Department of Mathematics and Statistics

To all undergraduate students starting here in 2020/21:

These are challenging times for us all. We are looking forward to welcoming you to the Mathematics & Statistics Department, but inevitably we have had to make some changes this year to ensure that we keep all our students and staff safe. Semester 1 teaching will start on 21st September 2020, initially with all activities delivered online, and we will be in touch with you separately with more information about teaching and learning as the University's plans develop.

The rest of this document is the version of our handbook for undergraduate students which describes our activities in normal times. Unfortunately these are far from normal times, but because the handbook provides information which should be useful during your whole undergraduate career, we have decided to make it available as usual. We hope that it is not too long before the information in the handbook again matches reality and we can welcome you all to our campus in person.

Best wishes,

John

Professor John Mackenzie (Head of Department)
Department of Mathematics and Statistics

UNDERGRADUATE HANDBOOK

For Students Entering Courses in 2020/2021

Please retain for the duration of your course
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The contents of this Handbook are, as far as possible, up to date and accurate at the date of publication and this version has been updated to incorporate changes made through feedback. The URLs quoted were available on 01/08/2020.

Changes and restrictions are, however, made from time to time and the University reserves the right to add to, amend, or withdraw classes, courses and facilities, to restrict student numbers and to make any other alterations as it may deem desirable and necessary. Changes are published by incorporation in the next edition of the University Regulations available on line at http://www.strath.ac.uk/sees/educationenhancement/qualityassurance/universityregulations/

Note that the information in this Handbook is available on request in large-text format. Contact the Departmental Administrator, Ms Sandra Miller (s.j.miller@strath.ac.uk).
Welcome to the Department

I am delighted to welcome you to the Department of Mathematics and Statistics. This is a dynamic and friendly department and we are proud to offer excellent teaching and state-of-the-art facilities.

In accordance with the University’s commitment to ‘useful learning’, our BSc and MMath degree courses emphasise the applicability of mathematics and statistics to the real world which will enable you to acquire the knowledge and skills that employers need. We have internationally-renowned research groups in areas such as industrial mathematics, numerical analysis and scientific computation, liquid crystal theory, population modelling and epidemiology, mathematical biology and stochastic analysis.

In this UG handbook you will find useful information about the Department and our activities. I hope that you will find the handbook of interest and assistance.

I wish you all the best in your studies.

Professor John Mackenzie (Head of Department)

Aims of Handbook

This Handbook has two aims:

(1) to give you the information you need about the Department of Mathematics and Statistics, and our degree courses;

(2) to offer advice on how to get the best out of your chosen course.

It covers the structure of our degree courses, highlights the teaching methods we use to deliver class material and describes how you will receive feedback and be assessed. Your responsibilities as a student will also be explained and guidance will be provided on how to express your views to us and to ask us for help. Information on general University Services and Procedures, and other student-related matters, is provided in Strathlife http://www.strath.ac.uk/studywithus/strathlife/ and on University web pages, so we shall not repeat it here; where appropriate, we shall give the URL of the web page where relevant information can be obtained.

Please take time to look through and examine the contents of both the University Student Handbook and this Departmental UG handbook as many of the questions you are likely to have concerning your studies will be covered by the information these handbooks provide. You may, of course, have questions which are not dealt with by the Handbooks. In these instances you should contact your Personal Development Advisor, the appropriate Year Co-ordinator, the Academic Director, or the Departmental Administrator, (contact details on the next page). If we cannot answer your question we will usually know who can, so do ask!

Information about the Department is also provided at:
https://www.strath.ac.uk/science/mathematicsstatistics/

This site contains information relating to members of staff. Information on individual classes and other useful information can be found on the MyPlace class Mathematics and Statistics: Information for current students.
**General Information**

The Department of Mathematics and Statistics is one of the five departments in the Faculty of Science at the University of Strathclyde.

Further information on the Faculty, including a list of Officers is available at: [http://www.strath.ac.uk/science/aboutus/ourstaff/](http://www.strath.ac.uk/science/aboutus/ourstaff/)

**Department of Mathematics and Statistics: Important Contact Details**

The Department is located on Levels 8, 9 and 10 in the Livingstone Tower on Richmond Street, with the Departmental Office on Level 9 (Room LT916). Should you need to contact us by mail, telephone or email, the details are:

Department of Mathematics and Statistics,
University of Strathclyde,
Livingstone Tower, Room LT916,
26 Richmond Street,
Glasgow,
G1 1XH

Telephone: 0141 548 3804/3812/3382
Email: contact-mathstat@strath.ac.uk

If you have a problem or request, it is usually best to speak first with your lecturer, Personal Development Adviser or Year Co-ordinator. The Department's Administrator or administrative staff can also deal with many routine enquiries.

The following table gives the names and contact details of staff in the Department who have major responsibilities related to undergraduate studies. Note that, additional material and information, specific to a course or a year of study, will be available from the appropriate Year Co-ordinator, as required.

<table>
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<tr>
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<th>Room</th>
<th>Extension</th>
<th>Email</th>
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<tr>
<td>Deputy Head of Department</td>
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<tr>
<td>Administrator</td>
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<tr>
<td>Year 1 Co-ordinator</td>
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<td>3658</td>
<td><a href="mailto:peter.davidson@strath.ac.uk">peter.davidson@strath.ac.uk</a></td>
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<tr>
<td>Year 2 Co-ordinator</td>
<td>Dr E Dombi</td>
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<tr>
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<td><a href="mailto:david.young@strath.ac.uk">david.young@strath.ac.uk</a></td>
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<tr>
<td>Year 5 Co-ordinator</td>
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<td></td>
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<td>Departmental Safety Convenor</td>
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For up-to-date information on all Departmental staff, see [https://www.strath.ac.uk/staff/?department=Mathematics%20and%20Statistics](https://www.strath.ac.uk/staff/?department=Mathematics%20and%20Statistics)
Additional Contacts

**Careers:** Mr Stephen Smith ([stephen.m.smith@strath.ac.uk](mailto:stephen.m.smith@strath.ac.uk))

**Student/Staff Committee:** See Myplace, Maths & Stats Student Staff Liaison Committee for names/contacts (see below for information on how to access MyPlace).

**Departmental Offices for Students on Joint Degree Course:**

**Computer and Information Sciences:** Level 11, Livingstone Tower.

**Mathematics, Science and Technological Education (a Division of the School of Education):**
Level 5, Lord Hope Building.

**Physics:** Level 8, John Anderson Building.

**Accounting and Finance:** Level 3, Stenhouse Wing, Strathclyde Business School.

**Economics:** Level 5, Duncan Wing, Strathclyde Business School.

**Management Science:** Level 7, Duncan Wing, Strathclyde Business School.

**Year Co-ordinator (Adviser of Study) and Personal Development Adviser**

For each year of your degree course, there will be a specified member of staff in the Department, referred to as the Adviser of Study or Year Co-ordinator, who will be able to assist you with academic-related matters throughout the year. The current Year Co-ordinators are listed on the previous page. Detailed information on matters such as course content and progress requirements will be provided by the Year Co-ordinators via Supplements to this Undergraduate Handbook.

In addition to the Year Co-ordinator, you will also have a Personal Development Adviser (PDA), who, like the Year Co-ordinator, is a member of staff in the Department where you will be taking your degree. The role of the PDA is slightly different from that of the Year Co-ordinator, and is concerned with ensuring that your progress through your university studies is as free of problems and difficulties as possible. You will meet your PDA at the start of each session, and again later in the session. But, if you are worried about anything at all, do not wait until a scheduled meeting; contact your PDA immediately. If he or she is not able to answer your questions, then rest assured that your PDA knows someone who can.

Remember that your PDA is someone to whom you may turn to if you have any problems which are affecting your studies. Students who are experiencing difficulty with their work, who feel that unreasonable demands are being made of them, or who find that they are being hindered by medical, domestic, financial, or other problems, should consult their PDA (or some other member of staff) as soon as possible. Experience shows that problems can often be resolved if discussed at an early stage. Your PDA will treat anything you say as confidential unless you mutually agree to do otherwise.

**Computer Access and Email**

Once you have registered you will be allocated an university computer DS user account. This will give you access to PEGASUS and Myplace. If you have any queries then contact the Information Services Help Desk in the Andersonian Library (Curran Building level 3). A booklet on IT services at Strathclyde will be issued to you at Registration. You will also be given a University email account, and it is **essential to check it regularly** — staff will usually send information by email and will assume that all students are reading these messages. It is your responsibility to ensure that you read all messages from staff.
PEGASUS

The University uses a web-based system known as PEGASUS (also known as the Student/Staff Information Server) to provide access and integration to a number of different systems. Those relevant to students include: viewing your student record (including results, examination timetable, etc). As a registered student you can access PEGASUS via https://ben.mis.strath.ac.uk/login/ using your University computer account DS username and password.

Myplace

A VLE (Virtual Learning Environment) is simply a web-based online environment, which brings together services and functionality to support learning, teaching and related administrative functions. The University VLE is known as Myplace, and can be accessed through the Pegasus portal (see above), or directly via: http://classes.myplace.strath.ac.uk/

Myplace is very easy to use but if you do experience a problem logging on please contact your lecturer who will either solve your problem or put you in contact with someone who can. Full documentation is available from the Myplace home page.

Year at a Glance: Calendar of Key Events and Dates

2020

Monday 14th September – Friday 18th September Welcome and Induction Week
Monday 21st September – Friday 4th December Semester One Teaching
Monday 7th December – Friday 18th December Semester One Examinations

(PLEASE NOTE THAT MONDAY 23 SEPTEMBER IS A LOCAL HOLIDAY. THE UNIVERSITY IS CLOSED AND THERE WILL BE NO CLASSES)

Christmas Vacation University closed 24th December and will reopen on 3rd January 2020

2021

Monday 11th – Friday 15th January Consolidation and Development Week
Monday 18th January – Friday 2nd April Semester Two Teaching
Monday 5th April – Friday 16th April Spring Vacation

(PLEASE NOTE THAT FRIDAY 2nd IS A HOLIDAY. THE UNIVERSITY IS CLOSED AND THERE WILL BE NO CLASSES)

Monday 19th April – Friday 21st May Semester Two Examinations

There will also be a diet of resit examinations in July/August (dates to be confirmed).

The dates of Examination Boards in session 2020/2021 are still to be confirmed.
Our Degree Courses

The following notes are to be read in conjunction with the General Regulations that can be found in the University Regulations 2020-2021 (see Section 00001); it is available online at

http://www.strath.ac.uk/sees/educationenhancement/qualityassurance/universityregulations/

You will find the course regulations for the relevant year of each of our courses and the requirements for progress to the next year of study in the appropriate Year Supplement.

The Bachelor of Science and MMath degrees offered by the Department of Mathematics and Statistics are credit-based. Each class, or component of the course, is given a credit rating; most are worth 20 credits, but some 10 credit classes may also be available in some degrees. Full-time students must take a curriculum made up of classes with a total credit value of at least 120 credits in each year. Both progress to the following year of a course and the ultimate award of a degree are dependent upon gaining a specified total number of credits from the course curriculum. All students on our BSc courses are admitted and initially registered as Honours students. If a student experiences difficulty with the level of work required for Honours then they may apply to transfer to the corresponding Bachelor’s (Pass) degree course at any time after the first year. In certain cases, the Board of Examiners may require a student to transfer to the Bachelor’s degree. Exit awards of Certificate and Diploma of Higher Education also exist for our courses after one or two years of successful study by which time you would have gained 120 or 240 credits, respectively. Transfer from the MMath degree to the BSc degree is possible at any time if the student wishes. Students who do not complete the final year of the MMath degree will be considered for the award of BSc with Honours in Mathematics.

A student must have accumulated no fewer than 360 credits for the award of the Bachelor’s (Pass) degree after three years of study. To enter the fourth (Honours) year, a minimum of 360 credits must have been gained; the overall level of performance must be commensurate with an Honours standard, (i.e. a level 3 average of at least 40% at the first attempt). The award of an Honours degree requires the candidate to achieve 120 credits in the Honours year classes and the level of performance in both the fourth and the third year determines the class of the degree. Similarly, the award of an MMath degree requires the candidate to achieve 120 credits in level 5 classes. The MMath with Distinction (or Merit) is awarded when performance in Years four and five is of an exceptional (or meritorious) standard.

Education provides the groundwork for flexible career opportunities. Nowadays employees are very likely to change jobs several times during their working life, and education is the key to doing this effectively. You should, therefore, regard your studies as an investment in yourself.

Planning Your Course

Flexibility is a key word in relation to our portfolio of courses - different courses all allow some choice of classes and also involve a number of common classes in Mathematics and Statistics. This provides some scope for transfer between courses. Although the courses include compulsory classes, which have to be included in the curriculum each year, other classes - designated as optional or elective classes - have also to be included. The difference between them is that optional classes are offered by the principal departments involved with the degree course, while elective classes - provided that the timetable permits - may be chosen from any Faculty. Plan your course properly. It is essential that you choose your optional classes carefully, so that later class pre-requisites, and present class co-requisites, are taken. Your choices may also be influenced by your career plans; your other class choices; what subjects you enjoy; how the time-table is constructed; what alternative degree(s) you might consider transferring to; your intended choice of final year project. You should ask you PDA for advice, especially when choosing optional or elective classes in Year 1.

Above all, your interests, in Mathematics, Statistics and beyond should dominate your choice. This is, after all, probably the only time in your working life when you will have this freedom of choice, so make the most of it! It is worth noting that employers do not often look for particular knowledge (except in a broad sense e.g. statistics, numerical analysis or mechanics) but they are looking for excellence in, and commitment to, your studies. You should discuss your choices and your future widely, including with your Personal Development Adviser.
Changes to Curriculum

Elective and Optional classes may be changed during the first two weeks of each semester by a ‘Curriculum Change’ request online via Pegasus. This requires approval by the receiving Class Registrar(s) and your Adviser of Studies (Year Co-ordinator) needs to approve the change. Changes to your curriculum later in a semester may not be possible. At all times you must have a ‘valid’ curriculum, as defined by the Course Regulations, with classes amounting to at least 120 credits for full-time students. During each semester you will be asked to confirm your Curriculum via Pegasus. It is important that you check that this is accurate as it contains details of the classes the University has on your record and will determine the examination arrangements and ultimately the classes that appear on your official results transcript/Diploma Supplement.

Transfer Between Undergraduate Courses

The opportunities that exist to transfer between undergraduate degree courses occur primarily at the beginning, in the middle and at the end of your first year and at the end of your second year. Transfer possibilities naturally become more limited as time passes although transfer to the single subject course in Mathematics (or Mathematics and Statistics) is sometimes possible right up to the start of the final year. If, at any stage, you are considering changing your degree course then you should consult with your Personal Development Adviser and/or Adviser of Studies responsible for your current course as soon as possible, however tentative your plans may be, and with the Head of Department [or Year Co-ordinator] for the degree course to which you propose to transfer; he or she will advise you on the feasibility of such a transfer and whether or not it would appear to be in your best interests. Having obtained advice you should then make written application to SEES - a form is available from

https://www.strath.ac.uk/studentlifecycle/downloadsforstudents/

normally early in June; students who delay until their resit examination results are known may not be told the outcome of their application (including any conditions that must be satisfied) in time to register for the start of the new session. Depending on the amount of overlap, exemption may be granted from part of the new course. If you should decide that you wish to graduate with a Bachelor’s (Pass) Degree on completion of the Third Year then you must formally transfer from the Honours Degree course to the Pass Degree course. Similarly, for transferring from the MMath to the BSc Honours in Mathematics you must make a formal application. In order to formally graduate you must complete and submit a Graduation Enrolment Form available from http://www.strath.ac.uk/graduation/. The awards of Certificate and Diploma of Higher Education may also be given to qualified students who withdraw from the degree course.

Holders of an award from the Student Awards Agency for Scotland (SAAS) or a Local Education Authority (LEA) must seek approval for any transfer from one degree course to another, as there is no guarantee that your award (fees) will be continued on the same terms.

Credits gained while at Strathclyde may be used within the Higher Education system in the UK if transferring to another institution. Each Strathclyde credit gained is equivalent to a SCOTCAT credit.
Teaching and Learning

At University much more emphasis is placed on you learning for yourself rather than being taught a set of techniques through repetitious practice. The following notes give information on the various ways in which material in classes may be taught, and, equally importantly, offers some advice on how you can get the most out of what we provide. Additionally, the following books, available from the University Library, provide further guidance:

Kahn, P. *Studying Mathematics and its Applications*, Palgrave. [D510 KAH]

Schiavone, P. *How to Study Mathematics*, Prentice Hall. [510.711 SCH]

Another useful document to read is ‘Developing Study Skills in Mathematics’ by Dr K. Hirst (University of Southampton).

Mathcentre [http://www.mathcentre.ac.uk/] is a UK HE resource which offers quick-reference leaflets, teach-yourself booklets, revision exercises, online exercises and even streaming video tutorials to help you master those essential mathematical skills.

Lectures and Books

For most Mathematics/Statistics students, lectures form the central feature of their studies. First year lecture classes are often quite large, with up to 200 students. In such a large lecture it is impossible to have the kind of interaction that you may have had in a school lesson (that is why we also provide tutorials). However, most students find that their understanding of Mathematics/Statistics is considerably assisted by regular attendance at most of the lectures given in connection with their course. Reasons can be given for this, e.g. there is an advantage in hearing something said at the same time as it is written down, a lecturer can underline points of importance more effectively than is easily done in a book, and it is often easier to convey the reasons for a particular sequence of mathematical manipulations in a lecture than on the printed page. Two other points which are often forgotten are that lectures do give a good indication of a reasonable rate at which to assimilate new material (and similarly help to encourage regular study), and that a lecture can sometimes give a useful bird's eye view of a subject and in the process provide a detailed syllabus. In Mathematics and Statistics, as with many other subjects, a difficulty or misunderstanding arising during a lecture is often best dealt with by asking a question immediately; the chances are that many other students present have the same difficulty.

It is quite difficult to learn how to take lecture notes, and rather hard to explain the art to those who have not yet acquired it, but this should come with time. However, some things that are said, but not actually written by the lecturer, may be worth making a note of - but be selective. It is desirable to find the time, within a few days of a lecture, to look through the notes, correct any misprints, make sure they make sense, and make any necessary additions. You should also work through all the examples and calculations again to make sure you understand all the steps.

The University’s Learning Enhancement Framework provides an organisational structure for activities related to educational development, support for academic professional development and study skills support (http://www.strath.ac.uk/learnteach/informationforstudents/). Study skills support and advice is now available as part of the Student Support and Wellbeing service (http://www.strath.ac.uk/sees/studentsupportwellbeing/). Study Skills Advisers provide a full-time service across a range of academic and study skills for students in all years of study, be they undergraduates or postgraduates, studying full-time or part-time. Further information can be found at http://www.strath.ac.uk/studyskills/

One approach is to:

- read your lecture notes thoroughly after each lecture and put question marks in the margins in pencil against anything you do not understand;
- attempt to work through the lecture examples to see if this improves your understanding;
- ask at your next tutorial class.

Understanding is the key to learning and remembering. If you understand a principle, it is easy to remember it. Trying to learn details that you do not understand is a hopeless task. **Seek to understand, rather than memorise, facts.** If you still do not understand a topic, look it up in a textbook (use the index), or discuss it with another member of the class. Any difficulties that do arise with parts of lectures
or books should be raised in an appropriate problems class or tutorial, or with the lecturer. Extra help with mathematics, particularly at the level of Year 1 classes, may be obtained by going along to the
‘Mathematics Skills Support Centre’ in LT308 with any class-work problems you are having. (Note that assignment problems will not be done, though similar types of problems may be tackled). Sessions are held daily 10.30 am - 3.30 pm and operate on a ‘drop-in’ basis. Staff there will endeavour to put you straight. Sessions are also arranged during the Revision Periods prior to each of the Examination Diets. See www.strath.ac.uk/mathsskills/

Lecturers generally give advice as to which Mathematics/Statistics books to use, but in cases where several alternative texts are suggested it is worth thinking carefully which text to use (the cheapest is not always the best) - the preface can give some idea of the level, and so can dipping into the book and flipping through its pages. Other students may give advice as to which books they have found helpful, but it is perhaps worth bearing in mind that someone trying to sell a book will not necessarily give an objective appraisal of its merits. Use the library. It can help to look at more than one book on a particular topic, in order to get a different perspective on the material. Quite often the difficulties arising from the fact that different authors tend to use different notations can mean that it is confusing to use more than a couple of books in connection with the same class. It should be remembered that it is not usual to begin a mathematics book at the beginning and go on until you reach the end, and the utility of a mathematical book can be greatly increased by proper use of its index.

**Tutorials, Problems Classes and Laboratory Classes**

It is impossible to understand Mathematics and Statistics at an undergraduate level without working through a large number of problems related to the lecture material. Lecturers will normally set suitable assignment problems/exercises on a regular basis. It is very important that you make serious attempts at these problems and, when requested, hand them in to your lecturer or tutor for marking. This enables us to judge what extra teaching may be needed and what progress you are making. It is also well worthwhile trying many more problems than are set for marking. Depending on the class, this work may:

- be assessed and contribute towards your overall grade for the class;
- not contribute to your overall grade, though not doing it may result in you not being awarded the credit for the class;
- be recommended for you to try in order to maximise your understanding of the class material.

The best way to learn and understand Mathematics and Statistics is by working on the problems and exercise sheets and by active preparation and participation in tutorials and problems classes. Many of the difficulties you may have with the exercises can be solved if you fully grasp the ideas expounded in lectures and texts. If you get stuck, read your lecture notes carefully. If, after trying, you still cannot do a problem, take a break, sleep on it, ask a friend, or your lecturer. If you still cannot complete an exercise, write down what you tried to do, and indicate where you got stuck. Don’t leave it all until the night before the work is due in. Once you’ve found out how to solve a problem that had been causing you difficulties, spend a few minutes reflecting on why you got stuck, what was the idea that led to the solution, and (most importantly) how can you avoid getting stuck on similar types of problems in the future. You can also gain a great deal by talking about problems with fellow students, provided that all participants do genuinely try to participate rather than simply copy the answers from the genius in the group. That would be plagiarism, which is serious academic misconduct. Always explain your notation (where it differs from the lecturers) and your reasoning: a string of symbols is meaningless without such explanation. All your work should be in (mathematical) sentences, so that the meaning is clear.

Computer labs, problem classes and tutorials are less formal than lectures, and students are often asked questions, or perhaps asked to explain a piece of mathematics or statistics to the others present. If you have tried the problems beforehand, the leader’s explanations will be much more useful to you. Do not be afraid to ask when you do not understand a topic, no matter how basic; probably your friends will not know how to do it either.

You will get the most out of tutorials by working on points that you don’t understand in advance of the tutorial: read your notes, read books, look at examples, discuss difficulties with other students.
With computer work it is important to read any hand-outs carefully. Think about what you are going to do before starting at the computer. It will save time in the long run. Often the material covered has to be written up and presented in order to satisfy the class requirement before credits can be awarded.

The Department of Mathematics and Statistics regard computing laboratories, tutorials and problems classes as compulsory and also require you to submit written work for some of your classes. Failure to attend laboratories, tutorials or problems classes, or to hand in adequate amounts of work on time, without acceptable excuse is referred to the Class Registrar in the first instance. The Class Registrar, or Year Co-ordinator, may send you written warnings and may impose requirements on you appropriate to your case, which may include conditions that have to be fulfilled before you are deemed to have completed a class. Drastic measures are rare, and are never taken mechanically without full enquiry. Early consultation about difficulties, and prompt response to warnings, will render them largely unnecessary.

Computing Facilities and Software Packages

During your course, you will use computers for a variety of purposes, from performing numerical, statistical and algebraic calculations to communicating with staff and other students by e-mail. Some areas of mathematics - statistics in particular - make use of specialist computer packages, but no previous knowledge of these is required. Many classes use Myplace as an additional resource sometimes supplying backup notes or model solutions to the exercises.

You will receive training in the use of mathematical/statistical software packages to aid the calculation of results. Outside the timetabled practical sessions, you are free to use the computers in the computing laboratories or library. Note, however, that you must observe the rules for their use or you may have the facility withdrawn.

Key Skills

When the University talks about key skills (sometimes called transferable skills), it is referring to those skills that employers value and look for in new employees. They tend to be the personal skills or competences that most of us possess, to a greater or lesser extent, and that do not depend on which particular subject is studied or course followed. For example, communication and presentation; problem-solving and creativity; information and computer technology; teamwork and collaboration; project planning and organising; personal development. An important aspect is the ease with which you can transfer these skills from one situation or context to another. When employers are considering graduates, they want to know how well you have done in your studies but they also want to know what you can do, which key skills you possess. For example:

- can you communicate verbally and in writing?
- can you get on with other people and work in a team?
- can you work independently, using your own initiative and judging when you need to involve others? and
- can you organise yourself and others, solve problems, make decisions?

We'd all probably say 'yes' to these questions – but how do you know? How can you persuade an employer that you have these skills at a level that meets their needs? Employers may well test your claims through interviews, aptitude tests, group exercises and other activities. It is likely that, in most instances, you will need to be able to demonstrate that you have these skills in order to get to the interview stage.

Key Skills are nurtured in many of our classes. For those areas covered in specific classes see the class Mathematics and Statistics: Information for current students on MyPlace. See the Careers Service (http://www.strath.ac.uk/careers/) for information and help on future career planning.
General Interest Books in Mathematics and Statistics

To become a good mathematician or statistician, it is important that you don’t restrict yourself only to the material taught in our classes. There are a number of general interest books that are well worth reading. Some of these are listed below ("**" is Strathclyde’s Library classification):

Beasley, J.D. *The Mathematics of Games*, Oxford University Press.  [D511.3 BEA]
Davis, P.J. & Chinn, W.G. *3.1416 and all that*, Birkhauser.  [D510 DAV]
Gowar, N. *An Invitation to Mathematics*, Oxford University Press.  [D510 GOW]
Kline, M. *Mathematics in Western Culture*, Penguin.  [51(09) KLI]
Lines, M.E. *Think of a Number: Ideas, concepts, and problems which challenge the mind and baffle the experts*, Institute of Physics Publications.  [D510 LIN]
Mandelbrot, B.B. *The Fractal Geometry of Nature*, W H Freeman.  [D516.15 MAN]
Peterson, I. *Islands of Truth: a mathematical mystery cruise*, W H Freeman.  [D510 PET]
Peterson, I. *The Mathematical Tourist: Snapshots of Modern Mathematics*, H Freeman.  [D510 PET]
Sawyer, W.W. *Mathematician’s Delight*, Penguin.  [D510 SAW]
Stewart, I. *The Problems of Mathematics*, Oxford University Press.  [D510 STE]

Your Responsibility

As a student we expect you to attend classes (arriving promptly); switch-off mobile telephones and similar devices in class; carry out assignments and submit them timeously; observe good conduct at all times (see the guidelines on “Classroom Protocol”); use the University facilities (computers, library) responsibly; inform us of changes in your address; and spend an appropriate amount of time on private study. Above all a key responsibility is to make the best of the learning opportunities that you are afforded in the University, progress successfully through your course and graduate with a degree that is a true reflection of your ability.

Attendance at Classes

You will find that the atmosphere at university is probably more relaxed than that at your previous school or college. You should be aware that the University (General Regulations 00001.UG.1.24 – UG.1.27) and the Student Awards Agency for Scotland (SAAS) or your Local Education Authority (LEA) require you to attend classes - you must attend the University during semesters, and illness, or some other acceptable mitigating circumstance, is the only valid excuse for absence from classes. Staff responsible for each class will monitor attendance as appropriate. It is a student's responsibility to ensure that their attendance has been noted. The Head of Department (or nominee) can report an unsatisfactory attendance record to the Science Faculty Board of Study, which, in certain circumstances, may result in a report being sent to the SAAS or your LEA.

Additionally, students are required to perform satisfactorily the work of the class. Where laboratory work is an integral part of a class it is clearly important to attend regularly and to complete the scheme of work required. In some classes the award of the credit is dependent upon satisfactory coursework being carried out in addition to the written examination being passed. Any student whose attendance or performance has not been satisfactory may be deemed 'Not Qualified' to sit the examination and hence disqualified from the degree examination in the class concerned.

Additional work will normally be required in order for a Not Qualified student to be reinstated for a subsequent attempt at a degree examination.
Time Management

At the University you will have a high level of autonomy. You will be treated as an independent adult and as such you will have the final responsibility for your own studies. You will need to have quite a lot of self-discipline and self-motivation. Time-management is one of the more important skills to acquire.

University-level Mathematics and Statistics will take time and work on your part to understand. At the beginning of the course you may find that some of the work is revision, but even then, the standard of comprehension and level of skill required are likely to be greater than in your pre-university courses. In most classes there will be new material starting quite early in the semester. Spend some time reflecting on your learning, identify factors which enable you to work well or prevent you from doing so. Broadly speaking, you should think in terms of a 40 hour study week. Some students may need to work at their studies more than this in order to keep up.

Think very carefully before taking on any part-time work during term-time. A FULL-TIME degree course, requires a commitment of around 40 hours per week during term-time. If you need a part-time job during term-time, make sure that you do not work for more than a few hours (the University Senate recommends 10 - 15 hours maximum) per week or your academic work will suffer; you may not get the degree class that you should, and your starting salary and career prospects might be depressed. You may feel that you need the money, but discuss your finances with a friend, your parents, and the staff of the Student Counselling Service or Students’ Union, first. If you are successful in your studies, with no resits, the long vacation can be used to earn good money. Remember also that you still need a social life.

There are many activities competing with academic work for your time. But the purpose of a university is learning. One of the main aims of our staff is to develop and teach Mathematics/Statistics and we expect you to be here to learn Mathematics/Statistics (as well as doing all sorts of enjoyable and worthwhile things in your spare time).

Progress Files/Student Personal Development Planning

MyPlace offers each student the facility to produce a Progress File in which the student records their personal development. Student Personal Development Planning (sPDP) is the term used for this “structured and supported process undertaken by an individual to reflect upon their own learning, performance and/or achievement to plan for their personal, educational and career development”.

The primary benefits for students of sPDP are to help and encourage students to reflect upon their own learning, and to encourage students to begin planning for a future career.

The key reasons for maintaining a Progress File are:

- to provide you with feedback on your progress that you can use to measure your development against the goals that you set for yourself;
- to help you to develop a range of key skills, self-awareness and independence in your learning;
- to help you with career planning and preparing for the workplace and/or further study; and
- to provide you with a useful summary of your undergraduate experience which you can take on into your professional career and which will form the foundation for further professional development.

Although a dynamic and formative document, the portfolio will have a core structure in which you will record, comment and reflect on critical elements of the undergraduate journey, such as: academic knowledge and skills, social and leisure activity, work and placement experience, key skills, self and employability awareness, personal development, community and voluntary service, and professional benchmarks. This will also be the core of your curriculum vitae, job applications, professional requirements and targets for continuing learning - as required.
Feedback and Assessment

Feedback to Students

A very important part of the learning process is the provision and use of good and timely feedback. Feedback can take a number of forms, such as written comments from a tutor, a discussion with academic staff or your fellow students, or a critical analysis of your own work. Effective learners seek out feedback from many sources. How useful the feedback is depends largely on what you do with it. It is worthwhile viewing the booklet Making the most of your Assessment and Feedback at Strathclyde [http://www.strath.ac.uk/media/other/learningteaching/Making_the_most_of_your_assessment_and_feedback.pdf](http://www.strath.ac.uk/media/other/learningteaching/Making_the_most_of_your_assessment_and_feedback.pdf).

The Department of Mathematics and Statistics recognises the value to students of feedback and is therefore committed to providing timely and appropriate feedback. To get the best out of feedback you need to be actively engaged in your studies. Feedback is only helpful if the information/comments are used by yourself to improve your future performance. Through feedback you should learn from your mistakes and misconceptions and build on achievements. Feedback will help you identify gaps in your understanding and enable you to seek help and clarification when you need it. Individual advice can be obtained at the tutorial/problems class. Alternatively, you can arrange to consult your lecturer/tutor. **Staff will endeavour to return within 15 working days, during the teaching period, work you submit on time.** In many classes this will be sooner.

Feedback in Mathematics and Statistics classes may take many forms, e.g.

(i) Written or oral comments on work submitted.
(ii) The supply of model solutions in class or via Myplace.
(iii) Grading of submitted work (normally in conjunction with (ii)).

Feedback on examinations may be given by providing a generic commentary on students' performance (identifying common strengths and weaknesses) along with comments on those parts of questions that need particular attention. Students who wish to view their examination scripts (for feedback purposes, as an aid to future academic performance) should enquire at the Mathematics and Statistics Departmental Office (LT916). Information on the procedure to follow can be found on the MyPlace class Mathematics and Statistics: Information for current students.

Feedback from Students

The Department welcomes feedback on classes or courses, facilities or support services. During the course, comments can be referred for discussion to the Student-Staff Liaison Committee. **We would urge all students to complete carefully the class/course evaluation questionnaires that are issued during the teaching periods. This is one of the main ways in which we get feedback on our classes, and your views are valued.** To make this exercise worthwhile it is very helpful if you:

- participate: the information is reliable only if most of the class responds;
- try to separate, as far as you can, the quality of the teaching from your reaction to the personality of the lecturer; even if you dislike Dr. X, he/she might be giving excellent lectures, and similarly the other way round;
- give considered and constructive comments.

Another way in which you can provide us with useful feedback is via the Departmental Student-Staff Liaison Committee.
Departmental Student-Staff Liaison Committee

The Faculty Board of Study, which is the University committee that manages Science Faculty business, has student representatives. They change from time to time, but the Faculty Manager can tell you who the current representatives are. The Department of Mathematics and Statistics also has a Departmental Student-Staff Liaison Committee with student representatives from each year of study. Minutes are kept of its actions and these are available on Myplace. The results of these actions are scrutinised at Departmental Meetings and the Faculty of Science Academic Committee.

The committee is formed in October from willing volunteers. The members are listed on Departmental notice boards and may be contacted by e-mail or through Myplace.

The line of student-staff communication may be defined as follows.

- Issues of student concern associated with a particular class (including individual student difficulties) should, in the first instance, be raised with the lecturer in charge of the class. If these issues cannot be resolved, students should then communicate their concerns to the appropriate Year Co-ordinator. Unresolved issues should then be raised at Staff-Student Liaison Committee meetings and, as a last stage, students may take particular issues to the Head of Department.

- Issues concerning the organisation of a particular year of a course, or the operation of an entire course in general should be raised directly with the appropriate Year Co-ordinator. Once again, unresolved issues should then be communicated in the Student-Staff Liaison Committee meetings and ultimately to the Head of Department.

Methods of Assessment

There are many methods by which your progress can be assessed. The traditional method is a written examination that takes place soon after the class has been completed. There are also other ways, such as continuous assessment, in which your work can be examined. Certain classes in Mathematics and Statistics include compulsory elements of coursework in the Final Assessment. These may involve the application of computers to relevant problems. A few of the statistics classes concerned with applications are assessed entirely on the basis of practical exercises. Class descriptors (available via the class Mathematics and Statistics: Information for current students on MyPlace) explain each class in full.

Some departments also operate exemption schemes. These grant students exemption from the degree examination if a certain level of performance in class work, class tests, etc. during the year has been reached. (Where applicable these are again found in the class descriptors). At the other end of the performance scale, students may be told, in cases where their performance in a particular class during the year is considered especially poor, that they are “Not Qualified” (or NQ) to sit the degree examination (see the section on Attendance at Classes).

Plagiarism and Collusion

Do not cheat in any way; it is often straightforward for your marker to spot work which is not your own and, in the case of copying from another student, both original and copied work may get zero marks, so don’t let others copy your work. The University treats cheating, particularly in examinations and other formal assessments, extremely seriously. Many professions require entrants of the very highest integrity, and proven cases of cheating may, as a result, lead to probable disbarment from professional life as well as disciplinary action by the University.

Plagiarism has been defined as “the taking of ideas, writings, etc., from another and passing them off as one’s own” (Collins Pocket English Dictionary, 1981). In an academic environment this is regarded as a very serious offence - a form of intellectual theft.

The University’s regulations on Academic Dishonesty state that candidates for assessment must not by implication or otherwise represent the work of others as their own.

For further information and advice on how to avoid plagiarism, see http://www.strath.ac.uk/plagiarism/.

In any field of academic study collaboration with others can be an important part of the learning process, and the sharing of insights and the resolution of difficulties is often desirable. However, you should not
collaborate when writing out a piece of open assessed work, copy the work of another student, or allow another student to copy your work - this constitutes collusion. If in doubt as to whether to give assistance to another student, ask yourself whether a lecturer or tutor would be likely to give the same assistance, or better still ask a member of staff for guidance as to what is permissible. In project work or reports, when drawing from previous work done by others, you must acknowledge it, and if a passage is quoted verbatim, it should be enclosed in quotation marks and its source given.

Examinations

Degree examinations are held in December and in April/May, with a resit diet of examinations in late July/early August. Copies of some past papers are normally available from the University Library's Electronic Library Services section www.lib.strath.ac.uk/examsearch.htm Other examinations (class tests) may be held from time to time; you can expect to be given details from the different departments in which you are taking classes. Attendance at examinations is compulsory. Note that you may not bring written or printed material, pre-programmed graphic calculators, etc. into examinations without permission, nor may you communicate with anyone other than the invigilator during an examination.

If you are offered the opportunity to resit an examination it is advisable that you take it. Please note that the Resit Diet takes place during late July/early August and you are required to sit the examination in Glasgow. Do not make irrevocable plans for this period before the Examination Board's decisions are known in June.

All students are expected to attend for examination at the University of Strathclyde at the dates and times posted (to say that you misread the examination timetable is not an acceptable reason for missing an examination). Only exceptionally will permission be given for students to sit examinations out-with the University.

Students are recommended to familiarise themselves with the University's Regulations for Examinations for the Degree of Bachelor of Science which are published in the University Regulations and on notice boards alongside the examination timetable.

The marking of degree examination answer papers is by an anonymous marking system. This means that the member of staff who marks your paper does not know the identity of the candidate whose paper he/she is assessing. For classes assessed at Levels 1 to 4 the pass mark to gain the associated credits is 40%. Level 5 classes have a pass mark of 50%.

Your Departmental Examination Co-ordinator is: Ms S Miller (LT914, extension 3598).

Students with approved Special Examination Needs should speak to the Departmental Disability Contact, Ms S Miller.

Preparing for Examinations

Mathematics and Statistics are subjects consisting of many parts which are covered sequentially. It is therefore important to understand the basic concepts underlying each part, to know the main results therein, and how to apply the techniques in particular problems.

It is important that you give yourself adequate time for revision. You cannot look at a topic the night before the examination and expect to learn it. Late revision is usually of little lasting value and “cramming” for exams is no substitute for methodical and sustained study throughout your course. Remember also that effective revision involves attempting questions, writing out definitions, proofs, drawing diagrams, etc. not just reading your notes over and over again.

When sitting an examination, you should pay attention to the instructions read out at the beginning by the Invigilator. In particular, you will be asked to check that you have the correct examination paper before you and to read the instructions on the paper carefully. When attempting a particular question, make sure you understand what is required by way of an answer. There are certain terms which appear regularly in Mathematics and Statistics questions. The following list includes many of these, together with their meaning.
<table>
<thead>
<tr>
<th>TERM</th>
<th>MEANING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Define</td>
<td>requires the precise definition.</td>
</tr>
<tr>
<td>Explain</td>
<td>write using simpler concepts/words.</td>
</tr>
<tr>
<td>Calculate (or Determine, Evaluate, Find, Obtain)</td>
<td>requires an answer to be found which is not given.</td>
</tr>
<tr>
<td>Solve</td>
<td>find the quantity/ies which satisfy the given equation.</td>
</tr>
<tr>
<td>Verify</td>
<td>require the statement given on the paper to be validated - working is essential.</td>
</tr>
<tr>
<td>Show that</td>
<td>requires a logical argument to arrive at the result quoted.</td>
</tr>
<tr>
<td>Prove that</td>
<td>requires a logical but more detailed and careful argument than for ‘show that’.</td>
</tr>
<tr>
<td>Expand</td>
<td>write out as a sum of terms e.g. by multiplying out.</td>
</tr>
<tr>
<td>Simplify</td>
<td>write as a single expression often by removing common factors, or with fractions putting over a common denominator and cancelling.</td>
</tr>
<tr>
<td>Express</td>
<td>generally translate from words into mathematical symbols.</td>
</tr>
<tr>
<td>Describe</td>
<td>requires an answer in words and possibly mathematical symbols but without detailed calculations.</td>
</tr>
<tr>
<td>State (or Write down)</td>
<td>no need to do any working, just quote the required result.</td>
</tr>
<tr>
<td>Give</td>
<td>similar to ‘state’ but a little working may be required.</td>
</tr>
<tr>
<td>Sketch</td>
<td>means draw a graph or picture on your script - ideally taking about half a page - need not be to scale. Label axes and insert values and points asked for in question.</td>
</tr>
<tr>
<td>Graph</td>
<td>as for sketch but graph paper is to be used and the drawing done accurately. Information may have to be obtained from the graph.</td>
</tr>
<tr>
<td>By ...</td>
<td>gives the technique or method that must be used.</td>
</tr>
<tr>
<td>Use ...</td>
<td>gives the method that must be used.</td>
</tr>
<tr>
<td>Hence ...</td>
<td>make use of an earlier part of the question to answer this part.</td>
</tr>
<tr>
<td>or otherwise</td>
<td>you can use any method but generally it is best to make use of the method (or hint) given.</td>
</tr>
<tr>
<td>Deduce that ...</td>
<td>reason from the answer to an earlier part of the question to answer this part.</td>
</tr>
</tbody>
</table>

Note that special Tables of Formulae, if permitted and required, will be supplied. Also a non-mains powered pocket calculator that is not pre-programmable is permitted in final Mathematics/Statistics.
examinations, though one is not always essential. Calculators must not be used to store text and/or formulae, nor be capable of communication. Invigilators may require calculators to be reset.

If there is anything on the paper you are unsure about, ASK an invigilator for clarification.

Examination Technique

Answers should be written clearly in ink. Note that examiners attach importance to accuracy. Marks are awarded for the choice of method and execution of the mathematical technique as well as for the final answer. So justify your answers with full details of the analysis. Do not cross out any working unless you repeat the calculation elsewhere and are sure it is now correct - you may pick up some marks for method, etc. Make sure you answer the question actually set, not one you wanted to be set! Do not waste time writing down material which is not relevant to the answer simply to provide some “padding”. You will get no marks for it.

Do not spend too long on a question - you can calculate the time to allow for each question from the number to be answered and the total time allowed.

Be realistic about the length of your answer compared with the possible time/marks allowed for that question.

Attempt questions first that you think you can work through completely. Hints or additional information may be given in a question so read the entire question carefully before attempting it.

Although attempts at complete questions are preferred it is possible that you may only recognise how to do part of a question. If you attempt the second part of a question you may use any results stated in the first part.

Note that when work is done with a calculator you must show all the intermediate working for the marks to be awarded.

**Equal Opportunities**

Equality and Diversity

The University of Strathclyde is committed to achieving and promoting equality of opportunity in the learning, teaching, research and working environments.

We value the diversity of our staff and students and support the development of mutual respect and positive relations between people.

The University has in place an [Equality Policy, Disability Policy](https://www.strath.ac.uk/equalitydiversity/) which meet the requirements the Equality Act 2010.

You are advised to familiarise yourself with the University approach to equality and diversity and relevant developments and information by visiting the website: [https://www.strath.ac.uk/equalitydiversity/](https://www.strath.ac.uk/equalitydiversity/)

It is important that you understand your rights and responsibilities. Any discriminatory practice, including cyber bullying, on your part may lead to the University initiating disciplinary action.

If you have any queries please bring these to the attention of staff or the University's Equality and Diversity office.

Email: [equalopportunities@strath.ac.uk](mailto:equalopportunities@strath.ac.uk); Telephone: 0141 548 2811; [www.strath.ac.uk/equalitydiversity/](http://www.strath.ac.uk/equalitydiversity/)
Athena SWAN

The Athena SWAN Charter has been developed by the Equality Challenge Unit to encourage and recognise commitment to combating the under-representation of women in STEMM research and academia.

The University currently holds a Bronze award, recognising our commitment to advancing women's careers in science, technology, engineering, maths and medicine (STEMM) employment in academia.

If you would like any additional information, please contact the Equality and Diversity office.

Students with Disabilities

The University is committed to providing an inclusive learning and working environment for disabled people.

If you have, or think you have, a disability we encourage you to disclose it as soon as possible. Declaring your disability will enable you to access any additional support that you may need and help to ensure you become a successful student. The information you provide will be treated as confidential and will not be shared with other staff without your consent.

The University has a dedicated Disability and Wellbeing Service that offers specific advice, information and assistance to disabled students, including information on the Disabled Students Allowance (DSA). Further information is available from the website: www.strath.ac.uk/disabilityservice/

In addition, each academic Department/School (for HaSS) has at least one Departmental Disability Contact (DDC), who act as a first point of contact for disabled students. The Departmental Disability Contact list is available on the website at: https://ben.mis.strath.ac.uk/publicapp/DisabilityContacts.jsp?deptCode=12305 Dr David Young (david.young@strath.ac.uk) and Ms Sandra Miller (s.j.miller@strath.ac.uk) are the DDCs for Mathematics and Statistics.

Please inform your course tutor, the DDC and a member of the Disability and Wellbeing Service of your needs as soon as possible. The Disability Service will then formally communicate your needs to your Department/ School. Email: disabilityservice@strath.ac.uk; Telephone: 0141 548 3402; www.strath.ac.uk/disabilityservice

Issues with Physical Access on Campus

If you experience an issue with physical access anywhere on campus, please email: physicalaccess@strath.ac.uk where a member of Estates staff will be able to help.

Classroom Protocol

At the University we are committed to providing a safe learning environment where dignity is respected and discrimination or harassment, including cyber bullying does not occur on the basis of age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex, sexual orientation and socio-economic background. No student should intentionally be made to feel threatened or excluded from class participation.

Student Behaviour Protocol

You have a responsibility to show respect to fellow classmates and staff by remembering this following protocol for the duration of your studies:

- Attend all scheduled lectures/seminars and/or practical sessions such as labs, including any additional learning and teaching sessions.
- Arrive on time and remain in class until the end of the session. If you need to leave early for any reason, please notify the tutor at the beginning or prior to the class.
- Do not disrupt the class by habitually coming in late or coming and going from the classroom during the session. Any student arriving late, without justified reasons, may be refused entry.

- Refrain from consistently interrupting other speakers.

- Listen to the ideas of others with respect.

- Do not be rude or make personal attacks on individuals during group discussions, or in any other form of student activity.

- Do not raise your voice or behave in a manner that would be reasonably considered aggressive during discussions with students or staff.

- Do not use abusive language, even when not directed specifically to those around you, in spoken or online discussions.

- Do not eat in the class, other than for medical reasons, e.g. diabetes. Drinking beverages may be permissible at the tutor’s discretion where the room utilisation rules allow and drinking water is normally allowed throughout campus unless excluded for health and safety reasons.

- Inform tutors of specific requirements for example the need to perform prayers for practising students of diverse faiths.

- Seek consent of students and staff before taking any photos, or audio recordings in the classroom. These must not be shared on any social network sites without permission. The recording must be used only for personal study. Making visual recordings is normally forbidden.

- During formal teaching periods, such as lectures, tutorials and labs, students should work on the topics set by the lecturer or tutor in charge.

- Where a record of attendance is being taken, it is the student's responsibility to sign the attendance sheet. Students should not, under any circumstances, indicate or sign attendance on behalf of another student. This is a serious disciplinary offence.

- At any course related external visit you are acting as an ambassador of the University and are reminded to act as such.

- Refrain from smoking (including electronic cigarettes) in any University building.

- Follow health and safety procedures. You are reminded at all times to take responsibility for your own safety and that of others.

- Should you have any concerns please bring them to the attention of your tutor, and/or Course Director or another appropriate University staff member.
Alphabetical Help Guide

There are a number of issues on which students often seek advice from staff. These are discussed in the following “Help Guide”. We hope this guide will help you understand University and Departmental policy on these issues. Links to relevant University web-sites are provided when possible. If, after consulting the guide and web-sites, you are still unsure of what to do, then do not hesitate to get in touch with your PDA, Year Co-ordinator or Academic Director.

Absences
http://www.strath.ac.uk/sees/studentpolicies/policies/attendance/absenceandvoluntarysuspension/

Remember that your main objective should be to get well as quickly as possible. Don't struggle to keep up with your work if it will delay your recovery. We always make allowances for serious illness, or other difficulties, when we are aware of it. It is important that students keep the University informed of absences.

For absences from classes, laboratories or tutorials of seven or fewer consecutive University teaching days – you are required to record a self-certification online via PEGASUS using the ‘Personal Circumstances’ link under the Services tab.

For absences of more than seven days – you are required to submit a medical certificate (signed by a medical practitioner who is not a member of your family) to Student Business.

For absences from an examination, or class test, or failure to submit an assessment/assignment on time – you must submit a formal medical certificate. Certificates that are submitted to Student Business are kept in the student’s file, and details are recorded on computer. Student Business will inform the relevant departments and Board of Examiners of certificates which are relevant to a diet of examinations or the corresponding period of study, including, where appropriate, the relevant details.

Student Business-Science will inform all relevant Department(s) and, if the absence continues for 14 days or more, the Student Awards Agency for Scotland or relevant grant awarding body.

Academic Suspension and ‘Registration with Attendance'
Please ask the relevant Year Co-ordinator.

Access to Buildings
Cards for access to University buildings out-with normal working hours can be obtained from the Departmental Office, LT916. Notification of building names should be in writing and 24 hours’ notice given for collection of cards.

Accommodation
Residence Services provide a diversity of student accommodation on campus. If you have private accommodation which does not work out, it is worth checking for vacancies in Halls at any time during the year. The private sector expert can advise on conditions of tenancy and landlords. The office is open between 9.00 am - 4.45 pm, Monday to Friday and is located at Residence Services, The Lord Todd, Weaver Street; see http://www.strath.ac.uk/accommodation/

Andersonian Library
The main University library is the Andersonian Library, Curran Building, and full details of the various services that it offers are outlined in the Library Regulations available in a selection of leaflets from the Enquiry Desk. An introductory video is shown in the library, several times each day, during the first few weeks of the academic session. The Student Card, issued at Registration, includes the University Library Membership Card. This must be produced when entering, or borrowing materials from, the Andersonian Library. (http://www.strath.ac.uk/library/)

Appeals, Complaints and Discipline
A student who believes that they may have grounds for an appeal against the decision of the Board of Examiners may submit an appeal to the Faculty Manager - Science. Information and guidance can be found at http://www.strath.ac.uk/staff/policies/academic/
Before making an appeal, a student should consult the Student Counselling Service or the Students’ Association, who give advice on submitting appeals.

**Careers Service**
The University Careers Service is based on level 6 of the Livingstone Tower and runs a wide range of seminars and workshops aimed at new and continuing students. Stephen Smith is the Careers Consultant to the Faculty of Science (stephen.m.smith@strath.ac.uk). You will get to know him through Careers talks during the year in the Department and through events, and activities, in the Careers Service that we encourage you to attend from 1st year.

**Key information regarding the careers:**
1. Set your preferences on the Vacancy system to access employer insight opportunities, paid work experience (Summer/1 year), graduate opportunities. How? Via quick link on Careers Service website.
2. Check EVENTS calendar regularly for employer-led information sessions and workshops, Careers Service briefings/events. How? quick link on Careers Service website /University app.
4. Got a question? First check FAQs then email yourcareer@strath.ac.uk or use the Ask a Question facility on the vacancy system (MyCareerHub). There are also a number of key resources on the Careers Services website: https://www.strath.ac.uk/studywithus/careersservice/.

**Change of Address**
Students must notify promptly, Student Business-Science, of any change in their in-term or out-of-term addresses. The University will use these addresses for official communications, including examination results, and cannot be held responsible for non-delivery where a change of address is not notified. Changes can be notified on-line through PEGASUS.

**Chaplaincy Centre**
The Chaplaincy provides students with the opportunity to join a community offering friendship, support and advice. In addition to the University Chaplain a team of voluntary chaplains and contacts are available to provide additional support to the University community. They offer confidential help and support and a varied programme of events throughout the year. Information about and contact with a number of faith groups within the City is also provided.

Further details can be found at: http://www.strath.ac.uk/chaplaincy/.

**Communications with Students**
The formal channel of communication with students will be via your individual University of Strathclyde email address; through the Staff Student Information Server (PEGASUS), via the Virtual Learning Environment (VLE) Myplace; or via the Strathclyde APP. The Strathclyde APP will allow you to access enrolment information; personalised timetables; examination timetables; and other communications. Information may also be presented via TV screens located in University Buildings. Students may also view information on the official notice boards in the University which are located near the Student Experience offices on Level 1 of the McCance Building and at or near the entrance to other University buildings.

Information particular to individual Departments is also posted on notice boards within the Departments concerned. Notices affecting 3rd and 4th year students are often placed in the Student Common Room LT905, Livingstone Tower.

**Council Tax**
Council Tax letters are produced for students via the Student Experience and Enchancement Services. These can be requested on line on via: http://www.strath.ac.uk/studentlifecycle/letterscounciltaxbankstatus/

**Course Details**
Full details of all the Department’s courses can be found on the class page for Mathematics and Statistics: Information for current students on MyPlace.
Examination Board Decisions
The General Board of Examiners takes decisions on student's progress, based upon performance in all classes in a student's curriculum, and meets in June, and, for students who have to resit examinations, also in September. Results for examinations taken in the Semester 1 diet, or by continuous assessment, are provisional until the General Board of Examiners approves them in June.

Exemption from Classes and Examinations
Under regulations for undergraduate courses it is possible for a student to be granted exemption from a particular class and from the relevant degree examinations on the basis of qualifications held on entry. For example, this may happen when a student transfers from another degree course or institution. Any student who considers that they may be eligible for such exemption should contact the member of staff in charge of the class concerned at the beginning of the academic year in which exemption is sought.

Exemption can be granted only at the beginning of the academic year by the Board of Study responsible for administering the degree course, on the recommendation of the department responsible for teaching the class concerned. In some cases the student may be required to take another class in place of the one from which exemption has been granted.

External Examiners
Information relating to the External Examiners for the MMath Mathematics, MMath Mathematics and Statistics, BSc Hons Mathematics and BSc Hons Mathematics and Statistics courses can be found on the class page for Mathematics and Statistics: Information for current students on MyPlace.

Financial Support
Information can be found at: http://www.strath.ac.uk/studentfinancialsupport/

First Aid
If you are unfortunate enough to fall ill or have an accident while in the Department, a member of staff should be sought out as quickly as possible, to ensure a rapid response. The details of Departmental First Aiders, their location and extension numbers, are detailed on the notices displayed in the foyer area of each floor. First Aid is also provided by the University's Security Wardens who are qualified first aiders and should be contacted in an emergency via extension 2222 or if phoning from a mobile 0141 548 2222. A First Aid Box is available in the Departmental Office (LT916).

Health and Safety
All matters relating to health and safety should be reported to the Department’s Area Safety Coordinator (Ms S Miller, s.j.miller@strath.ac.uk, extension 3598).

Students are reminded that they must at all times observe University Safety Regulations. Laboratory and other areas with hazardous materials have special regulations that must be discovered and observed. Please advise the Department's Area Safety Coordinator of any dangers you see.

Fire Evacuation Procedure
Evacuation procedures are displayed in all the University buildings and students should acquaint themselves with these instructions and be familiar with all means of exit. In the event of a Fire Alarm sounding the building MUST be evacuated immediately. Emergency doors must only be used in the event of fire or other emergency.

For your own health and safety and that of others, please observe the following points:

**Personal Safety on Campus:**  Care should be taken at all times. Further information can be found at:  http://www.strath.ac.uk/wellbeing/personalsafety/;  http://www.strath.ac.uk/media/ps/sees/pers_safety_guide.pdf

**Fire:**  As part of the induction process all new students will be instructed in the regulations regarding procedures in the event of fire including escape routes and assembly points.

Personal possessions, money, coats, bags or any valuables should not be left unattended in corridors, the laboratory area, changing rooms or classrooms.

See also  www.strath.ac.uk/wellbeing/;  www.strath.ac.uk/estates/security
John Anderson Campus Map
Details of the campus buildings, location and virtual tour of the campus can be found at:
http://www.strath.ac.uk/maps/

Lecturers’ Availability to Students
The Department offers a flexible access scheme to students rather than unlimited access. This comprises email queries which can be answered at a suitable time by academic staff or arranging appointments.

Part-time Study
Students may study for the BSc in Mathematics, the BSc in Mathematics and Physics, or the BSc in Mathematics, Statistics and Economics on a part-time basis. Note that the first two years of the BSc in Mathematics with Teaching may also be studied on a part-time basis. If full-time study proves too much it is possible to apply to transfer to one of the above courses rather than leave the University. Contact your Adviser of Study (Year Co-ordinator) or PDA for advice.

Personal Mitigating Circumstances Affecting Performance
Students whose performance has been, or will be, affected by circumstances that are acute, severe and outside their control should inform the University as soon as they are aware of these circumstances, by recording them on PEGASUS under ‘Personal Circumstances’ and submitting supporting evidence as soon as such evidence is available. Where it is felt that further detail is required or clarity can be added, students may also complete and submit a Personal Circumstances Form (PCF) (https://www.strath.ac.uk/media/ps/registry/Personal_Circumstances_form_(3).pdf)

When a student’s performance in examination(s) or other assessment(s) is affected, Personal Circumstances should be notified to Student Business within five working days of the latest affected examination/assessment or date of submission of affected assessment. Information that you submit is kept confidential to the examiners; in most cases the details are made available only to the External Examiners and the Chair of the Examination Board. If you have any concerns about the confidentiality of the information that you wish to submit, please come and discuss this with the Head of Department or your Year Co-ordinator. Where an entire semester or examination diet is affected a Personal Circumstances Form should be submitted as soon as possible and at least one working day before the relevant meeting of the Personal Circumstances Board. In NO case will a notification of Personal Circumstances be accepted after the Personal Circumstances Board has met.

Dates of Examination Boards in session 2020/2021 are given on page 4.

Further information can be found on the Academic Policies & Procedures web page and at the following link:  http://www.strath.ac.uk/staff/policies/academic/

Prizes and Certificates
The Faculty of Science recognises exceptional performance in each year of a Science-based degree course by the issue of a Dean’s Certificate of Excellence to the best students in the Faculty. To obtain a Dean’s Certificate, a student must pass all classes in his or her curriculum at the first attempt and achieve a Credit Weighted Average (CWA) of 80% or greater. When a student passes all classes at the first attempt with a CWA of at least 70%, then the pass is said to be ‘with distinction’; if the CWA is between 60% and 70%, then the pass is ‘with merit’.

The University has also been endowed with a variety of prizes for award to students. The following are those awarded by the Department to Final Year students.

- Astronomical Society of Glasgow Prize
- Sir Hermann Bondi Prize
- Walter Brown Prize
- Kelvin Prize
- Frank Leslie Prize
- Gary Roach Prize
- Two IMA Prizes
- Royal Statistical Society Prize
Further details on these prizes are provided in the Year 4 Supplement to this Handbook on the class page for **Mathematics and Statistics: Information for current students** on MyPlace.

Note that if you are awarded a prize the University will normally publish a list of prize-winners. If, for whatever reason, you do not wish your name to be included in the list then you must notify Student Business.

**Progress to Next Year of Study**
Progress to the next year of your degree course depends upon you successfully gaining the credits in the classes laid down in the course regulations. Not all of the credits need be obtained from the year’s curriculum, but certain key classes must be passed and no more than 20 credits may be failed. However, proceeding with fewer credits will result in you carrying the failed classes into your next year, adding to the normal workload of the 120 credits worth of classes that you are required to take in that year. You should, therefore, make every effort to clear all of your classes before proceeding with your course.

**Note that to proceed into the Honours year a student must have passed at least 360 credits and have gained an overall average of at least 40% at the first attempt in Level 3 classes.**

**Note that to proceed into the 5th Year of the MMath Mathematics or MMath Mathematics and Statistics, a student must have passed at least 480 credits and have gained an overall average of at least 60% in Level 4 classes.**

**Provisional Registration (for years 2 – 5)**
In order to speed up the registration process for subsequent years, and to gauge demand for classes, you will be asked to choose a preliminary curriculum for the following year of your course by March. The Adviser of Studies (Year Co-ordinator) will provide you with documentation on the next year of your degree course, and you will then choose a provisional curriculum using Pegasus. The appropriate Adviser of Studies will approve this; otherwise a meeting with the Adviser of Studies will be requested to sort out any problems. This preliminary registration will only become effective if the Examination Board decision is either PASS or PROCEED. This curriculum choice is not binding; if your ideas change you may modify it by requesting a Curriculum Change via PEGASUS at the start of the session in the normal way.

**Security**
Access to all buildings is restricted between 6.00 pm and 8.00 am on week-days, all day on Saturdays and Sundays, and on public holidays. Access is permitted, when deemed necessary, by prior arrangement with the Head of Department and the Safety Officer. Do not leave this to the last minute as relevant staff may be unavailable. Students occupying the premises at these times must notify Security Control, Livingstone Tower, 26 Richmond Street (extension 3333). Study is permitted only in rooms allocated for the purpose. The use of computing laboratories requires additionally the permission of the Director of IT Services in the Computer Centre.

Money, valuables and other articles, such as handbags, laptops, should not be left in lockers, open cloakrooms, laboratories or lecture rooms.

**Smoking**
University of Strathclyde in compliance with the Smoking, Health and Social Care (Scotland) Act 2005, which requires no smoking in enclosed public places have agreed the following policy. The University Court recognises that it has both a moral and legal duty to ensure, as far as is reasonably practicable, that employees, students and visitors to the University have the right to work, study or visit without being exposed to tobacco smoke. The issues involved concern the comfort, health (particularly in relation to the dangers of passive smoking) and safety of all those working, studying or visiting the University. This Policy applies to all staff, students, visitors and contractors and is part of the University's commitment to the health, safety and wellbeing of its staff and students. The University's No Smoking Policy also applies to external companies renting space within the University and this should be reflected in all lease agreements with such companies.

**SMOKING, VAPING AND E-CIGARETTES ARE ALL PROHIBITED:**
- within all University buildings;
- within vehicles owned and operated by the University;
- within leased vehicles used during University business;
- within 15 feet (4.6m) of any University building entrance, doorway, stairs or covered areas where this distance is within University property. Staff, students and visitors are also asked to take a responsible attitude to ensure that areas are kept litter free and they do not stand in close proximity to open windows.

**Status Letters**
At various stages throughout your studies it may be necessary to obtain confirmation of status as a student at the University. In situations where the student identity card is insufficient evidence, or documentary evidence is required, e.g. visa extensions, students can apply for a status letter which will state their course of study and other relevant information (e.g. fees). Status letter requests are ONLY available as an Online Service on PEGASUS from the start date of your course.

**Strathclyde Sport**
Strathclyde Sport offers all members of the University the opportunity to participate in physical activity as a means of achieving a healthier lifestyle, to develop new physical skills and to maintain or improve their sporting talents. Strathclyde Sport is located on Cathedral Street. For full details of facilities, classes, opening hours, and other queries: [https://www.strath.ac.uk/whystrathclyde/sport/](https://www.strath.ac.uk/whystrathclyde/sport/)

**Student Common Room**
An undergraduate common room (LT905) is provided. You are welcome to use this facility from 8.00 am to 6.00 pm during semesters. Space is limited in the room so you may also use any vacant teaching room for study purposes (e.g. LT907 or LT908). Note that the provision of this room is a privilege and so do not abuse the trust we have placed in you by making a noise or leaving a mess.

**Student Counselling Service**
The University's Student Counselling Service (SCS) represents a network of staff able to provide expert help and counselling on any problem whether academic, personal or financial. Graham Hills Building, 50 George Street, Telephone 0141 548 3510;  ([www.strath.ac.uk/studentcounselling](http://www.strath.ac.uk/studentcounselling))

**Student Exchanges Abroad**
See [www.strath.ac.uk/rio/exchangestudyabroad/goingabroad](https://www.strath.ac.uk/rio/exchangestudyabroad/goingabroad)
Students, in their Third Year, may be permitted to undertake part of their studies in Europe under the European Union's SOCRATES (ERASMUS) Programme. ERASMUS is the name given to the European Union Action Scheme for the Mobility of Students.

Exchanges with North American universities and further afield may also be possible. The Recruitment and International Office (Graham Hills Building, level 4) has details ([https://www.strath.ac.uk/studywithus/studyabroad/](https://www.strath.ac.uk/studywithus/studyabroad/))

Note that we normally expect all exchange students to have passed all their 2nd year examinations at the first attempt, and to have achieved a second year average mark of at least 60%.

**Student Experience and Enhancement Services**
Student Experience and Enhancement Services, or SEES for short, has been created to ensure that students are provided with the best possible experience throughout their time here. Information on the various services that SEES offer can be found at:  [http://www.strath.ac.uk/sees/](http://www.strath.ac.uk/sees/)

**Student ID Cards**
At Registration each new student is issued with a student ID card. This incorporates your photograph and is valid for the period for which it is issued as a Registration Card and Library Membership Card. (A Students' Association Membership Card is also issued). Your signature on the card testifies that you have agreed to be bound by the University Regulations. The student card should be carried at all times and may need to be shown to security wardens, academic and library staff. It must be produced at degree examinations and when borrowing library books. You are advised to keep a separate note of your personal Registration Number. The theft or loss of a student card should be reported immediately to Student Business-Science. Students requiring replacement cards can request this using the Online Shop. A student who withdraws during the session is required to return their student card. The University will issue a Student Status Declaration in November for you to submit to your Local Authority regarding the Council Tax, if requested via PEGASUS.
Student Health Service
The Student Health Service is a confidential service available to all students at the University. They work in conjunction with the NHS to enable students to access appropriate services and all students should register with a general practitioner (GP) in relation to the postcode area of their term-time address. The Student Health Service Nurse can assist in promoting positive health and wellbeing by providing advice and information on looking after your health. Support is provided with health related issues, assistance to access other professionals and advice on a range of health issues, minor illness and common ailments. Level 2, Livingstone Tower, 26 Richmond Street, Telephone: 0141 548 3916 or email: studenthealth@strath.ac.uk

Student Support and Wellbeing Services
Offering support and advice across a range of services to help you get the most out of your studies whilst at Strathclyde. (http://www.strath.ac.uk/sees/studentsupportwellbeing/)

Termination of Studies
A student who persistently does not attend classes may be reported to the Board of Study and may have their registration terminated and be required to withdraw from their course. (See Regulation 00001.UG1.52-UG1.59).

Timetable
Information on timetabling can be found at: http://www.strath.ac.uk/timetables/

University Buildings’ Codes

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<thead>
<tr>
<th>Code</th>
<th>Building Name</th>
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<tbody>
<tr>
<td>AB</td>
<td>John Arbuthnott Building, Robertson Wing</td>
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<tr>
<td>AL</td>
<td>181 St James Road (Estates)</td>
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<tr>
<td>AQ</td>
<td>Lord Todd Building</td>
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<tr>
<td>BH</td>
<td>Barony Hall</td>
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<tr>
<td>CL</td>
<td>Collins Building</td>
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<tr>
<td>CSR</td>
<td>Sports Centre (Strathclyde)</td>
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<td>CU</td>
<td>Curran Building (Library)</td>
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<td>CW</td>
<td>Cathedral Street Wing (Business School)</td>
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<td>DW</td>
<td>Sir William Duncan Wing</td>
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<tr>
<td>GH</td>
<td>Graham Hills Building</td>
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<td>HD</td>
<td>Henry Dyer Building</td>
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<td>HW</td>
<td>Hamnett Wing</td>
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<td>JA</td>
<td>John Anderson Building</td>
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<td>JW</td>
<td>James Weir Building</td>
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<td>LH</td>
<td>Lord Hope Building</td>
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<td>LT</td>
<td>Livingstone Tower</td>
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<td>MC</td>
<td>McCance Building</td>
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<td>RC</td>
<td>Royal College Building</td>
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<tr>
<td>SP</td>
<td>St Pauls Chaplaincy Centre</td>
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<tr>
<td>SW</td>
<td>Stenhouse Wing (Business School)</td>
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<td>TC</td>
<td>Technology Innovation Centre</td>
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<tr>
<td>TG</td>
<td>Thomas Graham Building</td>
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<td>UC</td>
<td>University Centre</td>
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<td>USSA</td>
<td>Students’ Union</td>
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<td>WC</td>
<td>Wolfson Centre</td>
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<tr>
<td>GCU</td>
<td>Glasgow Caledonian University</td>
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<tr>
<td>EXT</td>
<td>Scottish Youth Theatre</td>
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See: https://www.strath.ac.uk/professionalservices/estates/roombooking/buildingcodes/
University Regulations
A university, like any other community, has its own rules which are binding upon its members, staff and students alike. The rules of the University of Strathclyde are embodied in three separate codes:

1. The Charter and Statutes.
2. The Ordinances.
3. The Regulations.

Further information can be found at http://www.strath.ac.uk/governance/

The University draws its authority from its Royal Charter and therefore its fundamental powers and functions are defined in the Charter and Statutes which can be modified only with the consent of Her Majesty's Privy Council.

More detailed rules, which are still fundamental and therefore rarely altered, are contained in the University Ordinances which are made by resolution of the University Court.

The rules which govern the day-to-day administration of the University and which specify such details as the content of courses and the nature of examinations are called University Regulations and are made on the authority of the University Senate.

University Regulations may be classified broadly as follows:

(a) Regulations which apply to all students in the University, such as library regulations, computing regulations, discipline regulations, examination regulations, and so on;

(b) Regulations which are specific to particular degree courses and which prescribe the requirements for student progress from one year to the next and the material content of examinations.

University Compensation Scheme and Progress
Under the University Compensation Scheme, a credit-weighted average (CWA) of the marks over a student's whole curriculum will be used each year as the basis for progress decisions. For further details, see http://www.strath.ac.uk/staff/policies/academic/

University Data Protection Statement
The University of Strathclyde is registered as a data user with the Office of the Information Commissioner. General enquiries about student-related data should be made to the Head of Student Experience. For department-specific information regarding the use of personal data, students should contact the Departmental Data Protection Officers (Mrs Mary McAuley, LT916, m.mcauley@strath.ac.uk or the Head of Department. See also www.strath.ac.uk/dataprotection

Voluntary Suspension
If circumstances warrant it, you may withdraw temporarily from your degree course, normally for the remainder of an academic session. This is done by requesting Voluntary Suspension. You should first consult your Personal Development Adviser, Adviser of Study, or Year Co-ordinator, and then complete the form available from
https://www.strath.ac.uk/media/ps/cs/gmap/academicaffairs/policies/Voluntary_Suspension_Form_Update_Jan_17.pdf
https://www.strath.ac.uk/media/ps/cs/gmap/academicaffairs/policies/Voluntary_Suspension_guidelines_May_2019_approved.pdf

Approval will then be sought, on your behalf, from the Science Faculty Vice Dean (Academic). You should also notify your grant awarding body SAAS or LEA of this. When you are ready to resume your course of study you should notify Student Business-Science and your grant awarding body accordingly.