

Calendar 2002–03



UNIVERSITY
of
GLASGOW

FACULTIES OF SCIENCE

DEANS:

Biomedical & Life Sciences

Professor J Coggins MA PhD FRSE

Information and Mathematical Sciences

Professor I Ford BSc PhD FRSE

Physical Sciences

Professor D Saxon MA DPhil DSc FRSE FRSA CPhys FInstP

Principal Adviser of Studies: I Allison, BSc MSc DIC PhD

DATES OF TERMS

Martinmas: 10th October 2002 – 20th December 2002

Candlemas: 13th January 2003 – 21st March 2003

Whitsun: 22nd April 2003 – 27th June 2003

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NOTICE

Science comprises three Faculties: *Biomedical and Life Sciences*, *Information and Mathematical Sciences* and *Physical Sciences*.

For further information on any matter concerning degree regulations or appeals procedures, contact the Science Faculties Support Unit, level 3, Boyd Orr Building.

I Undergraduate Entry to Faculties

Before applying for admission to the Faculties of Science, all applicants should consult the most recent edition of the University's *Undergraduate Prospectus*, which sets out the normal qualifications required for admission, describes the application procedure, summarises the degree regulations and courses offered, and gives general information about the University. The *Prospectus* is available in most U.K. schools, or it may be obtained from The Student Recruitment and Admissions Service, University of Glasgow, Glasgow G12 8QQ, Scotland.

II Appeals by Students

The Senate is charged by the *Universities (Scotland) Acts* with a duty to superintend the teaching of the University. This is understood to include examining. The Senate has authorised the establishment of Faculty Appeals Committees to hear appeals in the first instance, as specified in the Code of Procedure for Appeals to a Faculty Appeals Committee.

A student may further appeal from the decision of the relevant Faculty Appeals Committee to the Senate.

Any appeal giving all the grounds of that appeal must be despatched in writing to the Clerk to the Science Faculties, or to the Clerk of Senate, as appropriate, within 14 days of the intimation to the student of the decision against which he or she is appealing.

Students are advised to consult the Science Faculties' Clerk, Boyd Orr Building, before lodging an appeal to the Faculty Appeals Committee and the Head of the Senate Office, before lodging an appeal to the Senate Appeals Committee.

The Code of Procedure for Appeals to a Faculty Appeals Committee and the Code of Procedure for Appeals to the Senate are set out in that section of the University *Calendar* entitled 'University Fees and General Information for Students', which is available either from the Science Faculties Support Unit, Boyd Orr Building or The Registry enquiry office in the University.

III DEGREE OF BACHELOR OF SCIENCE AND DEGREE OF MASTER IN SCIENCE

The Degrees of Bachelor of Science (BSc) and Master in Science (MSci) are governed by Resolution 452 of the University Court. The provisions of this Resolution are as follows:

1. The Degree of Bachelor of Science (BSc) may be conferred by the University of Glasgow as a Degree of BSc in a Designated Subject, or as a Degree of BSc with Honours in a Principal Subject. The Degree of Master in Science (MSci) may be conferred by the University as a degree in a Principal Subject. The University may also award a Certificate of Higher Education (General Science) and a Diploma of Higher Education (General Science).
2. The curriculum for the Degree of BSc in a Designated Subject shall extend over not fewer than three sessions of full-time study or five sessions of part-time study. The curriculum for the Degree of BSc with Honours or the Degree of MSci shall extend over not fewer than four sessions of full-time study or, exceptionally, not fewer than two sessions of full-time study preceded by at least three sessions of part-time study. The curriculum for the Certificate of Higher Education (General Science) shall extend over not less than one session of full-time study or two sessions of part-time study, and the curriculum for the Diploma of Higher Education (General Science) shall extend over not less than two sessions of full-time study or three sessions of part-time study. Exceptionally, other combinations of full-time and part-time study may be approved by the Senate in individual cases.
3. The Principal Subject in the curriculum for the Degree of BSc with Honours or the Degree of MSci shall be the candidate's sole subject of study during the session immediately preceding his or her final examination. The study of the Principal Subject shall extend over not less than two sessions of full-time study; and where the Principal Subject itself is not studied over at least three sessions, the study of the Principal Subject shall be preceded by the study of appropriate cognate subjects.
4. A candidate who has attended courses of instruction and passed the appropriate assessments at any University approved by the University Court on the recommendation of the Senate (including study as part of a student exchange programme approved by the Senate), or at any other institution of education likewise approved, may be permitted to count such courses towards qualification for the Degree of BSc or MSci at the University of Glasgow, provided that the Senate is satisfied that the standard of such courses is equivalent to the standard of BSc or MSci courses taught in the University of Glasgow; but any candidate who is thus exempted shall attend courses in the University of Glasgow for at least one session for the Degree of BSc in a Designated Subject, or for at

least two sessions for the Degree of BSc with Honours or the Degree of MSci. Candidates for the Degree of BSc with Honours or the Degree of MSci must attend the University of Glasgow during the final year of their curriculum, and may be required by the Head of Department concerned to attend the University of Glasgow during the final two years of their curriculum.

5. Any Bachelor of Science or Master in Science of the University of Glasgow or of another University approved by the University Court on the recommendation of the Senate, who has completed a course in one of the Faculties of Science and been awarded a grade, may receive a certificate to that effect.
6. Any Bachelor of Science or Master in Science of the University of Glasgow may, under conditions prescribed by the Senate, be assessed for Honours in any Principal Subject and, if he or she is awarded Honours by the examiners, shall receive a certificate to that effect.
7. The Regulations for the Degrees of BSc and MSci shall be as stated in the Schedule hereto.
8. The provisions of this Resolution shall apply to candidates whose curricula in the Faculty of Science commenced in October 1996 and thereafter. Individual arrangements shall be made for those candidates admitted in October 1996 and thereafter who have been given exemption from BSc courses in terms of Section 4 above. Candidates whose curricula began before October 1996 shall normally be subject to the provisions of Resolutions No. 232 and 410, which are printed in the University *Calendar* for 1995–96. In exceptional circumstances, however, a candidate who began his or her curriculum before October 1996 may be permitted by the Faculty of Science to be a candidate for the Degree of BSc or MSci under the provisions of the present Resolution, provided that satisfactory arrangements can be made for the recognition of previous studies in the individual case.
9. Resolutions Nos. 232 and 410 of the University Court are hereby repealed, except in the case of candidates who began their studies before October 1996.

SCHEDULE

1. Subjects of Study

(a) Science Subjects

Science subjects, and courses in these subjects, shall be as defined in IV.

(b) Non-Science Subjects

A candidate for the Degree of BSc with Honours or MSci, where the Principal Subject is a combination of a Science subject and a non-Science subject, must include in his or her curriculum all required courses in the non-Science subject.

A candidate may include in his or her curriculum any other non-Science courses, subject in each case to the approval of the Faculties of Science and the other Faculty and Department concerned, and under such conditions regarding admission, attendance, and progress as are prescribed by that Faculty and Department.

Note: Regulations 3(c), 7, 8, 9, 10, and 11 restrict the proportion of non-Science courses in a candidate's curriculum.

2. Courses

The Faculties and Senate shall approve undergraduate courses at levels 1, 2, 3, 3H, 3M, 4H, and 4M. The names and levels of these courses and their worth in credits, shall be specified in the *Calendar*. The names and levels of these courses, their worth in credits, their admission requirements, and their assessment methods shall be specified in their respective course entries in the *Undergraduate Course Catalogue*.

(a) Credits

Each course shall be worth the number of credits specified in its course entry in the *Calendar* and *Undergraduate Course Catalogue*. The number of credits shall normally be a multiple of 10, and shall be calculated on the principle that 10 credits is equivalent to approximately 100 hours of learning time, the standard full-time workload being 120 credits per session.

Each candidate shall be awarded the specified number of credits on completion of the course.

(b) Qualifying Courses

A course at level 1, 2, or 3 shall be termed a qualifying course.

A qualifying course shall normally be worth 10, 20, 30, or 40 credits.

(c) BSc Honours Courses

A course at level 3H or 4H in one of the subjects named in List 1 shall be termed a BSc Honours course.

For each of the subjects shown as a Principal Subject for BSc with Honours in List 1(a), there shall be a level-3H (single) course and a level-4H (single) course in that subject. Each such course shall normally be worth 120 credits.

For each of the combinations of subjects given in List 1(b), there shall be a level-3H (combined) course and a level-4H (combined) course in each subject of the combination. Each such course shall normally be worth 60 credits.

(d) MSci Courses

A course at level 3M or 4M in one of the subjects shown in List 1 shall be termed an MSci course.

For each of the subjects given in List 1(a), there shall be a level-3M (single) course and a level-4M (single) course in that subject. Each such course shall normally be worth at least 120 and at most 160 credits.

For each of the combinations of subjects given in List 1(b), there shall be a level-3M (combined) course and a level-4M (combined) course in each subject of the combination. Each such course shall normally be worth at least 60 credits and at most 80 credits.

(e) Qualifying Courses for Intercalated Degrees

For the purposes of the Intercalated Degree of BSc combined with the Degree of MBChB, BDS, or BVMS under the provisions of Regulation 13(c), the courses constituting the first two sessions of the MBChB, BDS, or BVMS curriculum are recognised as Science qualifying courses. Recognition of these courses will be subject to review in the event of substantial changes in the MBChB, BDS, or BVMS curriculum.

(f) Vacation Study Programmes

A candidate may be awarded up to 20 credits for an approved programme of vacation study undertaken in the University of Glasgow or elsewhere, provided that the vacation study is associated with a course taken by the candidate in the current or following session. The work shall be supervised by a responsible person approved by the Head of Department concerned. On completion of the work the candidate must submit a report to the Head of Department, who shall arrange for the assessment of the work and recommend to the Faculty the level, number of credits, and grade to be awarded. The period of vacation study shall normally be at least four weeks for each award of 10 credits.

(g) BSc Honours and MSci Work Placements

The Faculties and Senate may approve a work placement scheme associated with a BSc Honours or MSci course. A work placement shall normally be worth 10 credits for each four weeks worked, excluding any holidays, but shall not in any case exceed 120 credits.

A work placement shall be undertaken in an industrial, research, or similar establishment. The Head of Department concerned shall approve a proposed work placement only if he or she is satisfied that the work to be undertaken will make a substantial contribution to the objectives of the candidate's degree programme. The work shall be supervised by a responsible person approved by the Head of Department, and shall be monitored by a member of academic staff of the University of Glasgow nominated by the Head of Department. On completion of the work the candidate must submit a report to the Head of Department, who shall arrange for the assessment of the work and recommend to the Principal Adviser the level, number of credits, and grade to be awarded.

3. Admission Requirements

(a) Prerequisites and Corequisites

Each course may have admission requirements, which shall be specified in its course entry in the *Undergraduate Course Catalogue*. Other courses may be specified as prerequisites or corequisites. To be admitted to the course:

- (i) The candidate must have completed each prerequisite course at grade D or better (unless a different grade is specified). If the course follows a prerequisite course in the same session, however, it shall be sufficient for the candidate to have completed the prerequisite course.
- (ii) The candidate must either have completed, or be concurrently attending, each corequisite course.

(b) Admission Requirements for Qualifying Courses

The specified prerequisites or corequisites for a qualifying course may be other qualifying courses in the same or cognate subjects, at the same or lower levels.

(c) Admission Requirements for BSc in a Designated Subject

The specified prerequisites for a level-3 course shall include qualifying courses in the same or cognate subjects at specified minimum grades. In addition, the following general requirements shall apply for admission to all level-3 courses:

- (i) The candidate must have completed qualifying courses totalling at least 240 credits, with a grade point average of 10, unless admitted directly to level-3.
- (ii) The candidate must have completed qualifying courses totalling at least 120 credits in Science subjects.

(d) Admission Requirements for BSc Honours Courses

The specified prerequisites for a level-3H course shall include qualifying courses in the same or cognate subjects, at specified minimum grades. In addition, the following general requirements shall apply for admission to all level-3H courses:

- (i) The candidate must have completed qualifying courses totalling at least 240 credits, with a grade point average of at least 11, unless admitted directly to 3H;
- (ii) The candidate must have completed qualifying courses totalling at least 140 credits in Science.
- (iii) The candidate must have completed 180 credits at grade D or above including 60 credits, of which 40 should be in Science, above level 1.

The particular prerequisites for a level-4H course shall include the corresponding level-3H course, at a specified satisfactory minimum grade. In addition, the

following general requirement shall apply for admission to all level-4H courses:

- (iv) The candidate must already meet requirement 3(d)(i) above and all the qualification requirements for the Degree of BSc in a Designated Subject.

A candidate who has completed a level-3M course may, at the discretion of the Head of Department concerned, be admitted to the level-4H course (if any) in the same subject. Other transfers between MSci and BSc Honours courses may be permitted exceptionally by the Head of Department, who shall report each such case to the Faculty.

(e) Admission Requirements for MSci Courses

The specified prerequisites for a level-3M course shall include qualifying courses in the same or cognate subjects, at specified minimum grades. In addition to requirements 3(c)(i)–(iii), the following general requirements shall apply for admission to all level-3M courses:

- (i) The candidate must have completed qualifying courses totalling at least 240 credits, with a grade point average of at least 12.
- (ii) The candidate must have completed qualifying courses totalling at least 140 credits in Science with a grade point average of at least 12.
- (iii) The candidate must have completed qualifying courses totalling at least 60 credits above level 1 in Science with a grade point average of at least 12.
- (iv) The candidate must have completed qualifying courses totalling at least 100 credits above level 1, with a grade point average of at least 12.

The prerequisites for a level-4M course shall include the corresponding level-3M course, at a specified satisfactory minimum grade. In addition, the following general requirement shall apply for admission to all level-4M courses:

- (v) The candidate must already meet the qualification requirements for the Degree of BSc in a Designated Subject.

(f) Admission to Courses

Subject to the approval of the Senate, admission to any course may be restricted if the number of candidates wishing to enrol exceeds the number of places available. The published admission requirements shall indicate, where appropriate, the normal level of attainment necessary to obtain admission to the course concerned.

Admission to a course is normally open only to candidates who satisfy all its admission requirements. However, the Head of Department concerned may accept other evidence of suitability for admission to the course, and shall report each such case to the Faculty at its first meeting in the session concerned.

Admission to a BSc Honours or MSci course is at the discretion of the Head of Department concerned. Admission to certain level-2 and level-3 courses, where specified in their course entries in the *Undergraduate Course Catalogue*, is

also at the discretion of the Head of Department. Candidates who desire admission to such a course must make application to the Head of Department during the term before the course starts.

Each Department shall ensure that candidates are informed of the standard of performance that guarantees an offer of admission to a BSc Honours or MSci course in a particular subject. Any other candidate shall be offered admission to the BSc Honours course if the Head of Department judges that the candidate's previous performance offers a reasonable prospect of the candidate reaching the standard required in the BSc Honours course. However, depending on demand, class size may have to be limited and admission of students not achieving the guaranteed requirements is subject to the availability of places in the class. In the case of a candidate refused admission to a BSc Honours or MSci course, the Head of Department shall inform the candidate's Adviser of Studies.

A candidate who has previously matriculated for a qualifying course may be re-admitted to the course for one further attempt, subject to the availability of places. Any subsequent attempts thereafter are at the discretion of the Head of Department concerned. A candidate may be re-admitted to a BSc Honours or MSci course only in exceptional circumstances.

(g) Appeals

Any candidate who has been refused admission or re-admission to a course under the provisions of Regulation 3(f) may appeal in writing to the Faculty, citing any special circumstances bearing on his or her case.

4. Departmental Instructions

Candidates shall be required to comply with such departmental instructions as are prescribed by the Head of Department concerned. Such instructions may require candidates: to attend specified lectures, tutorials, laboratory or practical sessions, field excursions, examinations, and other meetings; to provide themselves with books, equipment, and other materials as are necessary for the course concerned; to submit items of work, including essays, reports, and dissertations, by such dates as may be instructed. All such instructions shall be communicated to the candidates in writing at the start of the course concerned. Reasonable notice of any alteration to such instructions shall also be given.

Note: Under the provisions of Regulation 5(b), a candidate who fails to comply with departmental instructions may be deemed not to have completed the course.

5. Assessment

(a) Assessment Methods

A course may be assessed by examination paper(s), by dissertation, by coursework (including practical work, reports, and essays), by any other method approved by the Faculties and Senate, or by any combination of these methods.

The assessment method(s), and the weight accorded to each component of the assessment, shall be specified in the course entry in the *Undergraduate Course Catalogue*.

Note: The assessment of every level-4H course shall include a final examination, and possibly a carry forward from the corresponding level-3H course, as stipulated in Regulation 10(c). The assessment of every level-4M course shall include a project and a final examination, and possibly a carry forward from the corresponding level-3M course, as stipulated in Regulation 11(c).

(b) Minimum Requirement for the Award of Credits

The minimum requirement for the award of credits for a course shall be specified by the Department concerned, and given to candidates in writing at the beginning of the course. This requirement shall normally include a specified minimum level of compliance with departmental instructions in terms of attendance and completion of work, and a specified minimum level of performance in assessed work and examinations including the end-of-course examination (if any). Normally no grade or credits shall be awarded to a candidate who has not met this minimum requirement.

A candidate shall be refused admission to an end-of-course examination only if his or her level of compliance with departmental instructions and level of performance in assessed work and examinations prior to the end-of-course examination are such that the candidate could not be awarded at least grade G for the course whatever his or her level of performance in the end-of-course examination.

(c) Exemption from End-of-Course Examination

For a qualifying course where there is an end-of-course examination, the Department concerned may specify that a candidate who has completed the course may be exempted from the end-of-course examination and awarded a grade on the basis of the work and examinations completed.

Any candidate awarded an exemption at less than grade A may nonetheless sit the end-of-course examination. In such cases, the candidate will be awarded the higher of the two results.

Note: This regulation applies only to certain non-Science courses.

(d) Grades

Each candidate who has satisfied the minimum requirement for the award of credits in a course at level 1, 2, 3, 3H, or 3M shall be said to have completed the course and shall be awarded a grade. He or she shall earn the specified number of credits for the course, and a number of grade points that depends on his or her grade and the number of credits.

Each candidate who has failed to satisfy the minimum requirement for the course shall earn nothing.

The meaning of each grade and the corresponding number of grade points shall be as follows:

<i>Grade</i>	<i>Grade Descriptor</i>	<i>Grade points (per credit)</i>
A	excellent	16
B	very good	14
C	good	12
D	satisfactory	10
E	weak	8
F	poor	6
G	very poor	2

Candidates shall normally be required to sit any end-of-course examination at the first diet at the end of the course concerned. A candidate who does not attend that examination at the first diet, without good cause, shall for the purposes of these regulations have the same entitlement as a candidate who attends and is awarded a zero mark.

A candidate who is awarded a grade A, B, C, or D after the first examination diet shall not normally be allowed to resit the examination. Any other candidate entitled to sit the end-of-course examination shall be entitled to resit the examination, but normally only once and at the next available diet. The grade awarded as a result of the resit examination shall be no higher than D and no lower than the original grade.

Notwithstanding the above, any candidate who is entitled to sit the end-of-course examination and who requires an improved grade after the first examination diet in order to meet the requirements for a degree in the same session, may resit the examination irrespective of his or her original grade, but normally only once and at the next available diet. He or she may be awarded any grade, A to G, or no grade, as a result of the resit examination, but the result shall be no lower than his or her original grade. This provision shall extend to courses totalling no more than 60 credits.

If a course has no examination, or is at level H or M, no candidates shall be entitled to resit.

Note: This regulation does not preclude the candidate from retaking an entire qualifying course under the provisions of Regulation 3(f).

(e) Grade Point Averages

Each candidate's grade point average is defined to be the ratio of total grade points to total credits, calculated over all courses for which the candidate has been awarded grade points. For the purpose of meeting any of the requirements stated in regulations 3(c), 3(d), 3(e), 7, 8 and 9 the candidate shall be entitled to discount any courses or parts of courses that are surplus to all requirements.

(f) Assessment

Assessment shall be conducted in accordance with the prevailing Code for

Examinations, published in the 'Fees and General Information' section of the *University Calendar*.

6. Curricula

(a) Qualifying Curricula

A curriculum for the Certificate or Diploma of Higher Education (General Science) (Regulation 7 or 8) normally consists entirely of qualifying courses.

A curriculum for the Degree of BSc (Regulation 9) normally consists entirely of qualifying courses, but may also include level-3H course(s).

A curriculum for the Degree of BSc with Honours (Regulation 10) must consist of qualifying courses totalling at least 240 credits, level-3H course(s) totalling at least 120 credits, and level-4H course(s) totalling at least 120 credits.

A curriculum for the Degree of MSci (Regulation 11) must consist of qualifying courses totalling at least 240 credits; followed by level-3M course(s), level-4M course(s), and any required MSci work placement, totalling at least 300 credits.

(b) Overlapping Courses

A qualifying curriculum must not include courses with substantially overlapping contents. Such combinations of overlapping courses shall be identified along with the course entries in the *Undergraduate Course Catalogue*.

(c) Approval of Curricula

Every candidate must have his or her curriculum approved at the start of each session by his or her Adviser of Studies. Once approved, the curriculum may be altered only with the approval of an Adviser of Studies.

Each full-time candidate shall enrol for courses normally totalling not less than 100 credits and not more than 160 credits in each session, except for any session when the curriculum for the Degree of BSc with Honours or MSci in a particular Principal Subject requires the candidate to take courses totalling more than 160 credits.

Each part-time candidate shall enrol for courses totalling a maximum of 100 credits in each session.

7. Certificate of Higher Education (General Science)

To qualify for the Certificate of Higher Education (General Science), the candidate must satisfy the following requirements:

- (i) He or she must have completed courses totalling at least 120 credits, with a grade point average of at least 8.5.
- (ii) He or she must have completed courses totalling at least 80 credits in Science, with a grade point average of at least 8.5.

8. Diploma of Higher Education (General Science)

To qualify for the Diploma of Higher Education (General Science), the candidate must satisfy the following requirements:

- (i) He or she must have completed courses totalling at least 240 credits, with a grade point average of at least 8.5.
- (ii) He or she must have completed courses totalling at least 140 credits in Science, with a grade point average of at least 8.5.
- (iii) He or she must have completed courses totalling at least 90 credits above level 1, with a grade point average of at least 8.5 and with at least 60 of these credits in Science.

9. Degree of Bachelor of Science in a Designated Subject

The Designated Subject for the Degree of BSc shall be either one of the single subjects indicated as such in List 1(a), or one of the combinations of two subjects shown as such in List 1(b), as approved by the Faculties and Senate.

To qualify for the Degree of BSc in a Designated Subject, the candidate must satisfy the following requirements:

- (i) He or she must have completed courses totalling at least 360 credits, with a grade point average of at least 10, and with at least 180 of these credits at grade D or better.
- (ii) The credits in (i) above must include at least 200 credits in Science.
- (iii) The credits in (i) above must also include at least 120 credits above level 1 in Science, with a grade point average of at least 9, and with at least 60 of these credits at grade D or better.
- (iv) Where the Designated Subject is a single subject, the credits in (i) above must include courses in that subject at level 3 or 3H or 3M, either totalling at least 80 credits with a grade point average of at least 10, or totalling at least 120 credits with a grade point average of at least 8.
- (v) Where the Designated Subject is a combination of two subjects, the credits in (i) above must include courses at level 3 or 3H or 3M totalling at least 60 credits with a grade point average of at least 8 in each of these subjects separately.
- (vi) He or she must satisfy any special requirements of the Designated Subject specified by the Department and approved by the Faculties of Science.

The Degree of BSc in a Designated Subject shall be awarded with merit if the candidate has a grade point average of at least 12, or with distinction if the candidate has a grade point average of at least 14, both overall and in the Designated Subject at level 3 or 3H or 3M. To meet this requirement, the best 80 credits may be used in the case of a Designated Degree in a single subject and the best 40 credits from each contributing subject in the case of a combined Designated Degree.

10. Degree of Bachelor of Science (BSc) with Honours

(a) Principal Subjects for BSc with Honours

The Principal Subject for the Degree of BSc with Honours shall be either one of the single subjects shown as such in List 1(a) ('Single Honours') (page Sci.17) or one of the combinations of subjects shown as such in List 1(b) ('Combined Honours') (page 18), as approved by the Faculties and the Senate.

(b) Honours Curriculum

A curriculum for the Degree of BSc with Honours shall consist of qualifying courses together with level-3H and level-4H course(s) in the Principal Subject. The level-3H course(s) must be completed in a single session of full-time study, and the level-4H course(s) must be completed in a final session of full-time study.

(c) Honours Assessment

The assessment of a level-4H course shall include a final examination. The final examination may cover the work of the corresponding level-3H course as well as the work of the level-4H course itself.

The assessment of a level-4H course may include a carry forward of marks from the assessment of the corresponding level-3H course, with a weight not exceeding 50%. Where a candidate has sat the examination of the level-3H course twice under the provisions of Regulation 5(d), the marks carried forward shall be those gained at the first sitting.

A candidate shall normally present himself or herself for the final examination immediately upon completion of the level-4H course. However, the Head of Department concerned may, at his or her discretion and on grounds of illness or other good cause shown, permit a candidate to delay taking his or her final examination for not more than one year.

A candidate may not, except by special permission of the Senate, present himself or herself more than once for examination in any Principal Subject, but he or she may present himself or herself, on completing the prescribed curriculum, for examination in a completely distinct Principal Subject.

(d) Single Honours

Where the Principal Subject is a single subject, the curriculum shall include a level-3H (single) course and a level-4H (single) course in that subject.

To qualify for the Degree of BSc with Honours, the candidate must pass the assessment of the level-4H (single) course.

(e) Combined Honours

Where the Principal Subject is a combination of subjects, the curriculum shall include a level-3H (combined) course and a level-4H (combined) course in each of the combined subjects.

To qualify for the Degree of BSc with Honours, the candidate must pass the combined assessments of the level-4H (combined) courses. The assessment of these courses shall carry equal weight, unless otherwise specified in the course entries in the *Undergraduate Course Catalogue*.

The Board of Examiners shall be entitled to set a minimum standard in either of the combined subjects to qualify the candidate for a particular class of Honours.

(f) Honours Classification

There shall be three classes of Honours, and the examiners shall divide the second class into two divisions.

11. Degree of Master in Science (MSci)

(a) Principal Subjects for MSci

The Principal Subject for the Degree of MSci shall be either one of the single subjects shown as such in List 1(a) (page Sci.17) or one of the combinations of subjects shown as such in List 1(b) (page Sci.18), as approved by the Faculties and the Senate.

(b) MSci Curriculum

A curriculum for the Degree of MSci shall include qualifying courses together with level-3M and level-4M course(s) in the Principal Subject and any required MSci work placement. The level-3M course(s) must be completed in a single session of full-time study, and the level-4M course(s) must be completed in a final session of full-time study.

(c) MSci Assessment

The assessment of a level-4M course shall include a final examination. The final examination may cover the work of the corresponding level-3M course as well as the work of the level-4M course itself.

The assessment of a level-4M course may include a carry forward of marks from the assessment of the corresponding level-3M course, with a weight not exceeding 50%. Where a candidate has sat the examination of the level-3M course twice under the provisions of Regulation 5(d), the marks carried forward shall be those gained at the first sitting.

The assessment of a level-4M course shall include a project, with a weight normally not less than 10%. This requirement may be satisfied by an MSci work placement, where applicable.

A candidate shall normally present himself or herself for the final examination immediately upon completion of the level-4M course. However, the Head of Department concerned may, at his or her discretion and on grounds of illness or other good cause shown, permit a candidate to delay taking his or her final examination for not more than one year.

(d) MSci in a Single Subject

Where the Principal Subject is a single subject, the curriculum shall include a level-3M (single) course and a level-4M (single) course in that subject.

To qualify for the Degree of MSci, the candidate must pass the assessment of the level-4M (single) course.

(e) MSci in a Combination of Subjects

Where the Principal Subject is a combination of subjects, the curriculum shall include a level-3M (combined) course and a level-4M (combined) course in each of the combined subjects.

To qualify for the Degree of MSci, the candidate must pass the combined assessments of the level-4M (combined) courses. The assessment of these courses shall carry equal weight, unless otherwise specified in the course entries in the *Undergraduate Course Catalogue*.

The Board of Examiners shall be entitled to set a minimum standard in either of the combined subjects to qualify the candidate for a particular class of MSci.

(f) MSci Classification

There shall be three classes of MSci, and the examiners shall divide the second class into two divisions.

List 1(a) Single Degree Subjects

<i>Subject</i>	<i>BSc Desig- nated Sub- ject</i>	<i>BSc (Hons) Prin- cipal Sub- ject</i>	<i>MSci Prin- cipal Sub- ject</i>
Anatomy	•	•	•
Animal Biology	•		
Applied Mathematics	•	•	•
Aquatic Bioscience	•	•	•
Archaeological Studies	•		
Archaeology		•	
Biochemistry	•	•	•
Biomedical Sciences	•	•	•
Biomolecular Sciences	•		
Biotechnology	•	•	•
Chemical Physics	•	•	•
Chemistry	•	•	•
Chemistry with Medicinal Chemistry	•	•	•
Computing Science	•	•	
Earth Science	•	•	
Electronic and Software Engineering	•	•	
Environmental Biogeochemistry	•	•	
Environmental Chemistry	•	•	
Environmental Chemistry and Geography	•	•	
Genetics	•	•	•
Geographic Information and Mapping Sciences	•	•	
Geography	•	•	
Geography, Chemistry and the Environment	•		
Human Biology	•		
Immunology		•	•
Infection Biology	•		
Mathematical Sciences	•	•	
Mathematical and Statistical Studies	•		
Mathematics	•	•	•
Medical Biochemistry	•	•	•
Microbiology	•	•	•
Molecular and Cellular Biology	•	•	•
Neuroscience	•	•	•
Parasitology	•	•	•
Pharmacology	•	•	•
Physics	•	•	•
Physiology	•	•	•
Physiology and Sports Science	•	•	•

<i>Subject</i>	<i>BSc Desig- nated Sub- ject</i>	<i>BSc (Hons) Prin- cipal Sub- ject</i>	<i>MSci Prin- cipal Sub- ject</i>
Physiology, Sports Science and Nutrition	•	•	
Plant Science	•	•	•
Psychological Studies	•		
Psychology		•	
Software Engineering	•	•	
Sports Medicine		•	
Sports Science	•		
Statistics	•	•	•
Topographic Science	•	•	
Virology	•	•	•
Zoology	•	•	•

List 1(b) Combined Degree Subjects

<i>Subject Combination</i>	<i>BSc Desig- nated Sub- ject</i>	<i>BSc (Hons) Prin- cipal Sub- ject</i>	<i>MSci Prin- cipal Sub- ject</i>
Applied Mathematics <i>and</i> Astronomy	•	•	•
Applied Mathematics <i>and</i> Computing Science	•	•	
Applied Mathematics <i>and</i> Economics		•	
Applied Mathematics <i>and</i> Management Studies		•	
Applied Mathematics <i>and</i> Philosophy		•	
Applied Mathematics <i>and</i> Physics	•	•	•
Applied Mathematics <i>and</i> Statistics	•	•	•
Archaeology <i>and</i> Earth Science	•	•	
Archaeology <i>and</i> Geography	•	•	
Astronomy <i>and</i> Mathematics	•	•	•
Astronomy <i>and</i> Physics	•	•	•
Biology <i>and</i> Chemistry	•		
Chemistry <i>and</i> Mathematics	•	•	
Computing Science <i>and</i> Economics		•	
Computing Science <i>and</i> Geography	•	•	
Computing Science <i>and</i> Management Studies		•	
Computing Science <i>and</i> Mathematics	•	•	
Computing Science <i>and</i> Physics	•	•	

<i>Subject Combination</i>	<i>BSc Designated Subject</i>	<i>BSc (Hons) Principal Subject</i>	<i>MSci Principal Subject</i>
Computing Science <i>and</i> Physiology	•	•	
Computing Science <i>and</i> Psychology		•	
Computing Science <i>and</i> Statistics	•	•	
Geography <i>and</i> Mathematics	•	•	
Mathematics <i>and</i> Economics		•	
Mathematics <i>and</i> Management Studies		•	
Mathematics <i>and</i> Philosophy		•	
Mathematics <i>and</i> Physics	•	•	•
Mathematics <i>and</i> Statistics	•	•	•
Physics <i>and</i> Electronic Engineering			•
Physics <i>and</i> Music			•
Physics <i>and</i> Philosophy			•
Physiology <i>and</i> Psychology		•	
Statistics <i>and</i> Economics		•	
Statistics <i>and</i> Management Studies		•	

12. Progress Requirements

The progress of all candidates is subject to annual review.

(a) Full-time Candidates

Each full-time candidate's required progress shall be defined as follows:

- After one session: he or she must have completed courses totalling at least 80 credits, with a grade point average of at least 9
- After two sessions: he or she must have completed courses totalling at least 200 credits, with a grade point average of at least 9
- After three sessions: he or she must have completed courses totalling at least 240 credits, with a grade point average of at least 10
- After four sessions: he or she must have qualified for the Degree of BSc

Individual arrangements shall apply to candidates who have been granted exemption from courses under the provisions of Regulation 13, or who have transferred from part-time to full-time study. Each such candidate's required progress shall be set by the Principal Adviser of Studies.

Any full-time candidate who fails to achieve the required progress shall normally be suspended from full-time study. However, no candidate who has completed 80 credits at a grade point average of at least 10 in the current session shall be suspended from full-time study.

(b) Part-time Candidates

Each part-time candidate's required progress shall be set by the Principal Adviser of Studies in consultation with the candidate at the start of each session.

Any part-time candidate who fails to achieve the required progress must apply to the Principal Adviser for re-admission.

(c) Certificate of IT Competence

Every candidate must normally have obtained the Certificate of Basic IT Competence in his or her first session in order to progress to subsequent sessions of study and to qualify for any award covered by these regulations.

(d) Appeals

Any candidate who has been suspended under the provisions of Regulation 12(a), 12(b) or 12(c) may appeal in writing to the Faculty, citing any special circumstances bearing on his or her case. Advice on appeals is available from the Science Faculties Clerk.

(e) Transfers between Full-time and Part-time Study

Any full-time candidate shall be entitled to transfer to part-time study, including a candidate who has been suspended from full-time study.

Any part-time candidate may apply to the Principal Adviser for transfer to full-time study. In considering such an application, the Principal Adviser shall take into account the candidate's progress so far.

13. Admission of Candidates from other Faculties and Institutions

(a) The subjects recognised in terms of Section 4 of the Resolution shall be the subjects of study in the Faculties of Science at the University of Glasgow, or other subjects that shall be (i) approved by the Senate as of equivalent standard, and (ii) recognised under such conditions as the Senate may prescribe in each case.

(b) A candidate who has presented himself or herself for the BSc Honours or MSci final examination in any group of subjects for a degree in another Faculty may not choose a subject of that group as his or her Principal Subject for the Degree of BSc with Honours or MSci.

(c) A candidate in the Faculty of Medicine or Veterinary Medicine in the University of Glasgow may be selected for admission to the Faculties of Science after satisfactory completion of all the courses of the first two sessions of the

MBChB, BDS, or BVMS curriculum, as set out in the regulations for the degree concerned. The candidate may qualify for the Degree of BSc after one session of full-time study or for the Degree of BSc with Honours after two sessions of full-time study. In recognition of completing these courses, the candidate shall be awarded 240 credits (but no grade points) by the Principal Adviser of Studies in the Faculties of Science. Recognition of these courses will be subject to review in the event of substantial changes in the MBChB, BDS, or BVMS curriculum.

(d) A candidate who has satisfactorily completed courses in another University or institution of education may be allowed to count such courses as qualifying courses in Science, provided that the Senate is satisfied that the standard of such courses is equivalent to that of courses in Science. The candidate shall be awarded a maximum of 240 credits (but no grade points) by the Principal Adviser of Studies. The candidate exempted under this provision shall attend the University of Glasgow for at least one session of full-time study before qualifying for the Degree of BSc, and for at least two sessions of full-time study before qualifying for the Degree of BSc with Honours or MSci.

(e) A candidate may qualify for exemption from level-1 courses totalling at most 120 credits by obtaining passes in appropriate subjects at specified grades in approved Certificate of Education examinations, under such conditions as the Senate may prescribe in each case. The candidate shall be awarded a maximum of 120 credits (but no grade points) by the Principal Adviser of Studies. The candidate exempted under this provision shall attend the University of Glasgow for at least two sessions of full-time study before qualifying for the Degree of BSc, and for at least three sessions of full-time study before qualifying for the Degree of BSc with Honours or MSci.

(f) Subject to the approval of the Head of Department concerned, a graduate of any University approved by the University Court on the recommendation of the Senate may attend any course at any level in the Faculties of Science. If he or she completes the course, he or she shall be entitled to receive a certificate to that effect, unless he or she is engaged in study for a postgraduate degree or diploma.

IV COURSES

The courses available in the Faculties of Science are listed in the following pages, together with the level at which each course is offered and the number of credits which each course is worth.

Further details of each course are given in the *Undergraduate Course Catalogue*, including a description of the syllabus, the course code for matriculation purposes, the name of the organising department(s), the course timetable, the methods of assessment and any pre-requisites or co-requisites or other conditions of entry.

Entry to certain courses may be restricted if the number of students wishing to take a particular course exceeds the number of places available. Advisers of Studies will give guidance on such courses.

Students who wish to be admitted to any BSc Honours course, MSci course, or Level-3 course should make application to the Head of the Department concerned during the third (Whitsun) term of the previous academic year. For admission to Level-3 or Level-3H courses in the Biological subjects and Chemistry, a centralised admissions procedure is operated, and students will be informed of the procedure early in the third (Whitsun) term in the second year.

<i>Course</i>	<i>Level</i>	<i>Credits</i>
ANATOMY		
Anatomy 3H	3H	120
Anatomy 4H	4H	120
Anatomy Work Placement Year		120
Anatomy	4M	120
ANIMAL BIOLOGY		
Animal Biology 3D	3	80
Animal Biology 3E	3	120
APPLIED MATHEMATICS		
See under <i>Mathematics</i>		
AQUATIC BIOSCIENCE		
Aquatic Bioscience 3H	3H	120
Aquatic Bioscience 4H	4H	120
Aquatic Bioscience Work Placement Year		120
Aquatic Bioscience 4M	4M	120
ARCHAEOLOGY		
Archaeology 1X Introduction to Archaeological Practice	1	20
Archaeology 1Y The Archaeology of Scotland	1	20
Archaeology 1Z Archaeology in Contemporary Society	1	20
Archaeology 2A The Archaeology of the Mediterranean	2	20
Archaeology 2B The Archaeology of NW Europe	2	20
Archaeology 2C Archaeological Methods	2	10
Archaeology 2D Archaeological Science	2	10
Archaeology 2E Archaeological Interpretation	2	10
Archaeological Studies 3	3	80
Archaeology 3H (Single)	3H	120

<i>Course</i>	<i>Level</i>	<i>Credits</i>
Archaeology 4H (Single)	4H	120
Archaeology 3H (Combined)	3H	60
Archaeology 4H (Combined)	4H	60

ASTRONOMY

Astronomy 1X	1	20
Astronomy 1Y	1	20
Astronomy 2Z	2	30
Astronomy 3P	3	60
Astronomy 3H (Combined)	3H	60
Astronomy 4H (Combined)	4H	60
Astronomy 3M (Combined)	3M	75
Astronomy 4M (Combined)	4M	75
Exploring the Cosmos 1X	1	20
Exploring the Cosmos 1Y	1	20
Exploring the Cosmos 2X	2	10
Exploring the Cosmos 2Y	2	10

BIOCHEMISTRY

Biochemistry 3H	3H	120
Biochemistry 4H	4H	120
Biochemistry Work Placement Year		120
Biochemistry 4M	4M	120

BIOMEDICAL AND LIFE SCIENCES

Biology 1X	1	20
Biology 1Y	1	20

Level 2 Modules: First Half of Year

1a Basic Genetics	2	10
2a Cells: Structure & Function	2	10
3a Physiological Systems I	2	10
4a Animal Diversity	2	10
5a Proteins: Structure & Function	2	10
6a Nucleic Acids: Structure & Function	2	10
7a Human Form and Function	2	10
8a Ecology	2	10
9a Micro-organisms	2	10
10a Neuroscience	2	10
11a Biological Clocks	2	10
12a Plants, Pollution and Global Change	2	10
13a Immunology	2	10

<i>Course</i>	<i>Level</i>	<i>Credits</i>
<i>Level 2 Modules: Second Half of Year</i>		
1b Molecular Genetics	2	10
2b Evolutionary Biology	2	10
3b Infection & Immunity	2	10
4b Physiological Systems II	2	10
5b Plant Science: Food and Famine	2	10
6b Energy Metabolism	2	10
7b Drugs & Disease	2	10
8b Human Tissues in Health & Disease	2	10
9b Reproduction and the Embryo	2	10
10b Neurobiology of Behaviour	2	10
11b Practical Microbiology	2	10
12b Development: Cells, Molecules & Genes	2	10
13b Science Communication and Commerce	2	10
14b Biometrics	2	10
16b Physical Principles of Biological Processes	2	10
17b Conservation Biology	2	10
<i>Level 3</i>		
Essential Molecular Biology 3 ¹	3	60
BIOMEDICAL SCIENCE		
Biomedical Science 3H	3H	120
Biomedical Science 4H	4H	120
Biomedical Science Work Placement Year		120
Biomedical Science 4M	4M	120
BIOMOLECULAR SCIENCES		
Biomolecular Sciences 3D	3	80
Biomolecular Sciences 3E	3	120
BIOTECHNOLOGY		
Biotechnology 3H	3H	120
Biotechnology 4H	4H	120
Biotechnology Work Placement Year		120
Biotechnology 4M	4M	120

¹ This is available only to students taking a combined designated degree in Biology and Chemistry.

<i>Course</i>	<i>Level</i>	<i>Credits</i>
CHEMICAL PHYSICS		
Chemical Physics 3H	3H	120
Chemical Physics 4H	4H	120
Chemical Physics 3M	3M	150
Chemical Physics 4M	4M	150
CHEMISTRY		
General Chemistry	1	40
Chemistry 1	1	40
Chemistry 2X Molecules Matter – the Fundamentals	2	30
Chemistry 2Y Chemistry of the Natural World	2	30
Environmental Chemistry 2A Soil Water and Pollution	2	30
Environmental Chemistry 2B Food Production and Nutrition	2	30
Chemistry 3P Symmetry and Bonding	3	20
Chemistry 3Q Organic Reactivity	3	20
Chemistry 3R Metals to Semiconductors	3	20
Chemistry 3S Structure and Properties	3	20
Chemistry 3T Bioorganic Chemistry	3	20
Chemistry 3U Advanced Inorganic Chemistry	3	20
Chemistry 3V Biophysical Chemistry	3	20
Chemistry 3W Descriptive Inorganic/ Medicinal Chemistry	3	20
Chemistry 3X Essential Inorganic Chemistry	3	20
Chemistry 3Y Essential Organic Chemistry	3	20
Chemistry 3Z Organic Chemistry for Biology	3	20
Environmental Chemistry 3U Essential Environmental Chemistry	3	20
Environmental Chemistry 3V Environmental Analysis 1	3	20
Environmental Chemistry 3W Environmental Analysis 2	3	20
Environmental Chemistry 3X Advanced Environmental Chemistry	3	20
Environmental Chemistry 3Y Practical Environmental Chemistry 1	3	20
Environmental Chemistry 3Z Practical Environmental Chemistry 2	3	20

<i>Course</i>	<i>Level</i>	<i>Credits</i>
Chemistry 3H (Single)	3H	120
Chemistry 4H (Single)	4H	120
Chemistry 3H (Combined)	3H	60
Chemistry 4H (Combined)	4H	60
Chemistry 3M (Single)	3M	140
Chemistry Work Placement Year		120
Chemistry 4M (Single)	4M	160
Chemistry with Medicinal Chemistry 3H	3H	120
Chemistry with Medicinal Chemistry 4H	4H	120
Chemistry with Medicinal Chemistry 3M	3M	140
Chemistry with Medicinal Chemistry Work Placement Year		120
Chemistry with Medicinal Chemistry 4M	4M	160
Environmental Chemistry 3H	3H	120
Environmental Chemistry 4H	4H	120

CHEMISTRY WITH MEDICINAL CHEMISTRY

See under *Chemistry*

COMPUTING SCIENCE

Computing Science 1P Programming	1	20
Computing Science 1Q Fundamentals	1	20
Computing Science 2R Algorithmic Foundation 2	2	10
Computing Science 2S Functional Programming 2	2	10
Computing Science 2T Computer Systems 2	2	10
Computing Science 2U Information Management 2	2	10
Computing Science 2X Data Structures and Algorithms 2	2	10
Computing Science 2Y Software Design and Implementation 2	2	10
Computing Science 3P Algorithmics	3	10
Computing Science 3Q Advanced Programming	3	10
Computing Science 3R Programming Language Design and Implementation	3	10
Computing Science 3S Operating Systems	3	10
Computing Science 3T Networked Systems Architecture	3	10
Computing Science 3U Database Systems	3	10

<i>Course</i>	<i>Level</i>	<i>Credits</i>
Computing Science 3V Graphics and Multimedia	3	10
Computing Science 3W Interactive Systems	3	10
Computing Science 3X Professional Software Development	3	20
Computing Science 3Y Team Project	3	20
Computing Science Software Engineering Work Placement		10
Computing Science 3H (Single)	3H	120
Computing Science 4H (Single)	4H	120
Computing Science 3H (Combined)	3H	60
Computing Science 4H (Combined)	4H	60

See also *Mathematical Sciences*

EARTH SCIENCE

Earth Science 1X Introduction to the Earth: Minerals, Rocks, Structures 1	1	20
Earth Science 1Y Evolution of the Earth: Life and Environments 1	1	20
Earth Science 2P The Solid Earth	2	20
Earth Science 2Q Palaeobiology	2	10
Earth Science 2R Sediments and Stratigraphy	2	10
Earth Science 2S Rock Structure and Map Interpretation	2	10
Earth Science 2T Earth Exploration and Exploitation	2	10
Earth Science 3E	3	120
Earth Science 3H (Single)	3H	120
Earth Science 4H (Single)	4H	120
Earth Science 3H (Combined)	3H	60
Earth Science 4H (Combined)	4H	60

ELECTRONIC ENGINEERING

Electronic Engineering 1X	1	20
Electronic Engineering 1Y	1	20
Embedded Processors 2	2	10
Electrical Circuits 2X	2	10
Electrical Circuits 2Y	2	10
Analogue Electronics 2	2	10
Digital Electronics 2	2	10
Electronic Design Project 2	2	10

<i>Course</i>	<i>Level</i>	<i>Credits</i>
Engineering Electromagnetics 2	2	10
Electronic Engineering 3M (combined)	3	75
Electronic Engineering 4M (combined)	4	75
ELECTRONIC AND SOFTWARE ENGINEERING		
Electronic and Software Engineering 3H	3H	120
Electronic and Software Engineering 4H	4H	120
ENVIRONMENTAL BIOGEOCHEMISTRY		
Environmental Biogeochemistry 3H	3H	120
Environmental Biogeochemistry 4H	4H	120
ENVIRONMENTAL CHEMISTRY		
See under <i>Chemistry</i>		
ENVIRONMENTAL SCIENCE		
Environmental Science 1	1	40
EXPLORING THE COSMOS		
See under <i>Astronomy</i>		
GENERAL CHEMISTRY		
See under <i>Chemistry</i>		
GENETICS		
Genetics 3H	3H	120
Genetics 4H	4H	120
Genetics Work Placement Year		120
Genetics 4M	4M	120
GEOGRAPHY		
Geography 1	1	40
Geography 2	2	60
Geography 3A	3	60
Geography 3B	3	90
Geography 3C	3	120
Geography 3H (Single)	3H	120
Geography 4H (Single)	4H	120
Geography 3H (Combined)	3H	60
Geography 4H (Combined)	4H	60

<i>Course</i>	<i>Level</i>	<i>Credits</i>
HUMAN BIOLOGY		
Human Biology 3D	3	80
Human Biology 3E	3	120
IMMUNOLOGY		
Immunology 3H	3H	120
Immunology 4H	4H	120
Immunology Work Placement Year		120
Immunology 4M	4M	120
INFECTIOUS BIOLOGY		
Infection Biology 3D	3	80
Infection Biology 3E	3	120
MATHEMATICAL SCIENCES		
Mathematical Sciences 3H	3H	120
Mathematical Sciences 4H	4H	120
MATHEMATICS		
Introductory Mathematics 1P	1	20
Introductory Mathematics 1Q	1	20
Mathematics 1R	1	20
Mathematics 1S	1	20
Mathematics 1T	1	20
Mathematics 1X	1	20
Mathematics 1Y	1	20
Mathematics 2R Algebra I	2	10
Mathematics 2U Analysis I	2	10
Mathematics 2X Calculus I	2	10
Mathematics 2W Linear Algebra I	2	10
Mathematics 2P Graphs and Networks	2	10
Mathematics 2L Linear Modelling	2	10
Mathematics 2F Financial Modelling	2	10
Mathematics 2S Algebra II	2	10
Mathematics 2V Analysis II	2	10
Mathematics 2Y Calculus II	2	10
Mathematics 2Z Linear Algebra II	2	10
Mathematics 2Q Groups, Symmetry and Fractals	2	10
Mathematics 2N Number Theory and Cryptography	2	10
Mathematics 2J Biological Modelling	2	10

<i>Course</i>	<i>Level</i>	<i>Credits</i>
Mathematics 2G Mechanical Modelling	2	10
Mathematics 3P Real and Complex Variables	3	20
Mathematics 3Q Algebra and Number Theory	3	20
Mathematics 3R Finite Mathematics	3	20
Mathematics 3S Differential Equations	3	20
Mathematics 3H (Single)	3H	120
Mathematics 4H (Single)	4H	120
Mathematics 3H (Combined)	3H	60
Mathematics 4H (Combined)	4H	60
Mathematics 3M (Single)	3M	150
Mathematics 4M (Single)	4M	150
Mathematics 3M (Combined)	3M	75
Mathematics 4M (Combined)	4M	75
Applied Mathematics 3H (Single)	3H	120
Applied Mathematics 4H (Single)	4H	120
Applied Mathematics 3H (Combined)	3H	60
Applied Mathematics 4H (Combined)	4H	60
Applied Mathematics 3M (Single)	3M	150
Applied Mathematics 4M (Single)	4M	150
Applied Mathematics 3M (Combined)	3M	75
Applied Mathematics 4M (Combined)	4M	75

See also *Mathematical Sciences*

MEDICAL BIOCHEMISTRY

Medical Biochemistry 3H	3H	120
Medical Biochemistry 4H	4H	120
Medical Biochemistry Work Placement Year		120
Medical Biochemistry 4M	4M	120

MICROBIOLOGY

Microbiology 3H	3H	120
Microbiology 4H	4H	120
Microbiology Work Placement Year		120
Microbiology 4M	4M	120

MOLECULAR AND CELLULAR BIOLOGY

Molecular and Cellular Biology 3H	3H	120
Molecular and Cellular Biology 4H	4H	120
Molecular and Cellular Biology Work Placement Year		120
Molecular and Cellular Biology 4M	4M	120

<i>Course</i>	<i>Level</i>	<i>Credits</i>
NEUROSCIENCE		
Neuroscience 3H	3H	120
Neuroscience 4H	4H	120
Neuroscience Work Placement Year		120
Neuroscience 4M	4M	120
PARASITOLOGY		
Parasitology 3H	3H	120
Parasitology 4H	4H	120
Parasitology Work Placement Year		120
Parasitology 4M	4M	120
PHARMACOLOGY		
Pharmacology 3H	3H	120
Pharmacology 4H	4H	120
Pharmacology Work Placement Year		120
Pharmacology 4M	4M	120
PHYSICS		
Physics 1X	1	20
Physics 1Y	1	20
Physics 1P	1	20
Physics 1Q	1	20
Physics 2X	2	30
Physics 2Y	2	30
Physics 2S Elements of Semiconductor Devices	2	10
Physics 2T Computer Interfacing and C	2	10
Physics 2U Laboratory Skills	2	10
Physics 3P	3	60
Physics 3Q	3	80
Physics 3R	3	120
Physics 3H (Single)	3H	120
Physics 4H (Single)	4H	120
Physics 3H (Combined)	3H	60
Physics 4H (Combined)	4H	60
Physics 3M (Single)	3M	150
Physics 4M (Single)	4M	150
Physics 3M (Combined)	3M	75
Physics 4M (Combined)	4M	75
PHYSICS AND MUSIC		
Physics and Music 3M (Combined)	3M	150
Physics and Music 4M (Combined)	4M	150

<i>Course</i>	<i>Level</i>	<i>Credits</i>
PHYSICS AND PHILOSOPHY		
Physics and Philosophy 3M (Combined)	3M	150
Physics and Philosophy 4M (Combined)	4M	150
PHYSIOLOGY		
Physiology 3H (Single)	3H	120
Physiology 4H (Single)	4H	120
Physiology Work Placement Year		120
Physiology 4M	4M	120
Physiology 3H (Combined)	3H	60
Physiology 4H (Combined)	4H	60
PHYSIOLOGY AND SPORTS SCIENCE		
Physiology and Sports Science 3H	3H	120
Physiology and Sports Science 4H	4H	120
Physiology and Sports Science Work Placement Year		120
Physiology and Sports Science 4M	4M	120
PHYSIOLOGY, SPORTS SCIENCE AND NUTRITION		
Physiology, Sports Science and Nutrition 4H	4H	120
PLANT SCIENCE		
Plant Science 3H	3H	120
Plant Science 4H	4H	120
Plant Science Work Placement Year		120
Plant Science 4M	4M	120
PSYCHOLOGY		
Psychology 1	1	40
Psychology 2	2	40
Psychological Studies 3	3	80
Psychology 3H (Single)	3H	120
Psychology 4H (Single)	4H	120
Psychology 3H (Combined)	3H	60
Psychology 4H (Combined)	4H	60
SOFTWARE ENGINEERING		
Software Engineering 3H	3H	120
Software Engineering 4H	4H	120

<i>Course</i>	<i>Level</i>	<i>Credits</i>
SPORTS MEDICINE		
Sports Medicine 4H	4H	120
SPORTS SCIENCE		
Sports Science 3D	3	80
Sports Science 3E	3	120
STATISTICS		
Statistics 1B Practical Statistics	1	40
Statistics 1C Statistics for Psychologists	1	40
Statistics 1Y Probability and Statistical Methods	1	20
Statistics 1Z Design of Experiments, Analysis of Variance and Statistical Methods for Paired Data	1	20
Statistics 2R Probability	2	10
Statistics 2S Statistical Methods	2	10
Statistics 2X Probability and Likelihood	2	10
Statistics 2Y Regression Modelling	2	10
Statistics 2T Survey Methods and Data Analysis	2	10
Statistics 2Z Advanced Data Analysis	2	10
Statistical Studies 3	3	40
Statistics 3H (Single)	3H	120
Statistics 4H (Single)	4H	120
Statistics 3H (Combined)	3H	60
Statistics 4H (Combined)	4H	60
Statistics 3M (Single)	3M	160
Statistics 4M (Single)	4M	140
Statistics 3M (Combined)	3M	80
Statistics 4M (Combined)	4M	70
See also <i>Mathematical Sciences</i>		
TOPOGRAPHIC SCIENCE		
Topographic Science 2X	2	30
Topographic Science 2Y	2	30
Topographic Science 3D	3	80
Topographic Science 3E	3	120
Topographic Science 3H	3H	120
Topographic Science 4H	4H	120
VIROLOGY		
Virology 3H	3H	120
Virology 4H	4H	120

<i>Course</i>	<i>Level</i>	<i>Credits</i>
Virology Work Placement Year		120
Virology 4M	4M	120
ZOOLOGY		
Zoology 3H	3H	120
Zoology 4H	4H	120
Zoology Work Placement Year		120
Zoology 4M	4M	120

V CREDIT BEARING COURSES IN THE DEPARTMENT OF ADULT AND CONTINUING EDUCATION

The Department of Adult and Continuing Education offers a wide range of credit-bearing courses which can count towards a degree in the Faculties of Science. The courses listed below are recognised as level-1 Science courses for the purposes of these degree regulations.

<i>Course Title</i>	<i>Credits</i>
Introduction to Astronomy Module 1*	20
Introduction to Astronomy Module 2	20
Hands-on Space Astronomy	20
Looking at Dumfries and Galloway: Environmental Studies*	20
Introduction to Evolution, Ecology & Conservation	20
Introduction to the Composition & Structure of the Earth	20
Evolution of the Earth, Life & Environment*	20
Environmental Geography*	20
Human Geography*	20
Marine Biology	20

Further information on these courses can be obtained from the Department of Adult and Continuing Education, St Andrew's Building, 1 Park Drive, Glasgow G3 6LP. Tel: 0141-330 1835.

* Not available in session 2002-2003.

TIMETABLE OF CLASSES IN SCIENCE (2002-2003)

Lectures and Tutorials		Levels 1 and 2					First half-year: weeks 1-12	
09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18
Biology 1X M.Tu.W.Th.††† Earth Science 1X Tu.Th.F.†† Psychology 1 M.Tu.W.†† Physics 1P M.-F. 1X M.-F. Statistics 1Y M.-Th	Chemistry 1 M.-F.†† General Chemistry 1 M.-F.†† Mathematics 1R M.-F.††† Electronic Engineering 1X M.-W.	Earth Science 1X Tu.Th.F.†† Geography 1 Tu.-F. Mathematics 1R M.-F.††† 1X M.-F.	Archaeology 1Y Tu.Th. 1Z M.F. Computing Science 1P W.F. 1Q Tu.Th. Statistics 1B Tu.-F.	Astronomy 1X M.-F. Environmental Science 1 1 M.-Th. Exploring the Cosmos 1X M.-F. Introductory Maths. 1P M.-F. Statistics 1C M.-Th.	Biology 1X M.Tu.W.Th.†††	Chemistry 1 M.-F.†† General Chemistry 1 M.-F.††	Mathematics 1R M.-F.†††	Biology 1X M.Tu.W.Th.††† Psychology 1 M.Tu.W.††
Biology 1a M.W.†† 3a Tu.Th.†† 5a F.(+M.12)†† 6a F.(+M.12)†† 7a Tu.Th.†† 13a M.W. Earth Science 2P M.W.F. 2Q Tu.Th. Mathematics 2X M.W.F††† Statistics 2R Tu.Th. 2S W.F. 2T M.	Geography 2 M.-Th. Mathematics 2P Tu.Th.F. 2R M(alb).W.F.†† 2U M(alb).Tu.Th.†† 2W M.W.F. Psychology 2 M.-F. Biology 12a Tu. Th.	Astronomy 2Z M.W.F. Biology 4a W.F. 11a Tu.Th. Chemistry 2X M.Tu.Th. 2Y M.W.F. Computing Science 2X Tu.Th. 2T W.F. 2R M(+W.13) Mathematics 2R M(alb).W.F.†† 2U M(alb).Tu.Th.†† 2X Tu.W.Th.††† Topographic Science 2X M.-F.	Archaeology 2A W.F. 2C M. 2D Tu. Biology 5a M.(+F.09)†† 6a M.(+F.09)†† 8a Tu.Th. 9a W.F. 10a Tu.Th.†† Mathematics 2X M.W.F.††† Physics 2X M.-F.	Biology 1a M.W.†† 2a M.W. 3a Tu.Th.†† 5a F.(+M.17)†† 6a F.(+M.17)†† 7a Tu.Th.†† Computing Science 2R W(+M.11) Environmental Chemistry 2A M.Tu.Th.F. Mathematics 2F M.W.) + alt 2L Tu.Th.) Mon 15	Exploring the Cosmos 2X M.W. Physics 2T Tu.Th.	Mathematics 2F M (alt weeks) + M.W. 13 2L M (alt weeks) + Tu. Th. 13	Mathematics 1R M.-F.†††	Biology 5a M.(+F.13)†† 6a M.(+F.13)†† 10a Tu.Th.††

†† (†††) same course taught at two (three) different times.

TIMETABLE OF CLASSES IN SCIENCE (2002-2003)

Lectures and Tutorials		Levels 1 and 2					Second half-year: weeks 14-25	
09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18
Biology 1Y M.Tu.W.Th.††† Earth Science 1Y Tu.Th.F.†† Psychology 1 M.Tu.W.†† Physics 1Q M.-F. 1Y M.-F. Statistics 1Z M.-Th.	Chemistry 1 M.-F.†† General Chemistry 1 M.-F.†† Mathematics 1T M.-F.†† Electronic Engineering 1Y M.-W.	Earth Science 1Y Tu.Th.F.†† Geography 1 Tu.-F. Mathematics 1S M.-F.†† 1T M.-F.†† 1Y M.-F.	Archaeology 1X Tu.Th. Computing Science 1P W.F. 1Q Tu.Th. Statistics 1B Tu.-F.	Astronomy 1Y M.-F. Environmental Science I 1 M.-Th Exploring the Cosmos 1Y M.-F. Introductory Maths. 1Q M.-F. Statistics 1C M.-Th.	Biology 1Y M.Tu.W.Th.†††	Chemistry 1 M.-F.†† General Chemistry 1 M.-F.††	Mathematics 1S M.-F.††	Biology 1Y M.Tu.W.Th.††† Psychology 1 M.Tu.W.††
Biology 4b M.W.†† 6b Th.F.†† 7b M.W.†† 8b Th.F.†† Earth Science 2R M.W. 2S Tu. (term 2) Th. 2T Tu. (term 3) F. Mathematics 2Y M.W.†††† Statistics 2X M.W. 2Y Tu.Th. 2Z F.	Biology 5b M.Th. 11b F. 13b Tu. Geography 2 M.-Th. Mathematics 2N Tu.Th.F. 2S M(alb).W.F.†† 2V M(alb).Tu.Th.†† 2Z M.W.F. Psychology 2 M.-F.	Astronomy 2Z M.W.F. Biology 9b W.F. 17b Tu.Th. Chemistry 2X M.Tu.Th. 2Y M.W.F. Computing Science 2S W.F. 2U M.(+W.13) 2Y Tu.Th. Mathematics 2S M(alb).W.F.†† 2V M(alb).Tu.Th.†† 2Y Tu.W.Th.††† Topographic Science 2Y M.-F.	Archaeology 2B W.F. 2C M. 2E Tu. Biology 4b M.W.†† 6b Th.F.†† 7b M.W.†† 8b Th.F.†† Mathematics 2Q Tu.W.Th. 2Y M.W.F.††† Physics 2Y M.-F.	Biology 1b Th.F. 3b M.W.†† 10b M.W. 16b Th.F. Computing Science 2U W.(+M.11) Environmental Chemistry 2B M.Tu.Th.F. Mathematics 2G Tu.Th.) + alt 2J M.W.) M. 15	Physics 2S Tu.Th. Exploring the Cosmos 2Y M.W.	Mathematics 2G M (alt weeks) + T. Th. 13 2J M (alt weeks) + M. W. 13	Biology 3b M.W.†† 12b Tu.F.	Biology 2b W.Th. 14b M.Tu.

†† (†††) same course taught at two (three) different times.

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