero. For MSISS this means that work submitted after 12.00 noon on the Friday of the relevant week will receive a mark of zero.

4. **Extensions** are normally granted only if you can present a good reason for not being able to submit on time, and not retrospectively. If you need an extension you should speak to your tutor not to the Lecturer. Lecturers will normally grant you an extension following a letter from your tutor who must ask for a specified number of days extension. Tutors will only recommend extensions if the difficulties could not have been foreseen.

Sometimes, where there is a general problem, a Lecturer may award an extension to the entire class. In this case, the details of the extension will be notified to all students. The penalty will operate as before, after the extension. If the assessment in question is a team project, and the extension is sought - through the tutor - by one team member, the maximum extension that can be given is 1 week.

5. **You should always retain a copy of everything submitted in case of dispute; a paper copy is recommended.** If kept in electronic form, you should have a backup copy. This is important. If, for example, a Lecturer says he/she never received your submission and you do not have a copy, it may be difficult to prove that you ever submitted it.

Coursework is an integral part of MSISS and it is essential that every student participate fully in the coursework associated with each module. If a student does not make a serious attempt at the coursework in a module this is considered in the same way as if a student does not make a serious attempt at an examination.

Any student who submits less than two thirds of their coursework in a module is considered as not making a serious attempt. In such circumstances, if the student fails the module overall, they may be excluded from the degree programme at the discretion of the Examination Board.

In really exceptional problems, e.g. your tutor is ill, you should speak to the Course Director.

3.2. Programme Structure, Module Descriptors, & Workload

Brief descriptions of the modules listed below are provided on the relevant year page of the course website <https://scss.tcd.ie/undergraduate/msiss/>. Full details, including learning outcomes, book recommendations and important evaluation and assessment criteria are available at <http://my.tcd.ie>.

The mark in each subject is generally a combination of an exam mark and a coursework mark. The method which is used to combine exam and assignment marks into the overall mark is at the discretion of the course lecturer and is set out in each Module Descriptor. Students should make themselves aware of the assessment regulations for each module. Module Descriptors are available through the course website.

3.2.1. Year 1 – Junior Fresh 2021/2022

In Year 1 (Junior Fresh) 2021/2022, MSISS students take the following modules in Michaelmas and Hilary Terms:

Michaelmas Term (Semester 1)	Hilary Term (Semester 2)
Software Applications I STU11001 / 5 credits	Statistical Analysis I STU11002 / 5 credits
Introduction to Management Science STU11004 / 10 credits	
Introduction to Programming CSU11010 / 10 credits	
Engineering Mathematics I MAU11E01 / 5 credits	Engineering Mathematics II MAU11E02 / 5 credits
OPEN MODULES (20 credits)	
Introduction to Economics A ECU11011 / 5 credits	Introduction to Economics B ECU11012 / 5 credits
Fundamentals of Management and Organisation BUU11510 / 10 credits	

3.2.2. Year 2 – Senior Fresh 2021/2022

In Year 2 (Senior Fresh) 2021/2022, MSISS students take the following modules in Michaelmas and Hilary Terms:

Michaelmas Term (Semester 1)	Hilary Term (Semester 2)
Engineering Mathematics III MAU22E01 / 5 credits	Software Applications II STU2201A / 5 credits
Applied Probability I STU22004 / 5 credits	Applied Probability II STU22005 / 5 credits
Management Science Methods STU22006 / 10 credits	
Algorithms and Data Structures I CSU22011 / 5 credits	Algorithms and Data Structures II CSU22012 / 5 credits
OPEN MODULES (20 credits)	
Introduction to Accounting BUU22530 / 5 credits Prerequisite BUU11510	Introduction to Finance BUU22550 / 5 credits
Intermediate Economics A ECU22011 / 5 credits Prerequisite ECU11011	Intermediate Economics B ECU22012 / 5 credits Prerequisite ECU11012
Economy of Ireland A ECU22021 / 5 credits Prerequisite ECU11011	Economy of Ireland B ECU22022 / 5 credits Prerequisite ECU11012
	Software Engineering Project I CSU22013 / 5 credits

3.2.3. Year 3 – Junior Sophister 2021/2022

In Year 3 (Junior Sophister) 2021/2022, MSISS students take the following modules in Michaelmas and Hilary Terms:

Michaelmas Term (Semester 1)	Hilary Term (Semester 2)
Forecasting STU33010 / 5 credits	Research Methods STU33004 / 5 credits
Multivariate Linear Analysis STU33011 / 5 credits	Software Applications III STU33003 / 5 credits
Statistical Analysis III STU33002 / 5 credits	Information Systems STU33005 / 5 credits
Management Science Case Studies STU33008 / 10 credits	
OPEN MODULES (10 credits)	
Financial Accounting I BUU33531 / 5 credits	Financial Accounting II BUU33532 / 5 credits
Mathematical Economics A ECU33081 / 5 credits Prerequisite ECU22011 & ECU22012	Corporate Finance and Equity Valuation BUU33630 / 5 credits
Economic Analysis A ECU33011 / 5 credits Prerequisite ECU22011 & ECU22012	Economic Analysis B ECU33012 / 5 credits Prerequisite ECU22011 & ECU22012
Investment Analysis A ECU33051 / 5 credits	Investment Analysis B ECU33052 / 5 credits

Prerequisite ECU22011 & ECU22012	Prerequisite ECU22011 & ECU22012
Econometrics A ECU33091 / 5 credits Prerequisite ECU22011 & ECU22012	Econometrics B ECU33092 / 5 credits Prerequisite ECU22011, ECU22012 & ECU33091
Software Engineering CSU33012 / 5 credits	Software Engineering Group Project CSU33013 / 5 credits
Introduction to Functional Programming CSU34016 / 5 credits	
ELECTIVE MODULES (10 credits)	
TRINITY ELECTIVE MODULE (5 credits)	TRINITY ELECTIVE MODULE (5 credits)

Please note that not all electives may run in a given year, depending on demand and availability of appropriate staff to teach the electives. Students may change options by informing the teaching unit up to the end of the second week of Michaelmas Term. Late changes will not be accepted.

3.2.4. Year 4 – Senior Sophister 2021/2022

In Year 4 (Senior Sophister) students take the following modules in Michaelmas and Hilary Terms:

Michaelmas Term (Semester 1)	Hilary Term (Semester 2)
Final Year Project STU44091 / 20 credits	
Strategic Information Systems STU45006 / 10 credits	
Data Analytics STU44003 / 10 credits	
OPEN MODULES (20 credits)	
International Finance BUU44640 / 5 credits Prerequisite BUU22550	Derivatives BUU44650 / 5 credits Prerequisite BUU22550
Financial Reporting and Analysis I BUU44531 / 5 credits	Financial Reporting and Analysis II BUU44532 / 5 Credits
Applied Linear Statistical Methods I STU34501 / 5 Credits	Applied Linear Statistical Methods II STU34502 / 5 Credits Prerequisite STU23501, STU22005
Human Factors CSU44051 / 5 credits	Manufacturing Systems & Project Management MEU44B06 / 5 credits
Statistical Inference I STU34507 / 5 Credits Prerequisites STU12501, STU12502, STU23501, STU22005	Statistical Inference II STU34508 / 5 Credits Perquisites STU23501, STU22005
Decision Analysis STU44005 / 5 credits	Entrepreneurship & High Tech Venture Creation CSU44081 / 5 Credits

Please note that not all electives may run in a given year, depending on demand and availability of appropriate staff to teach the electives. Students may change options by informing the teaching unit up to the end of the second week of Michaelmas Term. Late changes will not be accepted.

3.3. Marking Scale

Grades for individual subjects and overall grades are awarded based on the (rounded) percentage achieved as follows:

Grade	Mark
I	70%-100%
II.1	60%-69%
II.2	50%-59%
III	40%-49%

3.4. Progression Regulations

For one semester modules students are examined at the end of the semester and for two semester modules they are examined at the end of the second semester. To complete an academic year (and hence progress to the next year of the programme or exit with a degree award), students must be successful at the Annual or Supplemental Examinations.

In order to be successful in the Annual or Supplemental Examinations, students must pass all modules. The pass mark is 40%. Alternatively, students may pass by compensation if they (i) achieve an overall weighted average pass mark and (ii) pass modules totalling 50 credits, and (iii) get a 'Qualified Pass' mark (35%) in the failed module(s) (either one 10-credit module or one/two 5-credit modules).

If a student is successful in the Annual Examinations his/her overall mark will be calculated as the average of each module's mark weighted by its ECTS rating and an overall grade awarded (according to the scale above). If a student is unsuccessful in the Annual Examinations, he/she is required to take a supplemental examination or assessment in all modules in which they have not achieved a pass mark, as indicated in the examination results.

Permission to take supplemental examinations will not normally be granted to students whom the court of examiners considers not to have made a serious attempt at the annual examinations unless an adequate explanation is furnished. The method of assessment of modules may vary between annual and supplemental examinations.

Supplemental examinations are held in Michaelmas term each year (i.e. towards the end of the summer break).

If a student is successful in the Supplemental Examinations his/her overall mark will be calculated as the average of each module's mark (weighted by its ECTS rating and an overall grade awarded (according to the scale above). This average is based on the marks achieved in the supplemental examinations together with the marks achieved in the annual examinations for the modules in which supplemental examinations/assessments were not required.

A student who does not feel their returned mark is correct should first ask to view their script with the examiners, and may (through their tutor) if they still believe that something is incorrect request

a recheck, remark (of the full class) or lodge an appeal. A student who does not pass by either of the methods above is required to repeat the year in full.

3.4.1. Repeating a Year

When a student must repeat a year, they must do so in full (i.e. repeating all modules and all assessment elements of those modules). Students may repeat years 1-4 of the programme but may only repeat a particular year once and may only repeat two years within the programme.

In exceptional circumstances some students are permitted to repeat off-books (taking only examinations in the subjects which they failed). This is applied for through the tutor.

3.5. Awards

3.5.1. Ordinary BA Degree (exit only)

Students who have passed their Year 3 examinations may have an ordinary BA degree conferred if they do not choose, or are not allowed, to proceed to Year 4 of the programme, or if they fail to complete satisfactorily Year 4 of the course. Except by permission of the University Council, on the recommendation of the Executive Committee of the School of Computer Science and Statistics, an ordinary BA degree may be conferred only on candidates who have spent at least two years in the University.

3.5.2. Moderatorship (Honors) Degree

The B.A. Mod. degree result is awarded if a student has successfully completed Years 3 and 4, based on a combined mark from the Year 3 examinations (which count for 30% of the moderatorship result) and Year 4 examinations (which count for 70% of the moderatorship result).

Where students are awarded an honors degree, the class of degree awarded is based on the weighted average mark achieved as follows: First Class Honors: 70%-100%, Second Class Honors, First Division: 60%-69%, Second Class Honours, Second Division: 50%-59%, Third Class Honors: 40%-49%.

3.6. External Examiner

The external examiner for 2021-2024 is Prof. Lesley Walls of the University of Strathclyde. They are involved in ensuring that examinations in the Sophister years are run properly in terms of how the exam papers are set and assessed.