



Designated Degree (DD80)

Statistics

2022-23

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1 Welcome to Third Year in Statistics

Statistics has been described as the mathematical science of making decisions and drawing conclusions from data in situations of uncertainty. The doctor faced with a difficult diagnosis, the manager controlling a complex industrial plant, the public health official fighting an epidemic and the biologist doing research on genetically modified crops may each consult a statistician. Statisticians must thus be equipped with a variety of skills ranging from technical to presentational skills. Our curriculum continues to provide a range of theoretical, computational and practical skills with regularly updated, and timely, course contents. A number of new courses have been introduced to adapt to the changing subject and demands of the job market after graduation. Use of the free statistical programming language R is emphasised and training in presentation and reporting skills is provided, in addition to a strong grounding in statistical theory.

The Designated B.Sc. degree in Statistics in the College of Science and Engineering consists of some of the coursework in the first two semesters of the third year of the B.Sc. (Hons.) course together with some of the Honours practical programme.

There are career opportunities for qualified statisticians in medicine, economics, engineering, psychology, agriculture, computing, finance, industry, insurance, the Civil Service, teaching and the academic profession.

2 General information

Contacts. All enquiries concerning third year statistics should be directed to

Dr Vlad Vyshemirsky
(Statistics Level 3 Coordinator)
Room 321, Tel. 0141 330 5022,
Email: vladislav.vyshemirsky@glasgow.ac.uk

or

Prof Janine Illian
(Head of Statistics)
Room 337,
Email: janine.illian@glasgow.ac.uk

or

Maths and Stats Helpdesk

<https://glasgow.saasiteu.com/Modules/SelfService/Login.aspx?ProviderName=University%20of%20Glasgow&Tab=ServiceCatalog&CommandId=NewServiceRequestByOfferingId&Template=A2E6D73B77DB49B88410F43576A4326A>

or

Ms Mara Dougall
Student Support Officer
Email: maths-stats-studentsupport@glasgow.ac.uk

Semester dates and examination periods

Semester 1. Monday, 19 September 2022 to Friday, 2 December 2022.

Semester 2. Monday, 9 January 2023 to Friday, 24 March 2023.

Examination period for both semesters. Monday, 24 April 2023 to Friday, 19 May 2023.

Induction week There will be a series of planned activities during the first week of the semester from Monday, 19 September 2022 to Wednesday, 21 September, 2022; see the detailed timetable for Induction week available on the Level 3/Level 4/M.Sci. General Information Moodle pages.

3 Programme Curriculum

3.1 Designated Degree in Statistics

There are two routes through the Designated Degree in Statistics. The Designated Degree-80 is the standard route in which you take 80 credits of statistics courses from the designated degree programme, together with 40 other credits to meet the generic requirements for award of the designated degree.

In the Designated Degree-120 route you will take 120 credits of level-3 honours statistics courses. Provided your performance on these courses is a GPA of at least 9 you will be given the option of rejoining honours at level-4, otherwise (provided you meet the award requirements) you will graduate with a Designated Degree in Statistics.

If you have been permitted to enter the DD-120 your MyCampus report should indicate this in the requirements. If the report does not, please contact your adviser.

If you are in the DD120 programme in Statistics and aim to rejoin the Honours programme in Year 4, this handbook will NOT contain most of the information you need. Please see the Level 3-5 handbook for curriculum specifications and degree requirements.

In both the DD-80 and DD-120:

To successfully complete the final year of the BSc Designated Degree programme in Statistics, you must take courses worth 120 credits.

In the DD-80:

This would be made up of the 80 credits of Designated Degree Statistics, shown in the table below. You must also make sure that you have taken at least 40 credits of level-2 Statistics, with a minimum grade of D3 on each. If necessary, you can take any of those courses that are necessary to complete your programme of study.

Finally you must make up your year to 120 credits by taking a mixture of level-1, level-2 and level-3 courses that you are entitled to take from the lists given on MyCampus.

In the DD-120:

You must take 120 credits of level-3 honours Statistics courses (see Honours handbook for the list of courses).

If in any doubt as to the choices you have, you should contact your Adviser of studies.

3.1.1 Curriculum: B.Sc. (DD80) in Statistics

Year 3			
Semester 1		Semester 2	
Statistics 3B: Biostatistics [STATS3012]	(10 cp)	Statistics 3A: Data Analysis [STATS3011]	(10 cp)
Statistics 3I: Inference [STATS3015]	(10 cp)	Statistics 3D: Design of Experiments [STATS3013]	(10 cp)
Statistics 3L: Linear Models [STATS3016]	(10 cp)	Statistics 3G: Generalised Linear Models [STATS3014]	(10 cp)
Statistics 3R: Introduction to R Programming [STATS3017]	(10 cp)	Statistics 3T: Time Series [STATS3018]	(10 cp)

You also need to take courses for another 40 credits (to make up a total of 120 credits in third year) by taking a mixture of level-1, level-2 and level-3 courses that you are entitled to take.

4 Courses

Staff. The lecturing staff are shown in Appendix A.

4.1 Aims and intended learning outcomes

The aims and intended learning outcomes (ILOs) of each course are detailed in the Online Course Catalogue (see <http://www.gla.ac.uk/coursecatalogue/courselist/?code=STATS&name=Statistics> for a full listing). Individual lecturers will give further details in course syllabuses distributed at the beginning of each term.

4.2 Learning and teaching methods

At least some part of teaching in this academic year will be provided online. Please, refer to the individual course Moodle pages for details.

Each course consists of lectures (one hour each, generally twice a week), tutorials (one hour each), labs (two hours each) and/or workshops (1 hour each): see Table 1.

Table 1: Course components.

Course	Semester	Lecture (Hours)	Lab (Hours)	Tutorials
3A:Data analysis	2	0	20	0
3B:Biostatistics	1	20	4	4
3D:Design	2	20	0	4
3G:Generalised linear models	2	20	6	4
3I:Inference	1	20	0	4
3L:Linear models	1	20	6	4
3R:Intro to R programming	1	9	20	0
3T:Time series	2	20	4	4

Lectures. Timetables for Semester 1 and Semester 2 lectures will be available on MyCampus.

Tutorials/submitted work. Problem sheets will be given out regularly in all lecture courses. Attempting these examples is very important. Lecturers will discuss individual problems and difficulties arising from these and from lectures and labs in tutorials. In addition, the lecturers teaching the course will always be happy to answer questions on their lectures and examples. Students experiencing widespread difficulties should feel free to approach the relevant course coordinator to obtain further advice and help. Tutorials for most theoretical courses will take place every 2 weeks (see timetables for exact information).

Practicals/laboratory classes. Labs play an extremely important role in of our learning environment, reflecting the applied nature of statistics. You will typically have between one and three two-hour practical sessions per week in year 3.

Lab/workshop and tutorial allocation. MyCampus is used for the tutorial and lab/workshop allocation. You will have chosen a tutorial group and lab/workshop group when you enrolled for the courses. For questions about MyCampus please go to <http://www.glasgow.ac.uk/students/myglasgow>, speak to your Adviser of Studies or contact mycampushelp@glasgow.ac.uk.

You have to attend the tutorial group and lab/workshop group you have been allocated to. Please also use MyCampus if you want to change the allocated tutorial group or lab/workshop group. Please note that the tutorial or lab/workshop group you would like to change to might already be at full capacity, in which case we cannot accommodate your request.

5 Course assessment and grading

Statistics operates the University Code of Assessment; for full details, see section 16 of the University Calendar (http://www.gla.ac.uk/media/media_348687_en.pdf#page=8&view=fitH, 50).

Broadly, assessments consist of degree exams (taken in April/May of each year), usually pen-and-paper, but also computer-based, as well as practical and project reports, presentations, in-class assessments and coding and take-home coursework.

Degree exams are marked out of 60, and the mark converted on to the 22-point grade point scale using the mapping shown in the first four columns of Table 2. (Note that the mapping is not a linear one.)

A more comprehensive guide to the marking system at the University of Glasgow is available at http://www.gla.ac.uk/media/media_106264_en.pdf.

Some courses incorporate continuous assessment as either part or all of the assessment (see Data analysis as an example of a purely coursework-based module with no final examinations). These pieces of work may be marked directly on to the 22-point grade point scale or marked out of some total which is then linearly scaled to a mark out of 60 and then converted to the 22-point scale using the standard mapping (Table 2).

Grade points for continuous assessments are combined with degree exam grade points using a weighted mean, where the weights for each course are shown in Table 3. When continuous assessment consists of multiple components, the weights of individual pieces of assessment will be made clear by the lecturer responsible for the course.

The degree exams for different courses are separate; each is expected to be of duration 90 minutes.

For each course, an alphanumeric grade consisting of a primary class and a secondary band (Columns 1 and 2 of Table 2) corresponding to the grade point average (column 3) will be published after the Examiners' Meeting (normally held at the beginning of June).

Table 2: Mapping between marks and grade points, with verbal descriptions of attainment levels for each grade.

Grade	Band	Grade point	Mark x	Gloss	Primary verbal descriptors for attainment of Intended Learning Outcomes
A	1	22	$53.5 \leq x \leq 60$	Excellent	Exemplary range and depth of attainment of intended learning outcomes, secured by discriminating command of a comprehensive range of relevant materials and analyses, and by deployment of considered judgement relating to key issues, concepts and procedures
	2	21	$50.5 \leq x < 53.5$		
	3	20	$47.5 \leq x < 50.5$		
	4	19	$44.5 \leq x < 47.5$		
	5	18	$41.5 \leq x < 44.5$		
B	1	17	$39.5 \leq x < 41.5$	Very Good	Conclusive attainment of virtually all intended learning to reveal appreciable outcomes, clearly grounded on a close familiarity with a wide range of supporting evidence, constructively utilised depth of understanding
	2	16	$37.5 \leq x < 39.5$		
	3	15	$35.5 \leq x < 37.5$		
C	1	14	$33.5 \leq x < 35.5$	Good	Clear attainment of most of the intended learning outcomes, some more securely grasped than others, resting on a circumscribed range of evidence and displaying a variable depth of understanding
	2	13	$31.5 \leq x < 33.5$		
	3	12	$29.5 \leq x < 31.5$		
D	1	11	$27.5 \leq x < 29.5$	Satisfactory	Acceptable attainment of intended learning outcomes, displaying a qualified familiarity with a minimally sufficient range of relevant materials, and a grasp of the analytical issues and concepts which is generally reasonable, albeit insecure
	2	10	$25.5 \leq x < 27.5$		
	3	9	$23.5 \leq x < 25.5$		
E	1	8	$21.5 \leq x < 23.5$	Weak	Attainment deficient in respect of specific intended learning outcomes, with mixed evidence as to the depth of knowledge and weak deployment of arguments or deficient manipulations
	2	7	$19.5 \leq x < 21.5$		
	3	6	$17.5 \leq x < 19.5$		
F	1	5	$15.5 \leq x < 17.5$	Poor	Attainment of intended learning outcomes appreciably deficient in critical respects, lacking secure basis in relevant factual and analytical dimensions
	2	4	$13.5 \leq x < 15.5$		
	3	3	$11.5 \leq x < 13.5$		
G	1	2	$5.5 \leq x < 11.5$	Very Poor	Attainment of intended learning outcomes markedly deficient in respect of nearly all intended learning outcomes, with irrelevant use of materials and incomplete and flawed explanation
	2	1	$0.5 \leq x < 5.5$		
H		0	$0 \leq x < 0.5$		No convincing evidence of attainment of intended learning outcomes, such treatment of the subject as is in evidence being directionless and fragmentary
CR				Credit Refused	Failure to comply, in the absence of good cause, with the published requirements of the course or programme

Resits The circumstances under which students are eligible to take resit exams are described in clauses 16.7 and 16.50 of the Code of Assessment (https://www.gla.ac.uk/media/media_348687_en.pdf).

In particular, resits for DD courses are **only available** when a MV grade has been issued after a successful Good Cause Claim or when the resit is necessary to satisfy requirements for Designated Degrees.

The use of calculators in examinations. Students should possess a calculator with simple basic functions (log, exp, square root, etc.) and bring it along to examinations. No calculator which can store or display text or graphics may be used, and any student found using such will be reported to the Clerk of Senate.

Plagiarism. Please ensure that you read the University's Code of Conduct regarding plagiarism. We take plagiarism very seriously and anyone suspected of plagiarism will be reported to Senate. <https://www.gla.ac.uk/myglasgow/leads/students/plagiarism/>

Table 3: The components of assessment for each Level 3 course.

Course	Assessment component	Weighting	Credits
3B:Biostatistics	90 min Degree exam	100%	10
3A:Data analysis	Coursework	100%	10
3D:Design	90 min Degree exam	100%	10
3G:Generalized linear models	90 min Degree exam	100%	10
3I:Inference	90 min Degree exam	100%	10
3R:Introduction to R programming	Coursework	100%	10
3L:Linear models	90 min Degree exam	100%	10
3T:Time series	90 min Degree exam	100%	10

6 Degree classification

6.1 Classification of Designated degree in Statistics

To be eligible for the award of a designated degree, you must have obtained at least 360 credits and achieved an overall grade point average of 9. Within these 360 credits:

- at least 120 must be at level 2 or higher, and
- at least 280 must be at grade D or better including at least 60 at level 3 or higher.

The 360 credits required must include:

- at least 200 credits in Science; and
- at least 120 credits at level 2 or above in Science, with a grade point average of at least 8, and with at least 60 of these credits at grade D or better.

In the level 3 mathematical and statistical courses, you must attain a grade point average of at least 9.

The designated degree will be awarded with Merit where the grade point average is at least 12, and with Distinction where the grade point average is at least 15, both overall and in the group of statistics courses taken at level 3, the statistical ones being shown in Section 3.1.1.

Where the candidate has accumulated more than 360 credits, the credits counted in the calculation of the grade point average shall be reduced to 360 credits by discarding all or part of the credit for certain of the courses in such a way as to maximise the grade point average while meeting all other requirements of the regulations.

7 How to get help and further information

Students are always welcome to discuss their concerns with the Course Coordinators, the Teaching Administrator or their Adviser of Studies, as appropriate.

General information and resources for individual years can be found on Moodle.

School of Mathematics and Statistics general information. Students are encouraged to regularly check the School website: <http://www.gla.ac.uk/schools/mathematicsstatistics/> and the School Information moodle page: <http://moodle2.gla.ac.uk/course/view.php?id=4914>.

Student Support Officer Ms Mara Dougall is a dedicated Student Support Officer.
maths-stats-studentsupport@glasgow.ac.uk

The School of Mathematics and Statistics has a dedicated Student Support Officer here to help with any non-academic issues you might encounter over the course of your studies.

Student Support Officers provide a range of practical and emotional support. Mara can help you navigate things like:

- managing your health and wellbeing

- study skills
- financial issues
- accessing university services (such as counselling and disability services).

If you have a problem or question – or just need someone to talk to confidentially, you can think of your Student Support Officer as a friendly, accessible contact point within the School.

Please feel free to contact Mara directly with your enquiry, or to set up an in-person or online meeting.

A Teaching staff: Year 3 (provisional)

<i>Induction week (19–21 Sep)</i>	Selected staff
<i>Teaching block 1 (26 Sep–2 Dec)</i>	
Biostatistics	Dr Gary Napier
Inference	Dr Mayetri Gupta
Introduction to R programming	Dr Craig Wilkie
Linear models	Dr Mitchum Bock
<i>Teaching block 2 (9 Jan–24 Mar)</i>	
Data analysis	Dr Gary Napier
Design	Dr Mu Niu
Generalised linear models	Dr Tereza Neocleous
Time series	Dr Jethro Browell
<i>Examinations (24 Apr–19 May)</i>	