Queen Mary
University of London

SCIENCE AND ENGINEERING

FOUNDATION PROGRAMME

(SEFP/FGH0)

2016 - 2017

STUDENT HANDBOOK

Important General Information about this Student Handbook

This handbook should be used together with Queen Mary's Academic Regulations and the Student Guide. This handbook provides information specific to the Science & Engineering Foundation Programme (programme codes beginning CC, FF, GG, HH, JJ, but not FGHZ), while the Student Guide gives information common to all students at Queen Mary (also referred to as "the College"). The Academic Regulations provide detailed information on award requirements and governance.

Nothing in this handbook overrides the Academic Regulations, which always take precedence.

You will receive a copy of the Student Guide at the start of the academic year. It is also available online at:
http://my.qmul.ac.uk/studentguide/

The Academic Regulations are available online at:
www.arcs.qmul.ac.uk/policy_zone/index.html#academic_policies

This SEFP Student Handbook is available online at:
http://qmplus.qmul.ac.uk/course/view.php?id= 3829

This handbook is also available in large print format. If you would like a large print copy, or have other requirements for the handbook, please contact the SEFP's Administrative Officer, at the Student Reception on the 1st floor of the G.E. Fogg building, tel. 020 7882 6681.

Disclaimer:

The information in this handbook is correct as of September 2016. In the unlikely event of substantial amendments to the material, we will attempt to inform you of the changes.

These changes will generally be announced using one or more of the following methods: by mailings to your Queen Mary e-mail account, by posting on the SEFP noticeboards and by posting on the SEFP programme website:
http://qmplus.qmul.ac.uk/course/view.php?id=3776

The College cannot accept responsibility for the accuracy or reliability of information given in third-party publications or third-party websites referred to in this handbook.

Important Reminders

Remember to regularly check the following programme website for announcements:

http://qmplus.qmul.ac.uk/course/view.php?id=3776

This website is an important source of additional information about the programme, the modules that you will be taking and other facilities at Queen Mary. You must look at this website regularly.

Remember also to regularly check your Queen Mary e-mail account for messages. When using e-mail to contact staff, then please observe the following points:

- **you must use your QMUL e-mail account**
- **you must give your full-name and Student ID number**
- **write your message clearly, using formal English (not text-speak)**

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WELCOME AND INTRODUCTION

Welcome to the Science and Engineering Foundation Programme (SEFP) at Queen Mary, University of London (QMUL).

For students who applied to Queen Mary through UCAS, the Science and Engineering Foundation Programme is the foundation year of an integrated four-year or five-year course of study. Successful completion of the foundation year enables you to continue on (without further UCAS application) to study for a BEng, BSc(Eng) or MEng Honours degree in a branch of engineering or a BSc or MSci Hons degree in a branch of science or mathematics.

The style of teaching used in universities is very different from the teaching methods used in most schools or colleges, and you will need to take more responsibility for your studies (*i.e.* become a more "independent learner"). You will find the programme to be challenging and we expect you to work hard and spend about 40 hours per week on your academic studies during term time. You must also expect to do some work during vacations, especially the Easter vacation which is your main opportunity to revise for the examinations. Having said all of this, we believe that the foundation year of the SEFP provides an excellent preparation for further study in the science and engineering fields, and many past students of the SEFP have progressed on to obtain first-class degrees.

This handbook provides you with essential information about the programme. It contains: staff contact details, information regarding the various modules that you will be studying, rules and regulations concerning examinations and other assessments (tests and assignments), as well as general information about the SEFP and the participating Departments. You are advised to keep the handbook in a safe place as you will need to refer to this handbook regularly throughout the course.

The SEFP is administered on behalf of the College by the School of Biological & Chemical Sciences (SBCS). If you have any queries or complaints about any aspect of your time at Queen Mary, then we are here to listen and to try to help. Your first point of contact should normally be the Student Reception on the 1st floor of the G.E. Fogg Building. This is where the administrative team for the SEFP is based. The reception is open Monday to Friday, from 9am to 5pm, and even if one of the SEFP team is not available, then those working at reception will be able to advise you about what to do next. Alternatively, please e-mail sefp@qmul.ac.uk, and a member of the SEFP administrative team will get back to you as soon as possible.

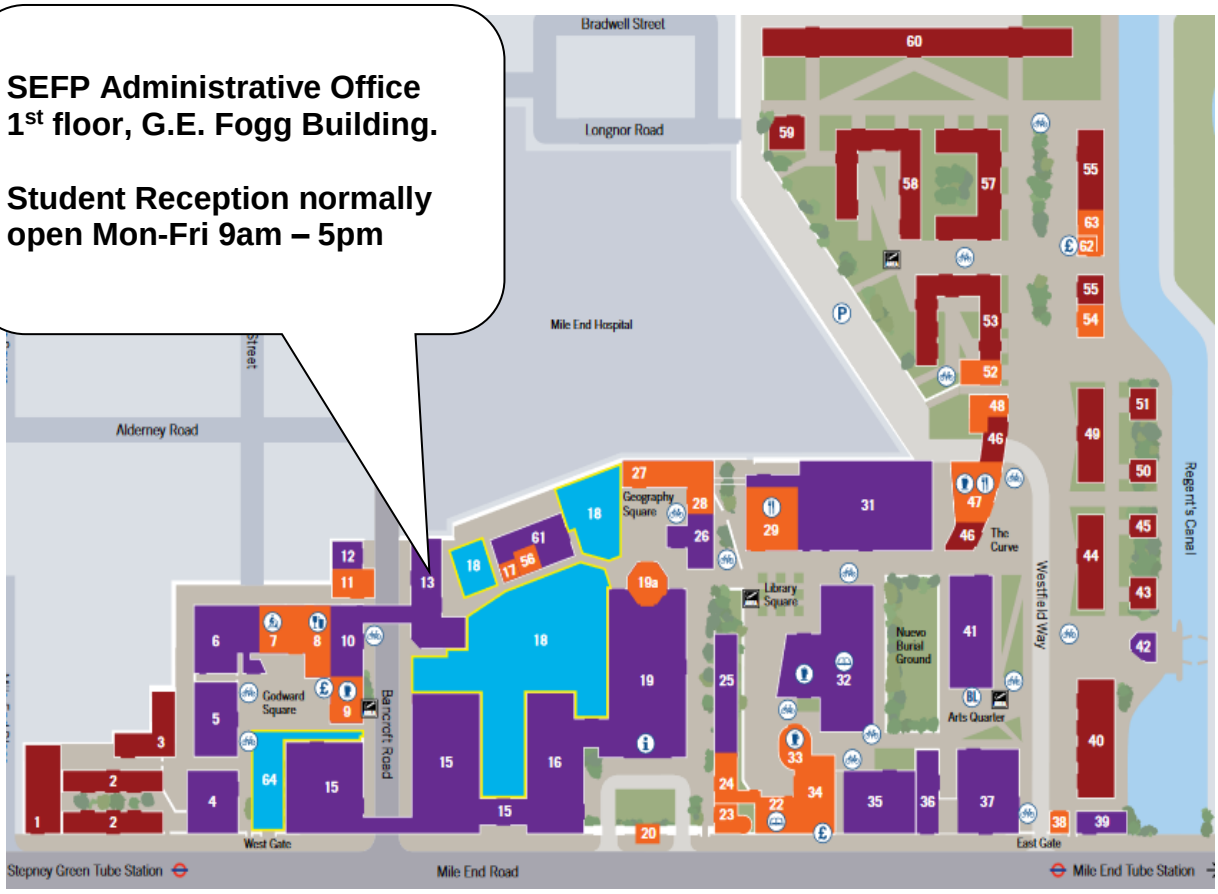
We wish you an enjoyable and successful time at Queen Mary.

Dr Chris Faulkes
Academic Director of the SEFP

MILE END CAMPUS

SEFP Administrative Office
1st floor, G.E. Fogg Building.

Student Reception normally open Mon-Fri 9am – 5pm



SEFP Management, Administration & Student Support

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Office of Dr Priscilla Cunnan (1st floor G.E. Fogg Building Room)	13

Academic Departments & Schools

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Department of Physics (G. O. Jones Building)	25
School of Biological & Chemical Sciences (Fogg /Joseph Priestley building)	13 & 41
School of Business & Management (Bancroft Building)	31
School of Electronic Engineering & Computer Science (Peter Landin Building)	6
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Other important College Buildings & Facilities (LT = Lecture Theatre)

QMUL Main Library	32
Queens Building (Academic Registry; IT Services; Octagon)	19
The Bancroft Building (DDS; Learning Support, Mason LT)	31
Student Enquiry Centre (west corridor, ground floor)	19
Advice and Counselling Service	27

SEFP STAFF AND DEPARTMENTAL CONTACTS

SEFP MANAGEMENT, ADMINISTRATION & STUDENT SUPPORT

Dr Chris Faulkes
Academic Director SEFP, c.g.faulkes@qmul.ac.uk

Dr Priscilla Cunnan
Marketing and Recruitment Manager, p.cunnan@qmul.ac.uk

SEFP Administrative Officer - Fogg 1st floor Reception, tel. 020 7882 6681, sefp@qmul.ac.uk

Main Office Address/Contact Details:

SEFP Administrative Office
c/o School of Biological & Chemical Sciences (1st floor, G.E. Fogg Building)
Queen Mary, University of London
Mile End Road, London E1 4NS
Tel. 020 7882 6681 (+44 20 7882 6681 from overseas)
Fax. 020 8983 0973 (+44 20 8983 0973 from overseas)
E-mail: sefp@qmul.ac.uk

DEPARTMENTAL OFFICES & SEFP CONTACTS

School of Biological & Chemical Sciences		School Office - 1st floor G.E. Fogg Bldg.
Contact:	Dr David Hone	(d.hone@qmul.ac.uk)
School of Electronic Engineering & Computer Sci		School Office – 2nd floor, ITL
Contact:	Dr William Marsh	(d.w.r.marsh@qmul.ac.uk)
School of Engineering & Materials Science		School Office - 1st floor Engineering Bldg.
Contact:	Dr Raza Shah	(raza.shah@qmul.ac.uk)
School of Mathematical Sciences		School Office - Maths 503
Contact:	Prof. Shahn Majid	(s.majid@qmul.ac.uk)
School of Physics & Astronomy		School Office – 1st Floor GO Jones Bldg
Contact:	Prof Francesca Di Lodovico	(f.di.lodovico@qmul.ac.uk)

OTHER MEMBERS OF STAFF

SEFP Mathematics Coordinator - Dr Christian Luebbe (christian.luebbe@qmul.ac.uk)

SEFP English Language & Communication Skills Coordinator (E1, CST)

Margot Farnham (m.farnham@qmul.ac.uk)

ACADEMIC CALENDAR 2016-2017

MAIN TEACHING PERIODS

Enrolment / Induction Week

Welcome & Enrolment Briefing	Monday 19th September 2016

(See the Enrolment Week Timetable for engagements during this week)

Semester 1 (Semester A)

Teaching begins	Monday 26th September 2016
Teaching ends	Friday 16th December 2016

Semester 2 (Semester B)

Teaching begins	Monday 9th January 2017
Teaching ends	Friday 31st March 2017

Important Notes

As a full-time student you are expected to be available to attend classes scheduled at any time between 9 am and 6 pm, Monday to Friday, during the teaching semesters. You are also expected to attend all 12 weeks of each semester. You should therefore make any travel arrangements to/from your place of residence during vacations completely outside these periods. Week 7 of each semester is normally designated as *Reading Week*. The teaching programme in these weeks is usually different from other weeks, but important assessments are often held in this week and you are still required to attend any scheduled teaching sessions. Lecturers will inform you in advance of how they intend to use each Reading Week for their individual module.

EXAMINATIONS

Revision Week	24th – 28th April 2017
Main examination period begins	Tuesday 2nd May 2017
Main examination period ends	Friday 9th June 2017
Late summer resit examinations	(*to be confirmed*)

Important Notes

You must be available for the whole of the main examination period, as it is possible that examinations may need to be rescheduled at short notice. If you do not pass sufficient modules in the main examination period then you will be required to attend additional resit examinations in the late summer examination period. You will be notified in late-June/early-July if you need to take such resit examinations in August. You must therefore ensure that you are also available to attend at Queen Mary during this late summer examination period in case you are required to take resits. These resits are formal examinations, subject to Queen Mary's Examination Regulations in the same way as the main examinations, and the dates are not negotiable.

Important Rules and Regulations

CODE OF BEHAVIOUR

At Queen Mary, we regard students as responsible adults, but this means that we also expect students to behave appropriately and show a high level of responsibility. In particular, we expect all students to respect the points mentioned below.

1. PUNCTUALITY

You are expected to arrive punctually (by no later than 5 min past the hour) for all lectures, tutorials, and other classes. It is very disruptive for other students and the lecturer if you arrive after the lecture or class has begun. You may not be permitted to enter the lecture if you arrive late and even if you are permitted to attend then you may still be recorded as being "absent" from the lecture.

2. SILENCE IN LECTURES

Some lectures will be given to quite large numbers of students and it can quite difficult for students to hear the lecturer clearly if they are not sitting at the front of the lecture theatre. If just a few students are talking while the lecturer is speaking then this can make the lecture inaudible to the rest of the class and it is also very disrespectful to the lecturer. You will be asked to leave if you persist in talking during a lecture.

If you are disruptive in lectures, you will reported to the Academic Director and may be subject to disciplinary action.

Mobile phones must be switched off before you enter a lecture theatre – the same applies to other electronic devices (unless they are being used for note-taking).

3. NO COPYING OR PLAGIARISM

All work submitted for assessment must be your own work. This means that you must not copy work from another student, from a book or other written material, or from the internet, and submit it as your own work. Cheating in assessment is regarded as a very serious offence and you may be deregistered from the programme if you are found to have extensively copied or plagiarised material.

4. RESPECT FOR ALL MEMBERS OF THE UNIVERSITY

The College Charter states that our work shall be carried out in a spirit of tolerance, freedom of opinion, mutual concern and community service, and undertakes to avoid discrimination against any person on the grounds of religion, race, sex, disability or politics.

The College's equal opportunities policy further guarantees the rights of all students and staff to attend the university free from harassment, discrimination or other form of abuse. Any person behaving in breach of this policy will be subject to the College's disciplinary procedures.

IMPORTANT: any student that is in serious breach of, or repeatedly disregards, any aspect of this code of behaviour will be reported to the Academic Secretary and may be suspended from the university.

A copy of Queen Mary's Code of Student Discipline is available from:
www.arcs.qmul.ac.uk/student_complaints/

COURSEWORK - PLAGIARISM, COPYING AND CHEATING

The satisfactory completion of coursework is a very important part of the learning process of the SEFP. The marks that you obtain for items of coursework will also generally contribute to your end-of-year result, together with your examination marks. Therefore the coursework that you submit must be your own work.

If you copy work from another student and submit it as your own then this is cheating. Furthermore, whilst it is reasonable to discuss how to approach a problem with fellow students, it is important that the work that you eventually submit for assessment is recognisably your own work and not a "collaborative effort". If two identical or near-identical pieces of coursework are received, **both** students will normally have their marks for this item of coursework reduced to zero. The lecturer will not normally attempt to discover whether the work was done jointly, or who copied from whom (so you must not copy yourself, but also you must not allow your own work to be copied).

When writing an essay or a report, then any quotation from the published or unpublished work of other people (including documents published on the internet) must be properly acknowledged by providing a reference to the original source. You must not construct an essay simply by "copying and pasting" sentences and paragraphs from other people's work. You must also avoid substantial paraphrasing of other people's work, without it being properly acknowledged. If you fail to follow these guidelines then you are committing "plagiarism", and this is a very serious offence. For more information about plagiarism see http://qmplus.qmul.ac.uk/mod/book/view.php?id=246137&chapterid=19329

Another form of cheating is the fabrication of data in laboratory experiments, or making a claim to have done something that you have not actually achieved. This is a type of fraud, and is just as serious an academic offence as plagiarism or the other forms of cheating mentioned above.

You should appreciate that lecturers and tutors are skilled in detecting when a piece of work has been copied. Additionally Queen Mary makes use of a specialised electronic service for the detection of plagiarism in essays, to find out if any part of the submitted work has been copied from the internet or other sources.

In summary, it is essential for your successful completion of the programme that you do not submit any coursework that has been copied from (or obtained from) another person or other source. If you are found to have cheated in a piece of work then the minimum punishment that you can expect to receive is that your mark for that work will be reduced to zero.

Instances of plagiarism/copying/cheating will be noted in your student file and repeated offences of this nature, or a single serious offence on a major piece of coursework, will result in your case being referred to Queen Mary's Assessment Offences Panel. This may result in you failing the whole module, or being de-registered from the programme.

RULES ABOUT ATTENDANCE & COMPLETION OF COURSEWORK

Queen Mary expects students to attend all the lectures, workshops, tutorials, laboratory classes and other sessions associated with the modules for which they are registered as part of their programme of study. Students are also expected to submit all coursework by the published deadlines and to participate in invigilated examinations.

More specifically, for the SEFP it is a <u>requirement</u> that you attend a minimum of 75% of all scheduled classes and that you also submit a corresponding level of coursework assignments in each module.

If you fail to meet the programme requirements with regard to attendance and/or submission of coursework, and are unable to provide satisfactory explanation with appropriate supporting evidence for this deficiency, then you are liable to:

(i) deregistration from the module concerned
(in those cases where the problems are largely limited to one specific module),

or,

(ii) deregistration from the SEFP
(in which case your registration as a student at Queen Mary will also be terminated).

If you are deregistered from one particular module then you are ineligible to take the examination in that module and a zero-mark will be recorded on your College record. This will seriously affect your chances of passing the foundation year and progressing onto your degree programme of choice. Furthermore, if you are deregistered from a core module (*i.e.* a module that you must pass, such as the SEF030 module) or from more than two modules then your registration at Queen Mary will be terminated, because it will then no longer be possible for you to meet the minimum requirements for successfully completing the foundation year of the programme.

FURTHER NOTES ON ATTENDANCE AT LECTURES, WORKSHOPS, TUTORIALS etc.

Attendance registers will be taken at most timetabled classes (lectures, workshops, tutorials *etc*.) and it is your responsibility to be aware of the method of recording attendance and to make sure that your name is properly recorded on the register.

Please note that if you are found signing-in another student at a class then this will be regarded as a serious disciplinary offence.

It is not acceptable to attend classes selectively; for example, to attend all the lectures but not to attend the tutorials associated with a module. This would be grounds for deregistration from the module of concern.

If you are prevented from attending any class due to a timetabling clash then you must bring this immediately to the attention of the SEFP's Administrative Officer.

ABSENCE AS A RESULT OF ILLNESS OR OTHER GOOD REASONS

We require you to attend a minimum of 75% of all scheduled classes, and an occasional absence due to minor illness will not prevent you from achieving this requirement.

However, if circumstances beyond your control ("extenuating circumstances") prevent you from attending College for an extended period (more than 5 working days) then you must contact the SEFP's Administrative Officer by e-mail or telephone as soon as possible (and certainly no later than 5 days after the start of your absence), so that we are aware of the reasons for your absence.

Within 2 working days of your return to College you must also formally notify us of your absence by completing and submitting an EC1 Student Absence Form, specifying the precise dates and reasons of the absence, and what classes you have missed. These forms can be downloaded from the SEFP programme website forms and coversheets link at http://qmplus.qmul.ac.uk/mod/book/view.php?id=245324&chapterid=19326. In order for your absence to be certified you will be required to supply a medical certificate (or other supporting documentation from an appropriate professional, if the reasons for your absence are not medical) as supporting documentation.

Remember that you will have to take steps to catch-up on what you have missed when you do return to College. In particular, it is your responsibility to make sure that you obtain copies of any lecture notes or coursework handouts from classes that you missed.

You should also complete an EC1 Student Absence Form (and again supply supporting documentation) if you are absent on several occasions that result in you being absent for a total of more than 5 working days in a given semester. Failure to do so may result in you failing to meet the programme's attendance requirements, and potentially lead to you being deregistered from the programme.

ABSENCE FROM ASSESSMENTS / MISSED SUBMISSION OF ASSESSMENTS

See p.43-44 for information about the procedures to be followed if you miss a coursework assessment, or are unable to submit work by a specified deadline due to extenuating circumstances.

EXTENUATING CIRCUMSTANCES OF EXTENDED DURATION

As previously noted, problems which are outside of your control and generally impair your ability to attend or complete a course are referred to as "extenuating circumstances" or "ECs" – these may include serious health, family and other personal problems. If you are regularly experiencing problems in either attending or in completing your coursework due to extenuating circumstances (for example, if you suffer from a chronic illness), then you should notify the

SEFP's Administrative Officer (1st floor, G.E. Fogg Building). These extenuating circumstances will then be considered when we are monitoring attendance, and when matters of deregistration are considered.

Any detailed information that you provide will be regarded as confidential and only the broad nature of the circumstances will be disclosed to QMUL teaching staff; however if the matter is particularly sensitive then you may wish to first discuss the matter with the Academic Director or with Dr Cunnan.

Guidance notes about Extenuating Circumstances are available in a booklet published on the Advice & Counselling website (www.welfare.qmul.ac.uk). If the circumstances are impacting your ability to complete assessments then you must formally record the extenuating circumstances by completing and submitting an Extenuating Circumstances form which is available from the SEFP Teaching, Learning and Support page on QMPlus: http://qmplus.qmul.ac.uk/course/view.php?id=3829, and supply supporting documentation.

Please note that if the extenuating circumstances are of extended duration and particularly severe, then you will normally be advised to interrupt your studies (see p.14) until the problems are resolved. Although we would normally wish students themselves to take such a major decision, in extreme cases we may have to deregister you from the programme if the extenuating circumstances are preventing you from properly engaging with the programme of study, and you have failed to interrupt your studies.

FURTHER NOTES ABOUT THE SEFP DE-REGISTRATION POLICY & PRACTICE

As indicated in the first part of this section:

- If your attendance at the scheduled sessions (lectures, workshops, tutorials etc) for any module falls below 75% then you are liable for deregistration from that module.
- If your attendance at SEFP classes is generally poor (below 75%) then you are liable for deregistration from the complete programme.

On matters of attendance we will first issue you with a warning that your attendance is unsatisfactory and needs to improve, before taking action. At this time, you will also be asked to provide any written evidence of extenuating circumstances which satisfactorily accounts for your absences. If your attendance fails to significantly improve after such a warning then you will be issued with a formal notification of deregistration.

On matters of coursework submission you may again receive warnings during the semester if you are seen to be failing to meet the SEFP requirements for a 75% submission rate, and action to terminate your registration in the affected module may again be taken if you fail to respond to these warnings.

Note – “coursework”, or “coursework assignments”, is the term used in this handbook to describe the work associated with tutorials, tests, problem classes, workshops and laboratory classes, and other written assignments (reports, essays, etc.), associated with the individual modules in your programme of study. Some coursework may be completed in scheduled sessions, but you will also be expected to undertake other coursework in your own time, and submit it for marking by a specified deadline.

INTERRUPTING & TERMINATING YOUR STUDIES

It is occasionally necessary for students to cease their studies for either personal or academic reasons. This is clearly a major decision which should not be undertaken lightly; so please do discuss your difficulties with SEFP staff before making such a decision. You are also strongly advised to make an appointment with Advice and Counselling who will be able to give you up-to-date and accurate information and advice, about the personal, financial and academic consequences of such action, and (if you are an overseas student) whether this will affect your right to remain in the UK.

There are two possible mechanisms by which you can cease your current studies:

Interruption of Studies: this is appropriate on those occasions where your personal circumstances (medical, financial, family *etc.*) are preventing you from adequately attending the programme, or from devoting the necessary time to your studies. The interruption provides you with a break from your studies for a period of 12 months, during which you can hopefully resolve any problems. This means that you return to your studies in the next academic year and start again from exactly the same point in the academic session where you stopped. Interruption of studies is not permitted after the end of the second semester.

Termination of Studies: this involves complete "withdrawal" from the programme; your studies at Queen Mary are terminated with immediate effect and you are no longer a registered student of the university. You cannot return to your studies at a later date.

If you do decide, after taking advice, that it is appropriate to interrupt or terminate your studies then it is very important that you:

1. inform the SEFP's Administrative Officer, and
2. complete an Interruption of Studies form, or a Programme Withdrawal form (these can be obtained from the Academic Registry (CB05) in the Queens Building).

If you are terminating your studies at Queen Mary and fail to complete the programme withdrawal form then you may find that this will prevent you from starting on a course at a different university in the future.

Student Support

SOURCES OF INFORMATION (HOW WE WILL CONTACT YOU ...)

The College will communicate with you in a variety of ways. Formal correspondence will be sent to you by letter, and it is important that you keep the College up to date with your personal details and address (see p.80). However, it is most common for the SEFP Staff and the College to contact you using the College e-mail address that you are assigned when you enrol and you are strongly advised to check this e-mail account daily.

More generally, as a student of Queen Mary you are expected to take responsibility for your studies. This includes keeping yourself informed about the programme requirements and procedures, and about any day-to-day changes in the timetable, lecture venues etc. It is therefore very important that you are aware of all the means by which SEFP staff will communicate with you about such matters, and to check all of them regularly.

1. QMUL E-MAIL ("College E-mail")

All students have a College e-mail address (see p.20). It this College e-mail address (rather than any other personal e-mail address) which will be used by the SEFP administrators and by the teaching staff to e-mail SEFP students with important information and notices. You need to check your College e-mail every weekday during the teaching semesters and examination period. You also need to check your e-mail at regular intervals during the vacations. You must also use this College e-mail account when you wish to contact staff, as staff will not normally respond to e-mails sent from any other (non-QMUL) e-mail accounts.

2. SEFP WEBSITE

The internal programme website is used to communicate most of the important information about the programme, including timetables and tutorial group allocations. It also has links to the webpages for individual modules, as well as links to a range of other useful websites (support services, past examination papers *etc.*). You need to check the website at least twice each week (daily during the first week of each semester) to ensure that you stay informed about changes. The website also provides access to your personal record of attendance and coursework marks.

To access the website go to http://qmplus.qmul.ac.uk/course/view.php?id=3776. The website may be accessed from on-campus using the computers of the Student PC Service, or from off-campus (in which case you will be asked to provide your student service username and password when you first access the website).

3. MySIS

Some announcements about assessment matters are posted on MySIS (the College's Student Information System); these will be evident on the first page that you see when you login to the database.

ACADEMIC ADVISING AND PERSONAL ADVICE

There are various staff who are available to provide SEFP students with help and guidance during the foundation year of the programme. These are detailed below.

Administrative Officer for the SEFP

The Administrative Officer has responsibility for many SEFP matters and can be consulted at any time during the year if you are unsure about matters relating to course registration, programmes of study, examinations, progression *etc*. He is generally available in the main office on the 1st floor of the G.E. Fogg building – please ask at Student Reception, who will also be able to make an appointment for you if he is not available at the time. Alternatively you can e-mail sefp@qmul.ac.uk.

Academic Director for the SEFP

The Academic Director (currently Dr Chris Faulkes) has overall responsibility for the organisation of the SEFP and all academic aspects of the programme. He can be consulted at any time during the year about matters relating to the programme – please make an appointment through the SEFP administrative office, or by e-mail (c.g.faulkes@qmul.ac.uk).

Advice for International SEFP Students

Dr Priscilla Cunnan (p.cunnan@qmul.ac.uk) has special responsibility for the welfare of international students on the SEFP and is able to offer wide-ranging advice on matters that may affect students studying and living in the UK for the first time, as well as being able to give more general advice about the programme.

Under 18s

Queen Mary is an adult environment where students are expected to behave like adults, assume adult levels of responsibility, and live independently alongside people from a wide variety of ages and backgrounds. Queen Mary has a duty of care towards all its students, but in the case of students joining before their 18th birthday, this duty is enhanced as such students are considered to be minors under UK law. QMUL has a Safeguarding Policy for the protection of children, and this can be accessed via http://www.arcs.qmul.ac.uk/docs/policyzone/141612.pdf.

If you enrol on the SEFP before your 18th birthday, all of your teachers will be made aware that you are a minor, and the Programme Convenor will arrange a meeting with you at the beginning of the programme to help you understand the university's policies and procedures for providing you with special protection.

Departmental Advisors

All students have a "home department", which is the academic department which admitted you onto the SEFP and which operates degree programmes in the field in which you intend to pursue your studies after completing the foundation year. All students are also allocated a departmental advisor by their home department. In some cases this advisor may be the SEFP contact for the department (see p.6), but in other cases your advisor may be another member of staff from the department. Your advisor will fulfil a number of roles:

- they are the first point of contact between yourself and your home department (although you can also refer matters to the main SEFP contact for your Department)
- they will advise you on module registration at the beginning of the programme, and on matters relating to the degree programme you wish to study after the foundation year
- they will also act as a personal tutor, and if there are matters affecting your studies on which you need advice, then they are one of the people you can turn to for help
- they will provide references upon request (although you must normally provide them with at least 2 weeks before any deadline)

You will be expected to see your departmental advisor regularly throughout the year, and it is essential that you attend these meetings.

Who should you go to see for help and guidance?

If you are in need of information and advice, then you should first check the SEFP website and noticeboard, as the information you seek may well already be there. If it is not then there are, as previously mentioned, a range of people who can help you.

If you need information or advice about matters relating to the programme organisation, the scheduling of lectures and tutorials, or similar matters, then you should contact the SEFP Administrative Officer (by e-mail) or go to the Student Reception on the 1st floor of the G.E. Fogg Building.

If you are a home (UK/EU) student and wish to discuss problems of a personal nature that are affecting your studies then your first contact should normally be your departmental advisor. Sensitive issues can be discussed in confidence and details will not be discussed with any other person without your agreement should you so desire. Your advisor may not always be able to help you, but if they can't then they should be able to refer you to one of the College support services (such as Advice and Counselling) who will be able to help.

International students who are in need of more personal advice should normally first seek assistance from Dr Cunnan, who has experience in dealing with matters that are particularly relevant to international students who are living and studying in the UK for the first time.

If you do not feel it is appropriate to seek help from any of the people mentioned above, then you may also make an appointment to see the Academic Director of the SEFP.

Some important points to remember....

- Staff will not be able to advise and help you, or make any allowances, unless they are aware of any problems you may be experiencing. You should therefore not hesitate to ask for advice if something is worrying you, especially if it is interfering with your academic work. Problems can usually be dealt with more easily and effectively if you ask for help at an early stage. Do not wait until your academic progress (perhaps, even your ability to complete the programme) begins to be affected.
- You must inform the SEFP's Administrative Officer, if anything happens that affects your ability to attend lectures and tutorials, your ability to complete your coursework or any other aspect of your studies. Remember that you will be required to provide documentation to support longer absences, or if you miss important elements of assessment.
- In extreme cases, if there are medical or other circumstances which are preventing you from attending the programme adequately over an extended period, then you may be required to interrupt your academic studies until the following academic year.

COLLEGE SUPPORT SERVICES

Students of the College, including SEFP students, have access to a range of support services. These services are free (i.e. there is no charge) for enrolled students.

ENGLISH & MATHEMATICS SUPPORT

English and mathematics support is closely integrated into the SEFP's English, Communication in Science & Technology and mathematics modules.

Students who are diagnosed as being in need of extra support may nevertheless be required to attend additional tutorials throughout the academic year. Students who themselves feel that they are in need of extra help in these subjects should speak to Mr Alan Hart, the SEFP English Language & Communication Skills Coordinator, to see what additional classes are available.

DISABILITY AND DYSLEXIA SERVICE

The Disability and Dyslexia Service is located in Room 2.06 in the Bancroft Building and provides support for students with special learning needs such as dyslexia and those possessing physical disabilities. If you feel that you may have a disability, then you should visit the service to arrange for an assessment. Alternatively you may talk to the SEFP's Administrative Officer, who will help you to arrange an appointment. Following an assessment, the College may be able to assist with provision of specialist equipment to help you in completing your studies, and you may also be granted extra time in your examinations. See the DDS website (www.dds.qmul.ac.uk) for further details.

ADVICE AND COUNSELLING

Advice and Counselling is located on the ground floor of the Geography building. They can provide advice on financial and legal matters, including immigration and visas. They also run a counselling service for students experiencing personal or emotional difficulties. All consultation is confidential. Telephone 020 7882 8717 or go to the Advice and Counselling Centre reception between 9.30am - 4.00pm weekdays to arrange for an appointment with an advisor. Alternatively you may go along to one of the drop-in sessions, which are held on weekdays from 1:30pm.
See their website (www.welfare.qmul.ac.uk) for further details on their services.

COMPUTING / IT SERVICES AND COLLEGE E-MAIL ACCOUNTS

When you enrol on the SEFP you are given an account on the Queen Mary Student PC Service (the "Teaching Service") and a Queen Mary e-mail address. If you do not get this information when you first enrol then take your College ID card to the IT Services Reception (W209 on the second floor of the Queens' Building).

Administrative and teaching staff will routinely use your College email account to contact you and you are expected to check your College e-mail every weekday during the teaching semesters and examination period, and also at regular intervals during the vacations. If you do not check your email regularly and you miss an important notice or announcement, then you will not be excused. As previously noted, staff will not normally respond to e-mails sent from any other (non-QMUL) e-mail accounts.

You can access your College email account by logging-on to a Student PC Service computer, and by using the e-mail client software on this service. If you are not on campus, then you should use the web-version of the mail service which is accessed from: https://mail.qmul.ac.uk

For more information on accessing and using your QMUL e-mail account you should look at IT Services Homepage (www.its.qmul.ac.uk) and select 'Services for Students'**.**

You will also need your Queen Mary Student PC Service account details (username and password) to (i) make use of the on-campus computing facilities, (ii) access the SEFP programme website from off-campus, and (iii) access the databases holding records of your marks, attendance and other personal information.

All SEFP students are expected to have basic information technology (IT) skills such as the ability to word-process a simple document, to send and receive e-mails and to locate and extract information from websites, given a web-address. Students with little or no experience of IT may wish to consider attending one or more training sessions run by IT Services. Sessions dealing with more advanced IT topics are also available. Information is available on the IT Services website (http://www.its.qmul.ac.uk). You will need to book in advance, by going along to the IT Services Reception. These training courses are available to SEFP students at minimal cost (there is normally a small booking fee for each course).

Email Etiquette

When you are writing emails to Queen Mary personnel and SEFP teaching staff, then please observe the following points:

- use the person's appropriate academic (or other) title, e.g. Dr Andrews, Mrs Mason
- write your message clearly, using formal English (not text-speak)
- give your full-name and Student ID number

Note - the same guidance would apply in face-to-face meetings where an appropriate level of formality is expected of students – so, you should not address a staff member by their first-

name unless they have indicated that they are happy for this to happen (but equally you should not normally use overly-formal methods of greeting such as "Sir").

Accessing Software Applications on the Student PC Service

The QMUL Student PC Service provides access to a range of useful software, which you are likely to find helpful for your studies. This includes software such as Microsoft Office (Word, Excel, Powerpoint *etc.*), as well as more specialised scientific software.

For more information on using the Student PC Service you should look at IT Services' Student Homepage, http://www.its.qmul.ac.uk.

In order to gain access to some of the more specialised software you will need to select the appropriate "course environment" when connecting to the Student PC Service. You should therefore take care to follow the instructions provided with any computer-based assignment. General recommendations on using the Student PC Service are available on the SEFP website. See Frequently-Asked Questions:
http://qmplus.qmul.ac.uk/course/view.php?id=3829

WiFi access from your own Laptop

Wi-Fi access is now available in many campus locations. We recommend you connect to the Wi-Fi network using the Eduroam – Janet Roaming Service. Details of how to use Eduroam can be found using this link: www.its.qmul.ac.uk/network-services/Eduroam.html

Help on IT Matters

The IT Services Helpdesk is located on the second floor of the Queens Building, (room W209), tel: 020 7882 5932 or email its-helpdesk@qmul.ac.uk . It is open week days and is ready to provide support or give you advice on any IT related subjects.

The IT Services provided to Queen Mary's students will be going through some dramatic changes over the next few years. If you want to know more about the changes, you can find out here www.itstrategy.its.qmul.ac.uk.

Essential Programme Information

PROGRAMME STRUCTURE

For students who applied to Queen Mary through UCAS, the Science and Engineering Foundation Programme is the foundation year (year 0) of an integrated four-year or five-year course of study. Provided you have met the necessary academic standards at the end of the year (*i.e.* achieve the specified "progression criteria") then you will automatically progress from the foundation year on to study for a BEng, BSc(Eng) or MEng Honours degree in a branch of engineering, or on to a BSc or MSci Honours degree in a branch of science or mathematics.

The programme code under which you have been admitted is determined by the admitting academic department, and indicates the types of degree which you are eligible to study after successfully completing the foundation year. The full range of programme codes are listed below:

CCX1	SEFP (Biological Sciences BSc , with foundation year)
FFX1	SEFP (Chemistry BSc , with foundation year)
FFY1	SEFP (Chemistry MSci , with foundation year)
FFX3	SEFP (Physics BSc , with foundation year)
FFY3	SEFP (Physics MSci , with foundation year)
GGX4	SEFP (Computer Science BSc , with foundation year)
GGY4	SEFP (Computer Science MSci , with foundation year)
GGX1	SEFP (Mathematical Sciences BSc , with foundation year)
HHX6	SEFP (Electronic Engineering BEng/BSc(Eng) , with foundation year)
HHY6	SEFP (Electronic Engineering MEng , with foundation year)
HHX1	SEFP (Engineering BEng/BSc(Eng) , with foundation year)
HHY1	SEFP (Engineering MEng , with foundation year)
JJX5	SEFP (Materials Science BEng/BSc, with foundation year)
JJY5	SEFP (Materials Science MEng , with foundation year)

Note - in some subject areas there are two codes, depending upon whether the complete duration of study is expected to be 4-years or 5-years, and ultimately leading to the award of BSc/BEng or MSci/MEng respectively. It is possible to transfer between the two variants (e.g. between FFX1 and FFY1) at the end-of-the-year if you wish to be considered for progression to a degree of different duration from that which you are currently registered for. Students wishing to take GGY1 Mathematical Sciences MSci may apply at the end of Year 1.

MODULE REGISTRATION & PROGRAMME DIETS

Students in the foundation year of the SEFP must register for and take eight modules (120 credits); four modules in the first semester and four modules in the second semester.

For each SEFP programme code, there is a defined "diet" of modules (see p.26-39) which must be followed during module registration.

Programme diets include:

Core modules: modules that must be taken and must be passed to gain progression.

Compulsory modules: modules that must be taken as part of your programme.

Optional modules: modules which may be selected from a defined list of modules.

The reason for having a specific diet of modules is to make sure that you receive an appropriate preparation for further study in your chosen field. Details of the programme diets are given on the following pages, but you will receive further advice on the selection of modules during induction. All SEFP modules have the same credit value (15 credits).

Responsibility for approving module registration is sometimes delegated to departmental advisors at the beginning of the academic year, but it is the Academic Director who is ultimately responsible for ensuring that you follow a programme of study that will satisfy the programme regulations and also fulfils the requirements for progression to your choice of degree programme. The final decision on all registration matters is therefore that of the Academic Director.

At the beginning of the academic year you complete module registration as follows:

1. In initial briefing sessions and meeting with your departmental advisor, you will be provided with guidance on the module registration required for your programme
2. You will then be asked to complete module registration online using the MySIS interface to the Queen Mary Student Information System
3. Your module registration will then be checked and formally approved by the SEFP's Academic Director (or his nominee).

At the end of the first semester / beginning of the second semester you will be asked to confirm your selection of modules for the second semester, and check your examination registration.

Changes between module options in a particular semester may only be made during the first two weeks of that semester, and are subject to the requirement that the new overall combination of modules is still consistent with the programme diet, and that there is also space still available on the module that you now wish to take. All changes are therefore again subject to approval by the Academic Director.

FURTHER NOTES ABOUT MODULE REGISTRATION:

1. All students must take one of English 1 or Communication in Science & Technology in Semester 1. UK students will generally be registered for the latter module; whilst international students will normally be registered for English 1 unless they can demonstrate that they have already obtained English language qualifications of an equivalent standard (IELTS 6.5). Students who take English 1 in Semester 1 must then take Communication in Science & Technology in Semester 2.
2. All students must take one of the following combinations of core mathematics modules:
   (1) Principles of Mathematics (Semester 1) and Mathematics I (Semester 2), or

(2) Mathematics I (Semester 1) and Mathematics II (Semester 2).

The choice between these two registration options will be determined by the Academic Director, taking into account: your existing mathematics qualifications; the results of a mathematical skills diagnostic test (held in enrolment week); your programme code and the degree that you intend to follow after successfully completing the foundation year. Any student possessing Mathematics A-level at grade D or better will normally be required to take Mathematics I and Mathematics II

PROGRESSION REQUIREMENTS

As a student of the SEFP you are guaranteed a place on a degree programme run by your home academic department **provided you meet the academic criteria for progression** from the foundation year into year 1 of their degree programmes. You do not need to reapply through UCAS.

The minimum requirement that must be met by all students in order to progress from the foundation year (year 0) into year 1 of a degree programme at Queen Mary, is that you must:

- **complete and pass a minimum of SEVEN modules (105 credits)**
- **pass all the required modules for the SEFP programme for which you are registered**

To qualify for progression into year 1 of a particular degree programme you must also satisfy the "Additional Requirements" for this degree programme, which are given on the information sheet for the appropriate SEFP programme code.

Important: the inclusion of a degree programme in this handbook is no guarantee that it will be available for progression (as programmes are occasionally withdrawn at short notice).

In the event that you do not meet the additional progression requirements for your chosen degree programmes, but have met the minimum requirements outlined above, then the SEFP Progression Board will consider whether it is possible to make an offer of progression onto an alternative degree programme (but this may be in a different field to your original choice and is not guaranteed).

CCX1 SEFP (Biological Sciences BSc, with foundation year)

SEMESTER 1

One of:

SEF-030	CST	Communication in Science & Technology	(SEF030A)
SEF-009	E1	English I	

One of:

SEF-014	PoM	Principles of Mathematics	
SEF-001	M1	Mathematics I	(SEF001A)

Two of:

SEF-003	C1	Introductory Chemistry	
SEF-031	B1	Form and Function in Biology	

SEMESTER 2

For students taking SEF-009 in Semester 1

SEF-030	CST	Communication in Science & Technology	(SEF030B)

One of:

SEF-001	M1	Mathematics I	(SEF001B)
SEF-002	M2	Mathematics II	

One of:

SEF-032	B2	Molecules to Cells	

Other options:

SEF-004	C2	A Closer Look at Chemistry	
SEF-033	B3	Diversity and Ecology	

MINIMUM PROGRESSION REQUIREMENTS

Pass a minimum of 105 credits (7 modules) with an overall average of ≥60%, including the following modules: SEF030, SEF031, and SEF032

<u>and</u> the following ADDITIONAL REQUIREMENTS (for specific degree programmes)

BSc Biomedical Sciences (B990) BSc Neuroscience (B140) BSc Pharmacology and Innovative Therapies (B211)	An overall average of ≥70%, with ≥60% in SEF031 and SEF032 and ≥50% in all other modules, except SEF001/002 for which a pass is sufficient.
BSc Biochemistry with a year in industry/research (3W45)	An overall average of ≥70%, with ≥60% in SEF003 and SEF032 and ≥50% in all other modules, except SEF001/002 for which a pass is sufficient.
BSc Psychology (C800)	An overall average of 65%, with ≥60% in SEF031 and SEF032 and ≥50% in all other modules, except SEF002 for which a pass is sufficient.
BSc Biology with Psychology (C1C8)	Average of ≥ 60%, including marks of ≥ 50% in each module (except SEF002 for which a pass is sufficient).
BSc programmes: C431, C700	Average of ≥ 60%, including marks of ≥ 50% in all modules.
BSc programmes: C100, C300, C400	An overall average of 60%.

FFX1 SEFP (Chemistry BSc, with foundation year)

SEMESTER 1

One of:			
SEF-030	CST	Communication in Science & Technology	(SEF030A)
SEF-009	E1	English I	
One of:			
SEF-014	PoM	Principles of Mathematics	
SEF-001	M1	Mathematics I	(SEF001A)
One of:			
SEF-003	C1	Introductory Chemistry	
One of:			
SEF-005	P1	Physics - Mechanics and Materials	
SEF-031	B1	Form and Function in Biology	

SEMESTER 2

For students taking SEF-009 in Semester 1			
SEF-030	CST	Communication in Science & Technology	(SEF030B)
One of:			
SEF-001	M1	Mathematics I	(SEF001B)
SEF-002	M2	Mathematics II	
Two of:			
SEF-004	C2	A Closer Look at Chemistry	
SEF-032	B2	Molecules to Cells	
Other options:			
SEF-007	P3	Physics - Electricity and Atomic Physics	
SEF-033	B3	Diversity and Ecology	

MINIMUM PROGRESSION REQUIREMENTS

Pass a minimum of 105 credits (7 modules) with an overall average of ≥60%, including the following modules: SEF030, SEF003, SEF004.

<u>and</u> the following ADDITIONAL REQUIREMENTS (for specific degree programmes)

BSc Chemistry (F100)	An overall average of 60%, with ≥50% in SEF003 and SEF004, except SEF001 for which a pass is sufficient.
BSc Pharmaceutical chemistry with a year in industry/research (2L22)	An overall average of ≥70%, with ≥60% in SEF003, SEF004 and SEF032 and ≥50% in all other modules.
BSc Chemistry with a year in industry/research (9A32)	An overall average of ≥70%, with ≥60% in SEF003 and SEF004 and ≥50% in all other modules.
BSc Pharmaceutical Chemistry (F154)	An overall average of 60%.

FFY1 SEFP (Chemistry MSci, with foundation year)

SEMESTER 1

One of:			
SEF-030	CST	Communication in Science & Technology	(SEF030A)
SEF-009	E1	English I	
One of:			
SEF-014	PoM	Principles of Mathematics	
SEF-001	M1	Mathematics I	(SEF001A)
One of:			
SEF-003	C1	Introductory Chemistry	
One of:			
SEF-005	P1	Physics - Mechanics and Materials	
SEF-031	B1	Form and Function in Biology	

SEMESTER 2

For students taking SEF-009 in Semester 1			
SEF-030	CST	Communication in Science & Technology	(SEF030B)
One of:			
SEF-001	M1	Mathematics I	(SEF001B)
SEF-002	M2	Mathematics II	
Two of:			
SEF-004	C2	A Closer Look at Chemistry	
SEF-032	B2	Molecules to Cells	
Other options:			
SEF-007	P3	Physics - Electricity and Atomic Physics	
SEF-033	B3	Diversity and Ecology	

MINIMUM PROGRESSION REQUIREMENTS

Pass a minimum of 105 credits (7 modules) with an overall average of ≥60%, including the following modules: SEF030, SEF001, SEF003, and SEF004

and the following ADDITIONAL REQUIREMENTS (for specific degree programmes)

MSci Chemistry (F103)	An overall average of ≥70%, with ≥60% in SEF003 and SEF004 and ≥50% in all other modules.
MSci Pharmaceutical Chemistry (F152, F153)	An overall average of ≥70%, with ≥60% in SEF003, SEF004 and SEF032 and ≥50% in all other modules.
MSci Biochemistry (C701)	An overall average of ≥70%, with ≥60% in SEF003 and SEF032 and ≥50% in all other modules, except SEF001/002 for which a pass is sufficient.

Any student failing to meet the FFY1 progression criteria will be considered for progression under the FFX1 programme code.

FFX3 SEFP (Physics BSc, with foundation year)

SEMESTER 1

One of:			
SEF-030	CST	Communication in Science & Technology	(SEF030A)
SEF-009	E1	English I	
One of:			
SEF-014	PoM	Principles of Mathematics	
SEF-001	M1	Mathematics I	(SEF001A)
One of:			
SEF-005	P1	Physics - Mechanics and Materials	
One of:			
SEF-026	EFM	Essential Foundation Mathematics	

SEMESTER 2

For students taking SEF-009 in Semester 1			
SEF-030	CST	Communication in Science & Technology	(SEF030B)
One of:			
SEF-001	M1	Mathematics I	(SEF001B)
SEF-002	M2	Mathematics II	
Two of:			
SEF-006	P2	Physics - Fields and Waves	
SEF-007	P3	Physics - Electricity and Atomic Physics	
Other options:			
SEF-015	DM	Discrete Mathematics	
SEF-024	IE	Introduction to Engineering	

MINIMUM PROGRESSION REQUIREMENTS

Pass a minimum of 105 credits (7 modules), including the following modules: SEF030, SEF001, SEF005, SEF006, SEF007

<u>and</u> the following ADDITIONAL REQUIREMENTS (for specific degree programmes)

All BSc programmes: (incl. Astronomy/Astrophysics)	Pass minimum of 7 modules with average of at least 50% over all 8 modules.

FFY3 SEFP (Physics MSci, with foundation year)

SEMESTER 1

One of:			
SEF-030	CST	Communication in Science & Technology	(SEF030A)
SEF-009	E1	English I	
Two of:			
SEF-001	M1	Mathematics I	(SEF001A)
SEF-005	P1	Physics - Mechanics and Materials	
One of:			
SEF-026	EFM	Essential Foundation Mathematics	

SEMESTER 2

For students taking SEF-009 in Semester 1			
SEF-030	CST	Communication in Science & Technology	(SEF030B)
One of:			
SEF-002	M2	Mathematics II	
Two of:			
SEF-006	P2	Physics - Fields and Waves	
SEF-007	P3	Physics - Electricity and Atomic Physics	
Other options:			
SEF-015	DM	Discrete Mathematics	
SEF-024	IE	Introduction to Engineering	

MINIMUM PROGRESSION REQUIREMENTS

Pass a minimum of 105 credits (7 modules), including the following modules: SEF030, SEF001, SEF002, SEF005, SEF006, SEF007

<u>and</u> the following ADDITIONAL REQUIREMENTS (for specific degree programmes)

All MSci programmes: (incl. Astronomy/Astrophysics)	Pass minimum of 7 modules with average of at least 60% over all 8 modules.

Any student failing to meet the FFY3 progression criteria will be considered for progression under the FFX3 programme code.

GGX1 SEFP (Mathematics BSc, with foundation year)

SEMESTER 1

One of:			
SEF-030	CST	Communication in Science & Technology	(SEF030A)
SEF-009	E1	English I	
One of:			
SEF-001	M1	Mathematics I	(SEF001A)
One of:			
SEF-026	EFM	Essential Foundation Mathematics	
One of:			
SEF-005	P1	Physics - Mechanics and Materials	

SEMESTER 2

For students taking SEF-009 in Semester 1			
SEF-030	CST	Communication in Science & Technology	(SEF030B)
One of:			
SEF-002	M2	Mathematics II	
One of:			
SEF-015	DM	Discrete Mathematics	
Other options:			
SEF-007	P3	Physics - Electricity and Atomic Physics	
SEF-024	IE	Introduction to Engineering	

MINIMUM PROGRESSION REQUIREMENTS

Pass a minimum of 105 credits (7 modules), including the following modules: SEF030, SEF001, SEF026

and the following ADDITIONAL REQUIREMENTS (for specific degree programmes)

All BSc programmes (excl. GL11 programme)	Average of at least 60% over all 8 modules. In addition, an average of at least 60% in each of the four Mathematics modules SEF001, SEF015, SEF026 and SEF002.
All MSci programmes	Average of at least 70% over all 8 modules. In addition, average of at least 70% in each of the 4 Mathematics modules.

Note: the GL11 programme is not available as a progression route from the SEFP.

GGX4 SEFP (Computer Science BSc/BSc (Eng), with foundation year)

SEMESTER 1

One of:			
SEF-030	CST	Communication in Science & Technology	(SEF030A)
SEF-009	E1	English I	
One of:			
SEF-014	PoM	Principles of Mathematics	
SEF-001	M1	Mathematics I	(SEF001A)
Both:			
SEF-026	EFM	Essential Foundation Mathematics	
SEF-005	P1	Physics - Mechanics and Materials	

SEMESTER 2

For students taking SEF-009 in Semester 1			
SEF-030	CST	Communication in Science & Technology	(SEF030B)
For students taking SEF-014 in Semester 1			
SEF-001	M1	Mathematics I	(SEF001B)
Both:			
SEF-015	DM	Discrete Mathematics	
SEF-034	COM	Computing	
Other options:			
SEF-002	M2	Mathematics II	
SEF-024	IE	Introduction to Engineering	
SEF-006	P2	Physics - Fields and Waves	
SEF-007	P3	Physics - Electricity and Atomic Physics	

MINIMUM PROGRESSION REQUIREMENTS

Pass a minimum of 105 credits (7 modules), including the following modules: SEF030, SEF034

and the following ADDITIONAL REQUIREMENTS (for specific degree programmes)

BSc Computer Science (G400, G402) BSc CS with Multimedia (G450, I450) BSc CS with Business Management (G4N1, I4N1, G4N2, I4N2) BSc Software Engineering for Business (IN10, I1N1) BSc(Eng) ITMB (NN11, NI11), ICT (I100, I101)	Average of 55% over all 8 modules
BSc(Eng) Multimedia Arts Technology (I150, I151)	Average of 55% over all 8 modules. Interview with EECS academic staff.
BSc Computer Science and Mathematics (GG41)	Average of 55% over all 8 modules A minimum of 60% in SEF002 or 70% in SEF001
BEng Computer Systems Engineering (HI62, HI63)	Average of 55% over all 8 modules Pass the module SEF-001
MSci Computer Science (G401)	*See GGY4*

GGY4 SEFP (Computer Science MSci, with foundation year)

SEMESTER 1

One of:

SEF-030	CST	Communication in Science & Technology	(SEF030A)
SEF-009	E1	English I	

One of:

SEF-014	PoM	Principles of Mathematics	
SEF-001	M1	Mathematics I	(SEF001A)

Both:

SEF-026	EFM	Essential Foundation Mathematics	
SEF-005	P1	Physics - Mechanics and Materials	

SEMESTER 2

For students taking SEF-009 in Semester 1

SEF-030	CST	Communication in Science & Technology	(SEF030B)

For students taking SEF-014 in Semester 1

SEF-001	M1	Mathematics I	(SEF001B)

Both:

SEF-015	DM	Discrete Mathematics	
SEF-034	COM	Computing	

Other options:

SEF-002	M2	Mathematics II	
SEF-024	IE	Introduction to Engineering	
SEF-006	P2	Physics - Fields and Waves	
SEF-007	P3	Physics - Electricity and Atomic Physics	

MINIMUM PROGRESSION REQUIREMENTS

Pass a minimum of 120 credits (8 modules),

<u>and</u> the following ADDITIONAL REQUIREMENTS (for specific degree programmes)

MSci Computer Science (G401)	Average of 65% over all 8 modules

Any student failing to meet the GGY4 progression criteria will be considered for progression under the GGX4 programme code.

HHX1 SEFP (Engineering BEng/BSc (Eng), with foundation year)

SEMESTER 1

One of:			
SEF-030	CST	Communication in Science & Technology	(SEF030A)
SEF-009	E1	English I	
One of:			
SEF-014	PoM	Principles of Mathematics	
SEF-001	M1	Mathematics I	(SEF001A)
One of:			
SEF-005	P1	Physics - Mechanics and Materials	
One of: (1)			
SEF-003	C1	Introductory Chemistry	
SEF-026	EFM	Essential Foundation Mathematics	

SEMESTER 2

For students taking SEF-009 in Semester 1			
SEF-030	CST	Communication in Science & Technology	(SEF030B)
One of:			
SEF-001	M1	Mathematics I	(SEF001B)
SEF-002	M2	Mathematics II	
Two of:			
SEF-007	P3	Physics - Electricity and Atomic Physics	
SEF-024	IE	Introduction to Engineering	
Other options:			
SEF-004	C2	A Closer Look at Chemistry	
SEF-006	P2	Physics - Fields and Waves	
SEF-015	DM	Discrete Mathematics	

(1) students without A-level mathematics (or equivalent) are normally required to take EFM

MINIMUM PROGRESSION REQUIREMENTS

Pass a minimum of 105 credits (7 modules), including the following modules: SEF030, SEF001, SEF005, SEF024

and the following ADDITIONAL REQUIREMENTS (for specific degree programmes)

All BEng programmes with H-programme codes	Average of 55% over all 8 modules and a minimum of 55% in SEF001. Modules passed to include SEF007.
BSc(Eng) Engineering (H100)	Average of 50% over all 8 modules.

Note: the WH21 programme is not available as a progression route from the SEFP.

HHY1 SEFP (Engineering MEng, with foundation year)

SEMESTER 1

One of:			
SEF-030	CST	Communication in Science & Technology	(SEF030A)
SEF-009	E1	English I	
One of:			
SEF-014	PoM	Principles of Mathematics	
SEF-001	M1	Mathematics I	(SEF001A)
One of:			
SEF-005	P1	Physics - Mechanics and Materials	
One of: (1)			
SEF-003	C1	Introductory Chemistry	
SEF-026	EFM	Essential Foundation Mathematics	

SEMESTER 2

For students taking SEF-009 in Semester 1			
SEF-030	CST	Communication in Science & Technology	(SEF030B)
One of:			
SEF-001	M1	Mathematics I	(SEF001B)
SEF-002	M2	Mathematics II	
Two of:			
SEF-007	P3	Physics - Electricity and Atomic Physics	
SEF-024	IE	Introduction to Engineering	
Other options:			
SEF-004	C2	A Closer Look at Chemistry	
SEF-006	P2	Physics - Fields and Waves	
SEF-015	DM	Discrete Mathematics	

(1) students without A-level mathematics (or equivalent) are normally required to take EFM

MINIMUM PROGRESSION REQUIREMENTS

Pass a minimum of 105 credits (7 modules), including the following modules: SEF030, SEF001, SEF005, SEF007, SEF024

and the following ADDITIONAL REQUIREMENTS (for specific degree programmes)

All MEng programmes with H-programme codes (1)	Average of 65% over all 8 modules and a minimum of 65% in SEF001.

Note: (1) the W240 programmes is not available as a progression route from the SEFP.

Any student failing to meet the HHY1 progression criteria will be considered for progression under the HHX1 programme code.

HHX6 SEFP (Electronic Engineering BEng, with foundation year)

SEMESTER 1

One of:			
SEF-030	CST	Communication in Science & Technology	(SEF030A)
SEF-009	E1	English I	
One of:			
SEF-014	PoM	Principles of Mathematics	
SEF-001	M1	Mathematics I	(SEF001A)
Both:			
SEF-005	P1	Physics - Mechanics and Materials	
SEF-026	EFM	Essential Foundation Mathematics	

SEMESTER 2

For students taking SEF-009 in Semester 1			
SEF-030	CST	Communication in Science & Technology	(SEF030B)
One of:			
SEF-001	M1	Mathematics I	(SEF001B)
SEF-002	M2	Mathematics II	
At least two of[1]:			
SEF-006	P2	Physics - Fields and Waves	
SEF-007	P3	Physics - Electricity and Atomic Physics	
SEF-034	COM	Computing	
Other options:			
SEF-024	IE	Introduction to Engineering	

[1]Note: students wishing to progress to BEng Computer Systems Engineering should take SEF-034 Computing; those wishing to progress to Electronics programs should take both Physics modules.

MINIMUM PROGRESSION REQUIREMENTS

Pass a minimum of 105 credits (7 modules), including the following modules: SEF030, SEF001 and the following ADDITIONAL REQUIREMENTS (for specific degree programmes)

BEng Electronics with Music and Audio Systems (H288, H289) BEng Electrical and Electronic Engineering (H600, H602) BEng Electronic Engineering (H610, H611) BEng Electronic Engineering and Telecommunications (H691, H693)	Average of 55% over all 8 modules Pass the module SEF-007
BEng Computer Systems Engineering (HI62, HI63)	Average of 55% over all 8 modules Pass the module SEF-034
MEng programmes	*(See HHY6)*

HHY6 SEFP (Electronic Engineering MEng, with foundation year)

SEMESTER 1

One of:			
SEF-030	CST	Communication in Science & Technology	(SEF030A)
SEF-009	E1	English I	
One of:			
SEF-014	PoM	Principles of Mathematics	
SEF-001	M1	Mathematics I	(SEF001A)
Both:			
SEF-005	P1	Physics - Mechanics and Materials	
SEF-026	EFM	Essential Foundation Mathematics	

SEMESTER 2

For students taking SEF-009 in Semester 1			
SEF-030	CST	Communication in Science & Technology	(SEF030B)
One of:			
SEF-001	M1	Mathematics I	(SEF001B)
SEF-002	M2	Mathematics II	
At least two of[1]:			
SEF-006	P2	Physics - Fields and Waves	
SEF-007	P3	Physics - Electricity and Atomic Physics	
SEF-034	COM	Computing	
Other options:			
SEF-024	IE	Introduction to Engineering	

[1]Note: students wishing to progress to MEng Computer Systems Engineering should take SEF-034 Computing; those wishing to progress to Electronics programs should take SEF007.

MINIMUM PROGRESSION REQUIREMENTS

Pass a minimum of 120 credits (8 modules)

and the following ADDITIONAL REQUIREMENTS (for specific degree programmes)

MEng Electronics with Music and Audio Systems (H643) MEng Electronic Engineering and Telecommunications (H690)	Average of 65% over all 8 modules Pass the module SEF-007
MEng Computer Systems Engineering (HI6D)	Average of 65% over all 8 modules Pass the module SEF-034

Any student failing to meet the HHY6 progression criteria will be considered for progression under the HHX6 programme code.

JJX5 SEFP (Materials Science BEng/BSc, with foundation year)

SEMESTER 1

One of:			
SEF-030	CST	Communication in Science & Technology	(SEF030A)
SEF-009	E1	English I	
One of:			
SEF-014	PoM	Principles of Mathematics	
SEF-001	M1	Mathematics I	(SEF001A)
Two of:			
SEF-003	C1	Introductory Chemistry	
SEF-005	P1	Physics - Mechanics and Materials	

SEMESTER 2

For students taking SEF-009 in Semester 1			
SEF-030	CST	Communication in Science & Technology	(SEF030B)
One of:			
SEF-001	M1	Mathematics I	(SEF001B)
SEF-002	M2	Mathematics II	
Two of:			
SEF-004	C2	A Closer Look at Chemistry	
SEF-007	P3	Physics - Electricity and Atomic Physics	
Other options:			
SEF-006	P2	Physics - Fields and Waves	
SEF-024	IE	Introduction to Engineering	

MINIMUM PROGRESSION REQUIREMENTS

Pass a minimum of 105 credits (7 modules), including the following modules: SEF030, SEF003 and the following ADDITIONAL REQUIREMENTS (for specific degree programmes)

All BEng programmes with J-programme codes, and B890.	Average of 55% over all 8 modules and a minimum of 55% in SEF001. Modules passed to include SEF005.
All BSc programmes with J-programme codes and B892	None.

JJY5 SEFP (Materials Science MEng, with foundation year)

SEMESTER 1

One of:			
SEF-030	CST	Communication in Science & Technology	(SEF030A)
SEF-009	E1	English I	
One of:			
SEF-014	PoM	Principles of Mathematics	
SEF-001	M1	Mathematics I	(SEF001A)
Two of:			
SEF-003	C1	Introductory Chemistry	
SEF-005	P1	Physics - Mechanics and Materials	

SEMESTER 2

For students taking SEF-009 in Semester 1			
SEF-030	CST	Communication in Science & Technology	(SEF030B)
One of:			
SEF-001	M1	Mathematics I	(SEF001B)
SEF-002	M2	Mathematics II	
Two of:			
SEF-004	C2	A Closer Look at Chemistry	
SEF-007	P3	Physics - Electricity and Atomic Physics	
Other options:			
SEF-006	P2	Physics - Fields and Waves	
SEF-024	IE	Introduction to Engineering	

MINIMUM PROGRESSION REQUIREMENTS

Pass a minimum of 105 credits (7 modules), including the following modules: SEF030, SEF001, SEF003, SEF005

<u>and</u> the following ADDITIONAL REQUIREMENTS (for specific degree programmes)

All MEng programmes with J-programme codes, and B891	Average of 65% over all 8 modules and a minimum of 65% in SEF001.

Any student failing to meet the JJY5 progression criteria will be considered for progression under the JJX5 programme code.

ASSESSMENT OF MODULES & EXAMINATIONS

MARKS AND GRADES FOR INDIVIDUAL MODULES

In order to pass an individual module you must achieve an overall mark of 40% or above, and meet any additional requirements specified in the module description.

How the Overall Mark for a Module is calculated

The module mark is normally calculated (to a precision of 1 decimal place) by taking a weighted average of the overall coursework mark and the mark achieved in the final examination. The relative contributions of coursework and examination to the aggregate mark depend on the module; these proportions are given in the module descriptions.

For some modules, however, there may be additional requirements that need to be satisfied, and if these additional requirements are not met then the overall mark awarded for a module may be lower than the weighted average mark described above. In such cases details of the specific additional requirements are given in the individual module descriptions.

The overall coursework mark is itself calculated from the percentage marks obtained in the individual assessments completed as part of the coursework for the module. These assessments will typically have different weightings, as indicated in information provided at the beginning of the module.

Grading of your Final Marks

For each module, in addition to the percentage mark, you will receive a letter-grade. These are assigned as described below.

Mark	Grade	
70% or above	A	
60-69%	B	
50-59%	C	Pass
45-49%	D	
40-44%	E	
39% or below	F	Fail

Thus, your final mark in a particular module might be given, for example, as 47.2 D or 81.7 A.

Publication of Marks

Most items of marked coursework should be returned to you on an individual basis and your recorded marks will be available to you via the SEFP Student Record System. However, for some elements of assessment, lists of marks may be published on noticeboards or websites. In such cases the marks will be listed against your College student ID number so as to maintain anonymity. If you prefer for your marks not to be included on such lists then you should inform the SEFP's Administrative Officer in writing by no later than 7th October.

SUBMISSION OF COURSEWORK

As previously noted, the satisfactory completion of coursework is a very important part of the learning process and the marks that you obtain for items of coursework will also generally contribute to your end-of-year result.

In order to receive full credit for your coursework you must ensure that it is submitted by the deadline, and following the instructions provided. If work is submitted late then it may be marked, but this is at the discretion of the module organiser, and any mark that you are awarded will be reduced from that which you would otherwise have obtained. If the work involves use of a computer, then you must make sure that you keep backup copies of the work so that you do not lose your work due to a computer problem. If you fail to do this and do lose work then this would not be considered as a valid extenuating circumstance, and you would generally be penalised for any late submission.

When submitting coursework you should attach an SEFP Coursework Cover Sheet (available from http://qmplus.qmul.ac.uk/mod/book/view.php?id=245324&chapterid=19326) to the front of your work, and complete all sections of this cover-sheet. In those cases where you are asked to submit coursework such as essays in a word processed form, or have completed other exercises involving the use of computer software, then module organisers may require you to submit your work in electronic form. This is so that it can be checked for originality and plagiarism. You may be asked to supply the electronic copy of your work either at the time of initial submission, or at a later date. If you fail to supply such an electronic copy when requested to do so then you will automatically receive a zero-mark for the item of work concerned.

Very occasionally, items of coursework do go astray, so you should keep a copy of any submitted coursework. If you have completed the work using a computer then you should keep an electronic copy of your work. If the work is handwritten then you are strongly advised to make a photocopy before submission and to keep this copy until the original copy of the work has been returned after marking.

In some modules you may be required to hand-in a portfolio of all your coursework at the very end of the module. This is so that it is available for inspection by external examiners. If this applies, then you will be told about this at the beginning of the course concerned and it is very important that you keep all copies of your coursework in a safe place. Failure to submit such a portfolio may result in you failing the entire module.

MISSED SUBMISSION OF COURSEWORK

In those cases where you have been issued with coursework and asked to submit it by a specified deadline then you should aim to ensure that you have completed and submitted the work sufficiently far in advance that your ability to submit the work is not affected by anything unexpected that happens near to the deadline. It is not normal practice on the SEFP to grant extensions to deadlines because of extenuating circumstances that occur near a coursework submission deadline. However, if you do miss a submission deadline you should still submit the work as soon as you are able to do so.

In exceptional circumstances, where your ability to complete the work during the allowed period has been affected by extenuating circumstances of a more extended duration, then you may apply for an extension to the submission deadline. In order to apply for an extension you must complete an EC2 Extenuating Circumstances claim form (which is available from http://qmplus.qmul.ac.uk/mod/book/view.php?id=245324&chapterid=19326), and submit it along with supporting documentation, well in advance of the deadline. You will then be informed if an extension is granted.

If you have been specifically asked to submit work in a class to be held on a particular date and you are unable to do so due to extenuating circumstances then you should contact the module organiser before the class and ask to either be permitted to submit the work electronically (*e.g.* by e-mail), or to be granted an opportunity to make a late submission (*e.g.* by submission in person on the following day).

If the module organiser indicates that a late submission is not possible then you should complete an EC2 Extenuating Circumstances form (which is available from http://qmplus.qmul.ac.uk/mod/book/view.php?id=245324&chapterid=19326), and submit it along with supporting documentation. Completion of this form does not necessarily mean that you will be granted compensation for the missed submission of the assessment – this will be decided after due consideration of the information and any supporting documentation that you have provided.

ABSENCE FROM IN-CLASS ASSESSMENTS

In those cases where coursework assessments are held in-class and you are prevented from attending the scheduled class by extenuating circumstances then you should contact the module organiser as soon as possible and ascertain if there is a second timetabled occasion on which it might be possible for you to attend the assessment. This will only very occasionally be possible; it will not be possible to make special arrangements just for yourself. If there is not a second opportunity to take the assessment then you should download and complete an EC2 Extenuating Circumstances form (which is available from http://qmplus.qmul.ac.uk/mod/book/view.php?id=245324&chapterid=19326). This form should normally be submitted to the SEFP's Administrative Office within 2 workings days of your return to College.

Completion of this form does not necessarily mean that you will be granted compensation for the missed assessment – this will be decided after due consideration of the information and any supporting documentation that you have provided. If your claim for ECs is accepted then allowance will be made for the missed assessment in the calculation of your final module mark. If your claim for ECs is not accepted then a mark of zero will be recorded for the assessment concerned.

If you do miss an assessment for good reasons then you may also be required to complete an alternative assignment, in which case you will be contacted by the module organiser with details of the new arrangements. If you fail to complete this alternative assessment then a mark of zero will again be recorded.

ABSENCE FROM AN EXAMINATION

If you miss an examination due to serious illness or other unavoidable circumstances, then you may apply for a certified absence. To do this you must:

- obtain a medical certificate or another official document (e.g. a police report and crime number) that clearly substantiates the reasons for your absence on the specific day of the examination. Details of the types of documentation that are acceptable are given in the Extenuating Circumstances guidance booklet which is published on the Advice & Counselling website (www.welfare.qmul.ac.uk).
- complete the online EC2 Extenuating Circumstances claim form which is available from the SEFP website:

  http://qmplus.qmul.ac.uk/mod/book/view.php?id=245324&chapterid=19326), attach the aforementioned supporting documentation to the printed hardcopy of the form, and submit it according to the instructions provided on the form.

Please note that misreading a timetable or late arrival due to travel problems, *etc*. would not normally be considered as valid extenuating circumstances.

Extenuating circumstances claims for any missed examinations in the May examination period (*i.e.* the EC2 form and supporting documents) must be returned to us by no later than 9th June 2017. If you fail to do this, or if there is inadequate evidence to substantiate your application for a certified absence, then you will simply be recorded as being absent from the examination.

If your claim for extenuating circumstances as explanation for a missed examination is accepted then you will be granted a deferred "first-sit" of the examination (which must be taken at the next scheduled opportunity, which is usually the August late summer examination period).

CONSIDERATION OF EXTENUATING CIRCUMSTANCES

Cases of extenuating circumstances are initially considered by a small subcommittee of the SEFP Progression Board. They will advise module organisers, the Subject Examination Boards and SEFP Progression Board on what action (if any) they recommend. All proceedings of the subcommittee are strictly confidential, and details of individual cases will not normally be discussed at the full Examination Board meetings or SEFP Progression Board meeting.

Important: it is your own responsibility to make a case for extenuating circumstances, not that of your departmental advisor, or any other member of staff. Please ensure that if you do have what you believe is a valid case, you complete the submission process in accordance with the guidelines and deadlines described in this handbook. It is not possible to make a retrospective claim for extenuating circumstances after you know your results.

RESIT EXAMINATIONS

The College's examination and assessment regulations pertaining to the SEFP permit students a maximum of two opportunities to pass any given module – the first attempt, and one resit opportunity.

If you do fail a module at the first attempt, and you need to pass additional modules in order to meet the conditions for progression, then you will generally be required to undertake a resit in the late summer (in August). When you resit a module, you are normally required to undertake a "synoptic" reassessment in which your mark in the resit is dependent entirely upon your performance in the reassessment, without any consideration of the first-sit marks. However, special regulations may apply to resits in modules which are normally assessed by coursework alone (see the module descriptions on p.48-79 for more details).

In exceptional circumstances the SEFP Progression Board has the discretion to offer candidates the possibility of deferring any resit examinations until the following year. In this instance the resit examinations are taken "out of attendance"; that is to say that candidates are not enrolled in the subsequent academic year, and are not permitted to attend classes, but are simply required to attend the examinations in the following year.

The maximum overall mark achieved after a resit is pegged to 40%, and you should be aware that the progression criteria for some degree programmes specify a requirement to obtain marks in individual modules in excess of 40%, thereby excluding resit candidates from consideration.

TIMETABLE OF THE EXAMINATION PROCESS

Final examinations for all modules take place in the main examination period which extends from late-April to early June. However, if you have not satisfied the attendance and coursework completion requirements for a module, and have as a consequence been de-registered from the module, then you will not be eligible to sit the final examination. The outline timetable for the complete examination process for the 2012/13 academic year is as follows (please check the website nearer the time for the exact dates):

Date	Event
Mid-March	Publication of College's Main Examination Timetable
Late March	Deadline for submission of applications for "special arrangements" for examinations (for students suffering from dyslexia etc).
2nd May - 9th June	**Main Examination Period** (for all SEF modules with examinations)
Mid June	Meetings of Subject Examination Boards (to approve marks in individual modules)
Late June	Meeting of SEFP Progression Board Module marks and provisional progression decisions released to SEFP students
Early July	Degree Examination Board Meeting (formal confirmation of results)
	Publication of Late Summer Examination Timetable

Late July	Formal transcripts issued by Queen Mary's Academic Registry (including, where appropriate, notification of eligibility for late summer resits)
Early to Mid-August	Late Summer Resit (LSR) Examinations – dates to be advised. (For students who have not met the progression conditions after the main examination period)
Early September	Results from LSR examinations released to SEFP students

RECORDS OF MARKS / ATTENDANCE & ACADEMIC TRANSCRIPTS

Two separate databases are used to maintain a record of your personal details and your academic record during the foundation year – it is important that you regularly check both databases to ensure that all the information is correct. Both these databases may be accessed from the SEFP programme website:

http://qmplus.qmul.ac.uk/course/view.php?id=3776

MySIS (the Queen Mary Student Information System)

This is the formal depository of records for all Queen Mary students. When you access this database you can:

- enter and update your personal details (contact address, telephone numbers *etc*.)
- enter and amend your module registration (this is subject to academic approval)
- check your overall marks in modules, upon completion of the examination process
- obtain a transcript showing your complete Queen Mary academic record

SEFP Student Record System

This is the database used for day-to-day administration of the programme. It holds duplicate copies of some of the information held on MySIS (e.g. contact details and module registration data), and can be used to check:

- your group allocations for each module (for tutorials, workshops *etc*.)
- your attendance record for all scheduled sessions for each module
- the marks you have obtained in individual components of coursework

Formal transcripts detailing your academic record are available from the Academic Registry – you should check their website (www.arcs.qmul.ac.uk/registry/) for instructions on how to obtain such transcripts.

MECHANISM FOR CONFIRMING PROGRESSION ONTO DEGREE PROGRAMMES AT QUEEN MARY

When you apply for admission to the SEFP via UCAS, you are admitted to an extended (or "integrated") degree programme code and your studies start in Year 0 (the "foundation year") of that four-year or five-year programme. The programme code will depend upon the admitting academic department, and indicates the types of degree which you are eligible to study after successfully completing the foundation year – a full list is given on p.23.

As a student of the SEFP on one of the above codes you are guaranteed a place on a degree programme run by your home academic department **provided you meet the academic criteria for progression** from the foundation year into year 1 of their degree programmes (see notes on p.25, and the page which details the diet and progression conditions for your specific programme). **You do not need to reapply through UCAS**.

CONFIRMING YOUR CHOICE OF PREFERRED DEGREE PROGRAMMES

Mid-way through Semester 2 you will be asked to confirm your preferred first and second choice of degree courses from the range offered by your home department. It is essential that you do this otherwise the SEFP Progression Board will not be able to consider your results and confirm your place for Year 1.

ROLE OF THE SEFP PROGRESSION BOARD

Once your results in each module have been confirmed by the Subject Examination Boards, the SEFP Progression Board meets to consider your complete set of results, and determines whether you have met the conditions for progression to your first or second choice degree courses. In the event that you do not meet the additional progression requirements for your chosen degree programmes, but have met the minimum requirements for progression, then the Progression Board will consider whether it is possible to make an offer of progression onto an alternative degree programme. NB it is possible to obtain sufficient module credits to pass the Foundation Programme but not progress within the chosen school. In such cases students will terminate their studies at Queen Mary with an exit award of FdCert (Foundation Certificate).

PROCEDURE FOR REQUESTING A CHANGE TO YOUR DEPARTMENT / PROGRAMME

If you decide part way through the foundation year that you wish to change the field in which you intend to pursue your degree-level studies, then you may apply to change your programme - however, such a transfer will not always be possible. You must first check that you are registered for an appropriate selection of modules for the programme to which you now wish to transfer. The next step is to go to see the SEFP's Administrative Officer, who will advise you of the rest of the process – this will involve obtaining the agreement of both your existing home department, and the department that you wish to become your new home department. Requests for a change of home department will only usually be considered if they are made within the first two weeks of each teaching semester (i.e. no later than 1st October for semester 1, and no later than 15th January for semester 2).

Module Descriptions

(Ordered by Module Code)

SEF001 MATHEMATICS I (M1)

Module Organiser / Lecturer(s): Dr Christian Luebbe

Scheduled Classes: This course may be taken in either Semester 1 (as SEF001/A) or Semester 2 (as SEF001/B). 3 lectures and 1 tutorial per week

Assessment: Examination: 70%
Coursework: 30%

Expected Background: Students taking this unit in Semester 1 should normally have A-level Mathematics (grade D or above) or equivalent. Students taking this module in Semester 2 must have taken SEF014 Principles of Mathematics in Semester 1.

Module Description & Aims

This module covers mathematical topics such as algebra, functions, geometry and trigonometry, and an introduction to the techniques of calculus. The module aims to:
(i) enable students who have followed the Principles of Mathematics course in Semester 1, to extend their mathematical knowledge and skills to the minimum level required to progress successfully onto a degree programme in the fields of science and engineering, and
(ii) reinforce and extend the existing mathematical skills of those students taking it in Semester I so that they are prepared for more advanced mathematical topics to be covered in Mathematics II in the second semester, and thereafter for degree programmes requiring a more thorough and comprehensive grounding in mathematics.

Module Synopsis

Algebra: Review of theory of indices, logarithms, quadratic equations and quadratic functions, logarithmic and exponential equations. Polynomials: the remainder and factor theorems, identical polynomials. Principle of undetermined coefficients, factorisation. Partial fractions. Inequalities involving the modulus sign.

Functions: The set-theoretical definition of a function; composite functions; inverse functions. The modulus of a function. Determination of the range or image set of a function. Odd and even functions; periodic functions, rational functions. Limits and asymptotes of functions. The algebraically-defined exponential and logarithmic functions.

Coordinate Geometry: Review of some of the theorems of circle geometry, properties of tangents to a circle and circular measure. Loci: the standard equations of conic sections, standard and parametric equation of curves. The standard and general equation of a circle.

Trigonometry: definition of the functions for an acute angle and extension to an angle of any sign and magnitude. Graphical representation of the functions. Basic relationships between trigonometric functions. Inverse trigonometric functions. Compound angle, multiple and sub-multiple angles. Trigonometric identities. The solution of trigonometric equations and

equations involving factor formulae over a restricted domain of the angle. Graphical solution of trigonometric equations. General solution of trigonometric equations.

Calculus: Fundamental elements of differential calculus; the derivative of a function, gradient at a point on a curve, the general gradient function, instantaneous rate of change. Second and higher order derivatives. Methods of differentiation: differentiation of powers, function of functions, products, quotients, trigonometric, logarithmic and exponential functions. Differentiation involving parameters. Application of differentiation: equations of the tangent and normal to a curve, maximum, minimum and turning points, simple rates of change. Elements of integral calculus: standard integrals; differentiation reversed. Definite integrals; area under the curve involving standard integrals.

Learning Outcomes

By the end of the course you should be able to:

- Solve a wide variety of logarithmic, exponential and trigonometric equations
- Solve problems relating to a circle, parabola, ellipse and hyperbola
- Apply the remainder theorem and factors to polynomials
- Deal with inequalities involving the modulus sign
- Determine functions of functions, and find the inverse of a function
- Differentiate and integrate various types of functions
- Apply differentiation to locate maxima and minima, and sketch simple polynomials
- Solve problems involving simple rates of change
- Evaluate definite integrals and calculate the area under a curve.

Assessment Details and Completion Requirements

The coursework will consist of:

- weekly exercises
- 2 tests (normally in weeks 7 and 12 - but check website to confirm dates).

The final examination is of 2 h 30 min duration.

Students must achieve at least 40% in their final exam as well as an overall mark of at least 40% in order to pass this module.

Resits: student who fail the module at the first-attempt are required to undertake a synoptic reassessment consisting of a 2 h 30 min examination.

Permitted Calculators

The *Casio FX 85GTplus* is the only calculator model permitted in tests and the final exam.

Recommended Textbooks

Core Maths for Advanced Level, by L. Bostock & S. Chandler (3rd ed., published by Nelson Thornes, 2000) ISBN 978-1-4085-2228-8.

SEF002 MATHEMATICS II (M2)

Module Organiser / Lecturer(s):	Dr Christian Luebbe
Scheduled Classes:	Semester 2 3 lectures and 1 tutorial per week
Assessment:	Examination: 70% Coursework: 30%
Expected Background:	Students must have taken SEF001 Mathematics I in Semester 1

Module Description & Aims

This module aims to provide students with a more extensive knowledge of calculus (especially in techniques of integration) and an introduction to complex numbers, numerical methods, differential equations, vector analysis and power series. It is appropriate for those students progressing onto degree programmes in mathematical sciences, and those degree programmes in physical science and engineering which require a more thorough and comprehensive grounding in mathematics.

Module Synopsis

Calculus: review of the methods of differentiation: parametric and inverse trigonometric functions. differentials: small increments and comparative rates of change. Methods of integration: exponential and logarithmic functions, trigonometric functions, integration by recognition, product function, change of variable and change of form, definite integration by parts. Integration of rational functions; Integration using partial fractions. Integration of powers and products of trigonometric functions; integration of irrational functions; standard substitutions. Improper integrals, numerical method of definite integration. Applications of integral calculus: determining plane area; approaches to determining the volume of solids; volumes of revolution.

Numerical Methods: locating roots of equations - change of sign method; interval bisection method; the Newton–Raphson method.

Complex Number Theory: the algebra of complex numbers: Cartesian form; the modulus and argument of a complex number; the modulus-argument form; conjugate complex numbers. Representation of complex numbers; the Argand plane, the vector association. Representation of addition, subtraction, multiplication and division.

Sequences and Series: permutations and combinations: basic concepts, factorial notation, fundamental relations. Binomial theorem and applications. Summation of finite series; the method of difference for polynomial terms; the natural number series; application of partial fractions. Infinite series and their convergence. The expansion of a function: Maclaurin's series; the expansions of the logarithmic, exponential and trigonometric functions. Other methods of expansion. Applications of power series expansions. Approximations.

Vector Analysis: vector quantities and their representation, Vector algebra: basic concepts; angle between two vectors; multiplication and division of a vector by a real number. Position vectors; position vector of a point; resolution of a vector in two and three dimensions.

Learning Outcomes

By the end of the courses you should be able to:

- Solve equations of a more complex nature than those encountered in SEF014/SEF001
- Solve simple problems in three dimensional co-ordinate geometry
- Represent and manipulate complex numbers in various forms
- Differentiate and integrate a wide range of functions
- Solve problems involving comparative rates of change
- Find the area under the curve and the volume of revolution
- Find roots of equations using numerical approximation
- Solve problems involving finite, infinite and power series

Assessment Details and Completion Requirements

The coursework will consist of:

- weekly exercises
- 2 tests (normally in weeks 7 and 12 - but check website to confirm dates).

The final examination is of 2 h 30 min duration.

Students must achieve at least 40% in their final exam as well as an overall mark of at least 40% in order to pass this module.

Resits : student who fail the module at the first-attempt are required to undertake a synoptic reassessment consisting of a 2 h 30 min examination.

Permitted Calculators

The *Casio FX 85GTplus* is the only calculator model permitted in tests and the final exam.

Recommended Textbooks

Core Maths for Advanced Level, by L. Bostock & S. Chandler (3rd ed., published by Nelson Thornes, 2000) ISBN 978-1-4085-2228-8.

SEF003 INTRODUCTORY CHEMISTRY (C1)

Module Organiser*/ Lecturer(s): Dr Sarantos Marinakis* & Dr Lilia Milanesi

Scheduled Classes:	Semester 1 2 lectures per week; plus one workshop (90 mins) per week.	
Assessment:	Examination: Coursework:	70% 30%
Expected Background:	GCSE Science, or equivalent.	

Module Description & Aims

This module introduces essential principles and concepts in chemistry, including atomic structure, electronic structure of atoms, chemical bonding, stoichiometry of reactions, measures of concentration, oxidation states and redox chemistry, acids and bases, and an introduction to organic chemistry.

Module Synopsis

Introduction to atomic structure: electrons, protons and neutrons, mass and atomic numbers, isotopes and radioactivity, measures of size of atoms and ions.

The electronic structure of atoms: Bohr's model of the atom, quantum numbers and introduction to the concept of orbitals and orbital shape, electron configurations, Aufbau principle, Hund's rule and the Pauli exclusion principle, valence and core electrons.

Stoichiometry and concentrations: empirical and molecular formulae, balancing chemical equations, the concept of moles and molarity.

Radioactivity: Review of radioactive processes, balancing nuclear reactions, determination of rate and half-life of radioactive processes, carbon dating.

Electromagnetic spectrum: Regions of electromagnetic spectrum, determination of wavelength, frequency and energy of radiation.

Chemical bonding: ionic, metallic and covalent bonding; molecular orbital descriptions of bonding in simple molecules; polarisation of bonds; bond strengths and lengths.

Properties of gases, liquids and solids: Interatomic and intermolecular forces and the ideal gas law.

Introduction to organic chemistry: identification of functional groups and classes of organic compounds, organic nomenclature, the hybridisation approach to rationalising bonding, isomerism.

Acids and bases: Brønsted–Lowry theory of acids and bases, strong and weak acids, acid-base pairs, pH and pK_a, buffers solutions, Lewis acids and bases

Learning Outcomes

By the end of the module you should be able to:

- Identify the atomic and electronic structure of elements, given their mass and atomic numbers.
- Balance chemical equations and perform calculations relating mass, concentration and molar quantity.
- Describe the various types of bonding that occur within matter, and rationalise the bonding in simple molecules.
- Explain the concept of acids and bases, and perform calculations involving acids, bases and buffer solutions.
- Describe the various forms of radioactive decay and determine decay constants and half-lives of decay processes both mathematically and graphically.
- Explain the behaviour of gases, liquids and solids.
- Identify various classes of simple organic compounds and isomers of compounds, and name representative molecules from such classes of compounds.
- Demonstrate knowledge of the role and importance of chemical reactions in selected areas of biology and environmental science.

Assessment Details and Completion Requirements

The 30% coursework contribution to the module assessment will include:

- in-class workshop and practical assessments (6%)
- bi-weekly online homework exercises (10%)
- in–class tests (14%)

The final examination (70%) is of 2 h 30 min duration.

Students must achieve an overall mark of at least 40% in order to pass this module.

Resits : student who fail the module at the first-attempt are required to undertake a synoptic reassessment consisting of a 2 h 30 min examination.

Recommended Textbooks

Chemistry: *The Central Science* (13e), T.E. Brown, H.E. LeMay, B.E. Bursten, C. Murphy, P. Woodward, Pearson, Harlow, 2015, ISBN 10: 1-292-05771-8

This textbook includes an online access code required for the homework exercises and it is therefore mandatory that each student obtains his/her own copy. Additional alternative textbooks available in the Library will be mentioned in the first lecture.

Additional Information

This module will implement an online homework system. The textbook and access code package may be purchased from the University Bookshop at a discounted rate. The access code alone can be purchased though the Pearson MyLab website. It is not advisable to purchase the book elsewhere as there are many different editions.

SEF004 A CLOSER LOOK AT CHEMISTRY (C2)

Course Organiser*/ Lecturer(s):	Dr Tippu S. Sheriff* & Dr Cristina Giordano
Scheduled Classes:	Semester 2 2 lectures and one laboratory class (up to 3 hrs) or 90 min workshop per week.
Assessment:	Examination: 70% Coursework: 30%
Expected Background:	Students must have taken the SEF003 *Introductory Chemistry* module in Semester 1

Module Description & Aims

This module expands upon topics covered in SEF003 and provides a further introduction to the fundamentals of chemistry; including topics such as thermochemistry, reaction kinetics and equilibria, molecular structure, aspects of organic chemistry, and spectroscopic methods.

Module Synopsis

Revision of some basic topics: units, significant figures; moles, molarities and dilutions.

Thermochemistry: definition of enthalpy, calculation of enthalpy changes, mean bond enthalpies, Hess's Law, entropy, Gibbs free energy, spontaneous reactions.

Chemical kinetics: rates of reactions, factors affecting rates, order of a reaction, rate constants, activation energies and the Arrhenius equation, mechanisms, transition states, experimental determination of rates. Catalysts; effect on rates, mechanism of action.

Chemical equilibria: equilibria as a dynamic phenomenon, definition of K_c and K_p, calculation of equilibrium concentrations, Le Chatelier's principle, relation between free energy changes and the equilibrium constant.

Organic chemistry: specific examples of the structure and reactivity of selected organic compounds: including alkenes, haloalkanes, aromatic and carbonyl compounds.

Molecular spectroscopy: infrared (IR) and nuclear magnetic resonance (NMR) spectroscopy, and their applications in determining molecular structure.

Learning Outcomes

By the end of the courses you should be able to:

- Understand the basic principles of thermodynamics and carry out calculations on enthalpy changes in reactive systems.
- Describe the nature of equilibrium in a chemical context and the factors that influence the position of equilibrium.
- Define the rate, order and activation energy of a chemical reaction and understand how catalysts affect the kinetics of reactions.
- Discuss the reactivity of a range of organic compounds, including alkenes, halogenated alkanes, aromatic and carbonyl compounds.
- Understand how spectroscopic techniques such as IR and NMR may be used to determine the structure of molecules.

Assessment Details and Completion Requirements

The 30% coursework contribution to the module assessment will consist of:

- Three in-class tests and one workshop assessment (12%)
- Online homework exercises (6%)
- Four laboratory exercises (8%)
- Mock examination paper (3%)
- Attendance record across all module components (1%).

The final examination (70%) is of 2 h 30 min duration.

Students must achieve an overall mark of at least 40% in order to pass this module.

Resits : student who fail the module at the first-attempt are required to undertake a synoptic reassessment consisting of a 2 h 30 min examination.

Recommended Textbooks

Chemistry: *The Central Science* (13e), T.E. Brown, H.E. LeMay, B.E. Bursten, C. Murphy, P. Woodward, Pearson, Harlow, 2015, ISBN 10: 1-292-05771-8

This textbook includes an online access code required for the homework exercises (see SEF003 module description for more details).

SEF005 PHYSICS - MECHANICS AND MATERIALS (P1)

Module Organiser / Lecturer(s):	Dr Richard Donnison
Scheduled Classes:	Semester 1 3 lectures and one 1-hour workshop per week
Assessment:	Examination: 80% Coursework: 20%
Expected Background:	Students should have: GCSE Mathematics Grade C, or equivalent, GCSE Science, or equivalent.

Module Description & Aims

This is one of three modules providing a detailed introduction to concepts of physics. This course covers the following topics: Newtonian mechanics, including statics, linear and rotational dynamics; forces and energy, and their role in the molecular structure of matter, properties of liquids and gases; basic concepts of thermodynamics.

Module Synopsis

- Dynamics: scalars, vectors; speed and velocity, acceleration; motion under gravity.
- Force and energy: momentum; Newton's laws of motion; work, energy, power; conservation of momentum and energy; elastic and inelastic collisions; energy and efficiency.
- Statics: equilibrium of forces; moments and turning forces; centre of gravity; friction; conditions for equilibrium.
- Rotational dynamics: Uniform circular motion; angular acceleration;
- Building blocks of matter: quarks and leptons; protons, neutrons and electrons; atoms; molecules and their measurement; states of matter; intermolecular forces.
- Strengths of solids: behaviour of solids; elasticity; x-ray diffraction; structure of metals; glass; polymers.
- Thermal properties: temperature; heat capacity; thermal expansion; thermal radiation
- Gases: ideal gases; kinetic theory of gases; diffusion; real gases.

Learning Outcomes

By the end of the course students should be able to:

- Explain basic concepts in Newtonian mechanics
- Explain basic concepts involving energy, forces and motion
- Describe and account for the different states of matter
- Account for the properties of a range of materials
- Answer qualitative and quantitative questions at an appropriate level on the topics listed in the Module Synopsis

Assessment Details and Completion Requirements

Coursework assessment is based on a contribution from weekly homework and other exercises, the final examination is of 2 h 30 min duration.

Students must achieve an overall mark of at least 40% in order to pass this module.

Resits : student who fail the module at the first-attempt are required to undertake a synoptic reassessment consisting of a 2 h 30 min examination.

Recommended Textbooks

New Understanding Physics for Advanced Level, by Jim Breithhaupt
(4th edition, published by Nelson Thornes, 1999)

Other text books:
A-level Physics, by Roger Muncaster. (4th edition, published by Nelson Thornes, 1993).
Advanced Physics, by Tom Duncan (4th edition, published by John Murray, 1994).
Physics, by Robert Hutchings (published by Nelson, 1992).

SEF006 PHYSICS - FIELDS AND WAVES (P2)

Module Organiser / Lecturer(s): Dr Alexandre Polnarev

Scheduled Classes: Semester 2
3 lectures and one 1-hour workshop per week

Assessment: Examination: 80%
Coursework: 20%

Expected Background: Students must have taken the SEF005 *Physics – Mechanics & Materials* unit in Semester 1. Familiarity with mathematical topics taught in the SEF014 and SEF001 modules is also expected.

Module Description & Aims

This is one of three modules providing a detailed introduction to concepts of physics. This course covers the following topics: the role of fields, in particular the gravitational and electromagnetic fields; the description of natural phenomena and the widespread occurrence of oscillations and wave motion; examples from the physics of sound and light.

Module Synopsis

- Gravitational Fields: Force and potential; Newton's theory of gravitation; planetary fields; satellite motion.
- Electric Fields: Field patterns; uniform electric fields; the inverse square law; charged spheres.
- Magnetic Fields: Magnetic field patterns; magnetic field strength; motors and meters; charged particles in magnetic fields; fields around current carrying wires.
- Electromagnetic Fields: Principles of electromagnetic induction; generators; induction motors; transformers; self-inductance :basic ac theory.
- Oscillations: Description of oscillations; principles of simple harmonic motion; oscillation of loaded springs; the simple pendulum; energy of oscillating systems; forced oscillations and resonance.
- Wave Motion: Progressive waves; wave properties; qualitative treatment of stationary waves; mechanical waves and resonance.
- Sound: Nature of sound waves; properties of sound; vibrations of strings and pipes; the Doppler effect.
- Physical Optics: Wave nature of light; interference by thin films and double slits; diffraction by slits and obstacles; diffraction gratings and spectra.
- Electromagnetic spectrum: production, detection and uses of different parts of the spectrum

Learning Outcomes

By the end of the course students should be able to:

- Describe and apply the concept of a field to a range of natural phenomena.
- Describe and apply the theory of waves to a ranger of natural phenomena.
- Answer qualitative and quantitative questions at an appropriate level on the topics listed in the Module Synopsis.

Assessment Details and Completion Requirements

Coursework assessment is based on a contribution from weekly homework and other exercises, plus contributions from each of two tests to be held during the term.
The final examination is of 2 h 30 min duration.

Students must achieve an overall mark of at least 40% in order to pass this module.

Resits : student who fail the module at the first-attempt are required to undertake a synoptic reassessment consisting of a 2 h 30 min examination.

Recommended Textbooks

New Understanding Physics for Advanced Level, by Jim Breithhaupt
(4th edition, published by Nelson Thornes, 1999)

Other text books:
A-level Physics, by Roger Muncaster. (4th edition, published by Nelson Thornes, 1993).
Advanced Physics, by Tom Duncan (4th edition, published by John Murray, 1994).
Physics, by Robert Hutchings (published by Nelson, 1992).

SEF007 PHYSICS - ELECTRICITY AND ATOMIC PHYSICS (P3)

Module Organiser / Lecturer(s): Dr Richard Donnison

Scheduled Classes: Semester 2
3 lectures and one 1-hour workshop per week

Assessment: Examination: 80%
Coursework: 20%

Expected Background: Students must have taken the SEF005 *Physics – Mechanics & Materials* unit in Semester 1. Familiarity with mathematical topics taught in the SEF014 and SEF001 modules is also expected.

Module Description & Aims

This is one of three modules providing a detailed introduction to concepts of physics. This course covers the following topics: aspects of electrical theory (current and charge, resistance, capacitors, circuits and meters); atomic structure and properties of the electron; the nucleus, radioactive decay and nuclear energy; an introduction to quantum physics.

Module Synopsis

- Current and Charge: Electrical conduction and understanding electricity, drift velocity; potential difference; resistance, addition in parallel and series; circuits and cells; Kirchhoff's Laws, analysis with loops; parallel-plate capacitor; capacitors in DC circuits; stored energy; charging and discharging of capacitors.
- Meters and Bridges: Ammeters and voltmeters; potentiometers;
- Properties of the Electron: Discovery of the electron, discharge tubes; specific charge; electron beams in electric and magnetic fields; electron tubes, the diode and the oscilloscope; measurement of electron charge with Millikan's apparatus, fractional charged quarks; Einstein, the photon and photoelectric effect.
- Electrons inside the Atom: Ionisation and excitation; hydrogen spectrum, energy levels; Bohr model of the atom, theory of energy levels; periodic table; X-rays and their uses.
- Radioactivity: Discovery and properties of alpha, beta and gamma radiations; radiation detectors; the nucleus, Rutherford scattering, discovery of the neutron; theory of radioactive decay, half-life; nuclear stability, isotopes; uses of radioactivity, tracers, cancer treatment, carbon dating; health hazards.
- Nuclear Energy: Einstein's relativity, mass and energy, $E = mc^2$; nuclear force; binding energy; nuclear fission, chain reactions, the atom bomb, liquid drop model; nuclear reactors; nuclear fusion, European Jet project, solar energy.
- Particles and Patterns: Nature of light, wave-particle duality, diffraction of electrons; wave mechanics, Schrödinger's equation and probability; Uncertainty principle.

Learning Outcomes

By the end of the course students should be able to:

- Describe the atomic nucleus and account for radioactive decay and nuclear energy
- Describe the behaviour of the electron
- Explain the basic ideas of quantum physics
- Answer qualitative and quantitative questions at an appropriate level on the topics listed in the Module Synopsis

Assessment Details and Completion Requirements

Coursework assessment is based on a contribution from weekly homework and other exercises. The final examination is of 2 h 30 min duration.

Students must achieve an overall mark of at least 40% in order to pass this module.

Resits : student who fail the module at the first-attempt are required to undertake a synoptic reassessment consisting of a 2 h 30 min examination.

Recommended Textbooks

New Understanding Physics for Advanced Level, by Jim Breithhaupt
(4th edition, published by Nelson Thornes, 1999)

Other text books:
A-level Physics, by Roger Muncaster. (4th edition, published by Nelson Thornes, 1993).
Advanced Physics, by Tom Duncan (4th edition, published by John Murray, 1994).
Physics, by Robert Hutchings (published by Nelson, 1992).

SEF009 ENGLISH I (E1)

Module Organiser / Lecturer(s):	Ms Margot Farnham (Language Centre/SLLF)
Scheduled Classes:	Semester 1 Three two-hour workshops per week for eleven weeks
Assessment:	Examination: 50% Coursework: 50%
Expected Background:	Students should have a basic knowledge of English grammar and be able to write an essay using simple sentences (equivalent to, at least, IELTS 5.0).

Module Description & Aims

This module is designed to develop the English language skills of students who do not speak English as a first language and whose English language skills have been identified as needing development (based upon previous qualifications, and an assessment at the time of enrolment). At the end of this module students should be prepared to undertake the SEF030 *Communication in Science & Technology* module.

Module Synopsis

Lecture Comprehension and Seminar Skills – to improve students' listening and note-taking skills and their ability to speak in academic contexts.

Academic Reading and Study Skills – to develop students' ability to deal with reading scientific textbooks and websites, to extend their range of vocabulary and to introduce students to critical thinking and alternative strategies for studying in an academic environment.

Introduction to Academic Writing – to develop students' ability to structure an academic essay and to write accurately and clearly.

Learning Outcomes

By the end of the module students should:

- possess a wider range of skills for successful study in an academic environment.
- be able to communicate more effectively both orally and in writing in English.
- be better prepared to give formal presentations and able to participate more actively in seminars.

Assessment Details and Completion Requirements

Students complete a range of written work, such as an essay, summary and process description, and also participate in an interview based on a non-technical scientific article and follow-up questions, as well as in a group presentation. They also keep a learning journal in which they address certain issues covered on the course and reflect on their progress through the course.

The final examination is of 2 h 30 min duration. Students must achieve an overall mark of at least 40% in order to pass this module.

Resits : student who fail the module at the first-attempt are required to undertake a synoptic reassessment consisting of a 2 h 30 min examination.

Recommended Textbooks

'Study Skills Handbook', 'Skills for Success' and 'Critical Thinking Skills' by Stella Cottrell. Students are also recommended to read 'New Scientist' and science pages of serious newspapers like the 'Guardian'.

Additional Information

This module is a prerequisite for the SEF030 module for students who are non-native English speakers and who do not have at least IELTS 6.5 or equivalent. Such students should register for this module in Semester 1, and take the SEF030 module in Semester 2.

This module is optional for other international students (such students should consider carefully whether they would benefit from further training in basic English language skills, or whether registration for this module might be required by their sponsor). The module may also be taken by home (UK/EU) students if English is not their first language, with the agreement of their departmental advisor.

Some students who register for this module will be advised at the beginning or end of the semester that they would benefit from extra assistance with their English communication skills. Such students may be required to attend additional tutorials (over and above the scheduled classes mentioned above or under SEF030) as part of the completion requirements for this module.

SEF014 PRINCIPLES OF MATHEMATICS (PoM)

Module Organiser / Lecturer(s):	Dr Christian Luebbe
Scheduled Classes:	Semester 1 3 lectures and 1 tutorial per week
Assessment:	Examination: 70% Coursework: 30%
Expected Background:	GCSE Mathematics, or equivalent.

Module Description & Aims

This module reviews mathematical notation, basic principles of arithmetic and algebra, functions and graphs, coordinate geometry and trigonometry; and demonstrates how these principles may be applied to solve problems in science and mathematics.

In conjunction with the more advanced Mathematics I module (which is taken in the following semester), this module aims to provide students with the minimum level of mathematical knowledge and skills needed to successfully undertake a degree in the fields of science and engineering.

Module Synopsis

Algebra: Mathematical symbols and notation. Essential arithmetic. Elementary algebra: factorisation, algebraic fractions, rearranging formulae and substitution. Theory of indices. Standard form of numbers. Connected quantities: direct and inverse proportion. Linear and quadratic equations. Factor theorem. Simultaneous equations. Inequalities. Logarithms and exponentials. Logarithmic equations. The Sigma notation. Arithmetic and geometric progressions, the sum to infinity of a convergent geometric progression.

Functions and Graph: Definition of a function: Domain and range of functions. Inverse function. Cartesian coordinates. The graphs of common functions: linear, quadratic, and cubic functions, exponential and logarithmic functions. Simple transformation of functions.

Plane and Coordinate Geometry: Properties of circles, triangles and regular polygons. Properties of straight lines. Tangents. Points in a plane, length of a line joining two points, mid-point of a line, coordinates of a point dividing a line in a given ratio, gradient, parallel and perpendicular lines. Equation of a straight line: various forms of equation of a line, including the general form; the angle between lines, conditions for lines to be parallel or perpendicular; intersection of straight lines. Reduction of non-linear relations to give a linear graph.

Trigonometry: Angular measure: degrees, radians; length of an arc and area of a sector of a circle. The six trigonometric ratios. The solution of triangles: sine and cosine rules, formulae for the area of a triangle. Applications of trigonometry: heights, distances, three-dimensional problems.

Learning Outcomes

By the end of the course students should be able to:

- apply the basic laws of arithmetic and algebra to a variety of problems.
- solve simple problems involving indices and logarithms
- solve problems involving linear and quadratic equations.
- solve a variety of problems involving straight lines, and plane figures.
- solve simple problems involving the geometry of lines, triangles and circles.
- solve problems involving the six trigonometric ratios.
- sketch the graphs of simple functions
- solve problems involving sequences and series.

Assessment Details and Completion Requirements

The coursework will consist of:

- weekly exercises
- 2 tests (normally in weeks 7 and 12 - but check website to confirm dates).

The final examination is of 2 h 30 min duration.

Students must achieve at least 40% in their final exam as well as an overall mark of at least 40% in order to pass this module.

Resits : student who fail the module at the first-attempt are required to undertake a synoptic reassessment consisting of a 2 h 30 min examination.

Permitted Calculators

The *Casio FX 85GTplus* is the only calculator model permitted in tests and the final exam.

Recommended Textbooks

Core Maths for Advanced Level, by L. Bostock & S. Chandler (3rd ed., published by Nelson Thornes, 2000) ISBN 978-1-4085-2228-8.

SEF015 DISCRETE MATHEMATICS (DM)

Module Organiser / Lecturer(s):	Prof. Thomas Mueller
Scheduled Classes:	Semester 2 2 lectures and one 2-hour workshop per week
Assessment:	Examination: 70% Coursework: 30%
Expected Background:	Students must have taken the SEF026 *Essential Foundation Mathematics* module in Semester 1.

Module Description & Aims

This module introduces students to arithmetic beyond the integers and rational numbers: modulo arithmetic, and the arithmetic of polynomials, logical propositions and sets. Applications of these concepts in prepositional logic, relational algebra and graph theory will also be covered.

Module Synopsis

Polynomial arithmetic: addition, multiplication, the laws of arithmetic; rational polynomials, polynomial division and partial fractions; powers of binomials using Pascal's Triangle.

Propositional logic: propositions; conjunction and disjunction and negation and their laws of arithmetic; implication and double implication; truth tables and proofs of equivalence of propositions, tautology and contradiction.

Prepositional Logic and Proof: prepositions and quantifiers, applications to specification of sets; applications to proof: contrapositive, converse and contradiction.

Naive Set Theory: sets; set operations including union and intersection; laws of set arithmetic including De Morgan's laws, Venn diagrams and applications to counting problems.

Relations and mappings: Cartesian product of sets; relations and their properties: symmetry, reflexivity and transitivity; equivalence relations and partially ordered sets; mappings and their properties; injectivity, surjectivity and bijectivity; functions and inverse functions.

Graph Theory: graphs; connectivity, cycles and trees.

Learning Outcomes

By the end of the module students should:

- Appreciate that arithmetic and the laws of arithmetic for integers and rational numbers have counterparts in the arithmetic of polynomials, propositions and sets.
- Be able to carry out simple calculations for all the above.
- Be able to construct and analyse simple relations using set operations
- Define functions in terms of mappings between sets, and analyse their properties, including invertibility.

- Construct, represent and analyse graphs and appreciate their role in modelling problems of connectivity and partitioning.
- Understand how prepositional logic extends propositional logic and be able to recognise and construct simple logical arguments expressed using prepositional logic.

Assessment Details and Completion Requirements

The coursework is made up of a number of homework exercises and one mid-semester test. The final examination is of 2 h 0 min duration.

Students must achieve an overall mark of at least 40% in order to pass this module.

Resits : student who fail the module at the first-attempt are required to undertake a synoptic reassessment consisting of a 2 h 0 min examination.

Recommended Textbooks

Discrete Mathematics by S. Lipschutz & M. Lipson (Schaum's Outline Series; published by McGraw-Hill, 1997)

Note that this book contains much more material than is required for this course. For example, it also covers much of the material taught in the MTH4104 *Introduction to Algebra* module of the Mathematics BSc degree programme. You may well be able to complete this module without the aid of a textbook, but this book will enable you to read further in the subject if you are coping well with the course or will give you further explanation, discussion and examples if you are struggling with it.

SEF024 INTRODUCTION TO ENGINEERING (IE)

Module Organiser / Lecturer(s):	Dr Raza Shah
Scheduled Classes:	Semester 2 2 lectures and one 2-hour workshop per week.
Assessment:	Examination: 70% Coursework: 30%
Expected Background:	Students must have taken the SEF005 *Physics: Mechanics and Materials* module in Semester 1, or have studied Physics to at least to AS-level.

Module Description & Aims

This module aims to introduce students to the application of scientific principles to solve practical engineering problems. It includes discussion of the development of the engineering field and standards, as well as basic engineering principles, mechanical applications and stress analysis

Module Synopsis

Engineering: The purpose of engineering, the spectrum of activities in engineering, theory and practice as applied to engineering problems, the need for standardisation and the development of standards.

Mechanical Applications: Performance criteria for moving vehicles. Introduction to the effects of friction, 2nd moments of mass, and applications including the use of flywheels. Applications of linear and rotational motion to simple mechanical transmission systems

Stress Analysis: Construction of shearing force and bending moment diagrams for simple beam systems (including cantilevers); calculation of 2nd moments of area for simple sections and introduction to tables for practical sections; description of effects of 2nd moments of area on the stress and deflection of beams, with practical examples.

Mechanics of Materials: Mechanical properties of commonly used engineering materials; thermal stresses in large structures, the use of factors of safety in design.

Reciprocating I.C. engines: The 4-stroke cycle, design considerations for thermal expansion and contraction in reciprocating I.C. engines, thermal effects on components made from different materials.

Learning Outcomes

By the end of the course students should be able to:

- Explain the purpose and development of standardisation within the profession.
- Solve simple problems relating to mechanical applications of linear and rotational motion.
- Describe some positive and negative effects of friction in engineering situations.
- Solve basic problems relating to stresses and strains in components of simple shape.
- Describe the solutions to basic problems relating to IC engines.

Assessment Details and Completion Requirements

Coursework will consist of three in-course tests. The final examination is of 2 h 0 min duration.

Students must achieve an overall mark of at least 40% in order to pass this module.

Resits : student who fail the module at the first-attempt are required to undertake a synoptic reassessment consisting of a 2 h 0 min examination.

Recommended Textbooks

Mechanical Engineering Science, by J. Hannah and M.J. Hillier
(1st edition, published by Prentice Hall, 1999).

SEF026 ESSENTIAL FOUNDATION MATHEMATICAL SKILLS (EFM)

Module Organiser / Lecturer(s):	Prof. Shahn Majid
Scheduled Classes:	Semester 1 1 lecture and 1 tutorial per week
Assessment:	Tests (two of) 50% Examination: 50%
Expected Background:	GCSE Mathematics, or equivalent.

Module Description & Aims

This module aims to provide students with the opportunity to develop verifiable fluency in elementary arithmetic and algebra, as is expected in a student taking a sciences course at university. It will also enable students to become fluent, accurate and self-critical in basic arithmetic and algebra, and to develop a taste for computations of respectable complexity.

Module Synopsis

This module is designed to strengthen manipulative skills in elementary arithmetic and algebra, including integers, fractions, decimal representations, estimation, polynomials, rational functions, square roots, inequalities, linear and quadratic equations.

Learning Outcomes

By the end of the course the student should be able to:

- Solve linear (simultaneous) equations.
- Make simple estimations
  (rounding to the nearest integer, ten, hundred, thousand etc.).
- Sort decimals in a given order, convert numbers from numeral form to their word name, and vice-versa.
- Rounding numbers to a given number of decimal places or significant figures.
- Carry out mixed arithmetical operations in the correct order.
- Calculate the GCD and LCM of pairs of rational numbers.
- Simplify expressions for rational numbers.
- Convert between fraction and decimal notation for rational numbers.
- Manipulate simple algebraic expressions.
- Multiply and divide polynomials in one indeterminate.
- Simplify rational expressions in polynomials with one indeterminate.
- Use simple properties of inequalities.

Assessment Details and Completion Requirements

This module is assessed by means of two 2-hour multiple-choice tests (held during the course, at times to be announced by the module organiser) and a 2-hour examination of similar format during the main College examination period in May/June.

The marks obtained on the MCQ tests and examination are scaled to a percentage mark using a non-linear scaling procedure (see the module information sheet, issued during the course), before being combined to give the overall module mark.

Students must achieve an overall mark of at least 40% in order to pass this module.

Resits : student who fail the module at the first-attempt are required to undertake a synoptic reassessment consisting of a 2 h 0 min examination.

Recommended Textbooks

The course web-book (accessible from the SEFP website)

SEF030 COMMUNICATION IN SCIENCE & TECHNOLOGY (CST)

Module Organiser: Ms Margot Farnham
(Language Centre, SLLF)

Scheduled Classes: 2 X 2-hour workshops per week with the Language Centre tutors in:
Semester 1 (for students not taking SEF009), **or**
Semester 2 (for students taking SEF009).

Assessment: Examination: 50%
Coursework: 50%

Expected Background: Students whose main language is English will normally take this course in semester 1; international students will normally take this course in semester 2, having first taken SEF009 *English I* course unit in semester 1 (see additional notes below).

Module Description & Aims

This module addresses communication skills for scientists and engineers, and also seeks to reinforce other generic skills of a more technical nature. Topics covered include study skills, academic writing, data presentation and analysis, information retrieval, and oral communication skills.

Module Synopsis

Workshop Topics with the language Centre

- Basic study skills: time management; reading skills; effective listening and note-taking in lectures.
- Academic writing: preparation and writing of short essays and longer reviews; elements of good style and grammar; critical thinking; structure and style of reports; plagiarism, referencing and bibliographies.
- Topics in contemporary science
- Oral communication: preparation and presentation of talks, effective speaking and debate.
- Data presentation, interpretation and analysis
- Electronic information sources, search techniques & data retrieval
- Revision techniques and exam strategies

Learning Outcomes

By the end of the module students should be able to:

- Manage their study time more effectively
- Assimilate information from lectures and other sources in an efficient manner
- Express themselves clearly in the language and vocabulary of their subjects
- Give a well prepared oral presentation
- Present data in reports in a readily-assimilated fashion, and in accord with scientific conventions
- Research and write an essay in a suitable style with a suitably referenced bibliography

Assessment Details and Completion Requirements

This module is assessed by both coursework and examination. The coursework consists of assignments associated with the workshops, including writing assignments and exercises relating to discussion and presentation. The final examination is of 2 h 0 min duration.

Students must achieve an overall mark of at least 40% in order to pass this module.

Resits : student who fail the module at the first-attempt are required to undertake a synoptic reassessment consisting of a 2 h 0 min examination.

Recommended Textbooks

Study Skills Handbook, *Skills for Success* and *Critical Thinking Skills*; all by Stella Cottrell

Additional Information

Students who are non-native English speakers and who do not have at least IELTS 6.5 or equivalent must register for SEF009 in Semester 1, and then take this course in Semester 2.

Some students who register for this module may be advised at the beginning of the semester that they would benefit from extra assistance with their English communication skills. Such students may be required to attend additional tutorials (over and above the scheduled classes mentioned above) as part of the completion requirements for this module.

SEF031 FORM & FUNCTION IN BIOLOGY (B1)

Module Organiser*/ Lecturer(s):	Dr Chris Faulkes* & Dr Angelika Stollewerk
Scheduled Classes:	Semester 1 One 2-hour lecture per week, one 2-hour workshop or practical per week.
Assessment:	Examination: 70% Coursework: 30%
Expected Background:	Students are normally expected to have previously studied Biology beyond GCSE level.

Module Description & Aims

This module is designed to introduce students to the basic biology of microbes, plants and animals. It is particularly suitable for students who wish to study for degrees in general biology, ecology, marine and freshwater biology, psychology or zoology. It is also suitable for students who wish to study the more microbial and molecular aspects of biology.

Module Synopsis

- Microbes: The basic biology of viruses, bacteria, protists and fungi.
- Plants: Introduction to the organisation of the flowering plant body.
- Plant Cells, tissues and organs.
- Transport of water and minerals in the xylem; transpiration; translocation of substances in the phloem.
- Overview of plant hormones; sexual and asexual reproduction.
- Animals: Introduction to the organisation of the vertebrate body.
- Cells, tissues, organs and organ systems.
- Animal hormones with particular emphasis on blood glucose regulation.
- Brief overview of sexual reproduction and animal development.

Learning Outcomes

By the end of the module students should:

1. Be able to describe the structure, diversity and reproduction of selected plant and animal groups.
2. Be able to describe basic organism structure and diversity.
3. Be able to describe mechanisms for the life processes.
4. Appreciate how the physiology of an organism fits it for its environment.
5. Understand a range of appropriate and relevant experimental techniques and how they are used; be able to perform some of them.

Assessment Details and Completion Requirements

The coursework assessment (30%) is based on in-course multiple-choice tests, essays and written work handed in after each of the practicals. The final examination (70%) is of 2 h 0 min duration and consists of 50 single correct response multiple-choice questions and an essay. The multiple-choice tests and examination component of this module are subject to negative-marking (*i.e.* marks are deducted for incorrect answers to deter guessing of answers).

Students must achieve an overall mark of at least 40% in order to pass this module.

Resits : student who fail the module at the first-attempt are required to undertake a synoptic reassessment consisting of a 2 h 0 min examination.

Recommended Textbooks

For students taking SEF031 and at least one other Biology module:

Life: The Science of Biology, Eighth Edition, by D. Sadava, H.C. Heller, G.H. Orians, W.K. Purves and D.M. Hillis (published by Sinauer Associates, Inc./ W.H. Freeman and Company, 2008; ISBN-13: 978-0-7167-7671-0)

or, for students taking SEF031 only:

Life: The Science of Biology, Eighth Edition, Volume III: Plants and Animals,
by D. Sadava, H.C. Heller, G.H. Orians, W.K. Purves and D.M. Hillis
(published by Sinauer Associates, Inc./ W.H. Freeman and Company, 2008)

Additional Information

This module has laboratory-based practicals for which wearing a white laboratory coat is compulsory. Students can purchase these laboratory coats from the School of Biological & Chemical Sciences.

SEF032 MOLECULES TO CELLS (B2)

Module Organiser*/ Lecturer(s):	Dr Viji Draviam-Sastry* & Prof. Lucinda Hall
Scheduled Classes:	Semester 2 2 lectures per week, one 2-hour workshop or practical per week.
Assessment:	Examination: 70% Coursework: 30%
Expected Background:	Students must have taken the SEF003 *Introductory Chemistry* module in Semester 1, or have studied Biology or Chemistry at least to AS-level.

Module Description & Aims

This module is designed to introduce students to the study of biology at the molecular level. It is particularly suitable for students who wish to study for degrees in biochemistry, molecular biology, genetics and biomedical sciences. It is also suitable for students wishing to study microbiology or more general biology degree programmes.

Module Synopsis

- Macromolecules: Lipids, carbohydrates, proteins and nucleic acids.
- Cell Biology: Prokaryotic and eukaryotic cellular structure, cellular organisation, cellular organelles and lipid membranes.
- Enzymes: Energetics, catalysis and regulation.
- Metabolism: Cellular respiration, energy generation and photosynthesis.
- Genetics: Mendel's laws of inheritance, alleles and dominance relationships.
- Chromosomes and genes.
- The cell cycle and cell division: Mitosis and Meiosis.
- DNA: Structure and function; DNA replication and DNA mutations.
- DNA makes RNA makes Protein: Molecular overview of transcription and translation.
- Regulation of gene transcription.

Learning Outcomes

By the end of the module students should:

1. Understand how the chemistry and structure of the major biological macromolecules, including proteins and nucleic acids, determines their biological properties.
2. Know and understand the structure and function of various types of cells in unicellular and multicellular organisms, and the structure and function of cell membranes.
3. Have knowledge of cell metabolism, including the main anabolic and catabolic pathways.
4. Have knowledge of enzyme structure and function, and of some of the most important mechanisms controlling the action of enzymes and other proteins.
5. Understand how the principles of genetics underlie much of the basis of modern molecular biology.

6. Understand a range of appropriate and relevant experimental techniques and how they are used; be able to perform some of them.

Assessment Details and Completion Requirements

The coursework assessment (30%) is based on in-course multiple-choice tests, essays and written work handed in after each of the practicals. The final examination (70%) is of 2 h 0 min duration and consists of 50 single correct response multiple-choice questions and an essay. The multiple-choice tests and examination component of this module are subject to negative-marking (*i.e.* marks are deducted for incorrect answers to deter guessing of answers).

Students must achieve an overall mark of at least 40% in order to pass this module.

Resits : student who fail the module at the first-attempt are required to undertake a synoptic reassessment consisting of a 2 h 0 min examination.

Recommended Textbooks

For students taking SEF032 and at least one other Biology module:

Life: The Science of Biology, Eighth Edition, by D. Sadava, H.C. Heller, G.H. Orians, W.K. Purves and D.M. Hillis (published by Sinauer Associates, Inc./ W.H. Freeman and Company, 2008; ISBN-13: 978-0-7167-7671-0)

or, for students taking SEF032 only:

Life: The Science of Biology, Eighth Edition, Volume I: The Cell and Heredity,
by D. Sadava, H.C. Heller, G.H. Orians, W.K. Purves and D.M. Hillis
(published by Sinauer Associates, Inc./ W.H. Freeman and Company, 2008; ISBN 978-0-7167-7673-4)

Reference will also be made to:
Molecular Cell Biology, Sixth Edition, by H. Lodish, A. Berk, C.A. Kaiser, M. Krieger, M.P. Scott, A. Bretscher, H. Ploegh and P. Matsudaira (published by W.H. Freeman and Company, 2008; ISBN-13: 978-0-7167-7601-7)

Additional Information

This course has laboratory-based practicals for which wearing a white laboratory coat is compulsory. Students can purchase these laboratory coats from the School of Biological & Chemical Sciences.

SEF033 DIVERSITY AND ECOLOGY (B3)

Module Organiser* / Lecturer(s):	Dr. Alan McElligott* & Dr David Hone
Scheduled Classes:	Semester 2 One 2-hour lecture per week, one 2-hour workshop or practical per week.
Assessment:	Examination: 70% Coursework: 30%
Expected Background:	Students must have taken the SEF031 *Form & Function in Biology* module in Semester 1.

Module Description & Aims

This module is designed to introduce students to the basic principles of evolution and to develop an appreciation of the dynamic nature of ecological systems. It is particularly suitable for students who wish to study for degrees in ecology, genetics, marine and freshwater biology, psychology or zoology, as well as being suitable for those requiring a broad, general background in biology.

Module Synopsis

- Evolution: The Origins of Life.
- Variations in populations; Hardy-Weinberg rule. Natural Selection.
- Speciation. What are species? How do they arise? Reproductive isolation mechanisms.
- The construction and use of phylogenies.
- An introduction to classification as an example of phylogenetics in action.
- Ecosystems: Energy flow through ecosystems.
- Biogeochemical cycles: Water, Carbon and Nitrogen.
- Population Ecology: Population structure; Population dynamics.
- Population regulation.
- Ecological interactions: Niches, competition, and predator-prey interactions.
- Behavioural Ecology: Mating tactics and roles; social behaviour, categories of social acts; the evolution of animal societies.

Learning Outcomes

By the end of the module students should:

1. Show knowledge of the basic genetic principles relating to evolution of the organisms studied.
2. Be able to describe how organisms are classified and identified.
3. Appreciate the interactions of organisms with each other and the environment.
4. Appreciate the importance of the 'behaviour' of the organisms studied.
5. Demonstrate knowledge of biogeochemical cycles and pathways, and be able to describe and exemplify nutrient and energy flow through individuals, populations and communities.

6. Demonstrate knowledge of population processes, dynamics and interactions, and associated theoretical models.
7. Understand a range of appropriate and relevant experimental techniques and how they are used; be able to perform some of them.

Assessment Details and Completion Requirements

The coursework assessment (30%) is based on in-course multiple-choice tests, essays and written work handed in after each of the practicals. The final examination (70%) is of 2 h 0 min duration and consists of 50 single correct response multiple-choice questions and an essay. The multiple-choice tests and examination component of this module are subject to negative-marking (*i.e.* marks are deducted for incorrect answers to deter guessing of answers).

Students must achieve an overall mark of at least 40% in order to pass this module.

Resits : student who fail the module at the first-attempt are required to undertake a synoptic reassessment consisting of a 2 h 0 min examination.

Recommended Textbooks

Life: The Science of Biology, Eighth Edition, by D. Sadava, H.C. Heller, G.H. Orians, W.K. Purves and D.M. Hillis (published by Sinauer Associates, Inc./ W.H. Freeman and Company, 2008; ISBN-13: 978-0-7167-7671-0)

Additional Information

This module has laboratory-based practicals for which wearing a white laboratory coat is compulsory. Students can purchase these laboratory coats from the School of Biological & Chemical Sciences.

SEF034 – Computing (COM)

Module Organiser / Lecturer(s):	To be confirmed
Scheduled Classes:	Semester 2 1 lecture and 1 tutorial per week
Assessment:	Examination: 70% Coursework: 30%
Expected Background:	N/A

Module Description & Aims

The Computing module will provide SEFP students with an understanding and practical experience of core areas of computer science: programming and algorithms; underlying theory; software development; computer systems; and networks. It will include hands-on programming experience during supervised lab sessions. The module is designed principally to prepare students for pursuing study in the areas of computer science or electronics; however, it will also provide a basic introduction for students not intending to pursue study in these areas.
The module aims to provide SEFP students with an understanding and practical experience of core areas of computer science: programming and algorithms; underlying theory; software development; computer systems; and networks.

More specifically, the module aims to:

- Convey and provide practical experience in basic programming and related concepts, including expressions; assignment; if and while statements; arrays; functions; simple input and output; sorting and searching algorithms.
- Give a basic understanding of underlying theoretical concepts, including language concepts and regular expressions.
- Give a basic understanding of key software development processes, including problem solving and specification; pseudo code and tracing a program; testing and error handling.
- Give a basic understanding of key computer systems concepts, including number bases (binary, octal and hexadecimal); data representation (numbers and characters); logic gates and boolean algebra; computer architecture.
- Give a basic understanding of key networks concepts, including principles of communication and structure of the internet.

Learning Outcomes

1. Understanding and practical experience in basic programming and related concepts, including expressions; assignment; if and while statements; arrays; functions; simple input and output; sorting and searching algorithms.
2. Understanding of underlying theoretical concepts, including language concepts and regular expressions.
3. Understanding of key software development processes, including problem solving and specification; pseudo code and tracing a program; testing and error handling.
4. Understanding of key computer systems concepts, including number bases (binary, octal and hexadecimal); data representation (numbers and characters); logic gates and boolean algebra; computer architecture.
5. Understanding of key networks concepts, including principles of communication and structure of the internet.
6. Apply understanding of basic programming and related concepts in practical lab work.
7. Synthesise knowledge and understanding from different technical information sources.
8. Evaluate the appropriateness of alternative solutions to practical technical problems.
9. Connect information and ideas within their field of study.
10. Acquire new knowledge in a range of ways, both individually and collaboratively.
11. Work individually and in collaboration with others.

Assessment Details and Completion Requirements

This module is assessed by both coursework and examination. The coursework consists of programming exercises. The final examination is of 2 h 30 min duration.

Students must achieve an overall mark of at least 40% in order to pass this module.

Resits: student who fail the module at the first-attempt are required to undertake a synoptic reassessment consisting of a 2 h 30 min examination.

OTHER IMPORTANT MATTERS

SAFETY / EMERGENCIES

You should familiarise yourself with emergency procedures for all areas in which you study, noting the location of emergency exits, assembly points and safety equipment. In case of a fire, immediately leave the building by the nearest exit point. Do not use the lifts. Fire action notices are displayed in corridors and by fire escapes. You should ensure that corridors and doorways are not obstructed and that fire-fighting equipment is not removed from its station.

In an emergency, dial 3333 from any internal phone and clearly state the nature and location of the problem, your name, and the number you are calling from (if known). If there is no internal phone available, call 999 to connect directly to the emergency services.

First-aid assistance for minor accidents can be obtained by dialling 3333 from an internal phone, or 020 7882 3333 from any other telephone.

USE OF COLLEGE ID CARDS

You will receive a College photo-ID card upon enrolment which shows your Student Number (e.g. 081234567).

This card is very important, and must be carried at all times on campus. If you do not produce this card upon request and satisfy staff that it is your card through comparison of your face and the photograph, you may be removed from the building, or from campus.

You must also take your card into all examinations, and display it on your table for inspection – you will need to enter details from the card on your examination answer scripts.

The card additionally serves as your library card, and as an access card for certain buildings. Many buildings have security points at which you must show your card, and others require you to scan your card to release the doors.

It is vital that you keep your card safe and with you at all times on campus. If you lose your card, or if your card is stolen, you should contact the Academic Registry, who will be able to help you. A fee may be charged to replace lost College ID Cards.

UPDATING YOUR PERSONAL DETAILS

It is important that the College has up-to-date personal details for all students – these include your name, your “home address” (where you can be contacted in vacations), your “term address” (where you live during the teaching semesters), a contact telephone number and various other details. If any of your personal details change during the academic year then you must ensure that these records are updated, by using the MySIS interface to the Student Information System and following the instructions for amending these details. Some of these personal details are also stored on the SEFP Student Record System, but these will be updated automatically once you have updated your College records.

OTHER SOURCES OF INFORMATION

Queen Mary's Student Guide

The Student Guide is a College publication that should be used together with this handbook as a source of general information during your time at Queen Mary. It contains a wide range of information, and has sections dealing with:

- Academic and student support services
- The academic year
- Campus facilities
- Simplified academic regulations
- How to obtain advice
- Queen Mary contact information
- Calendar
- Graduation and alumni
- Student administration, and common issues and processes
- College policies
- Campus and College information

You will receive a copy of the Student Guide at the start of the academic year. It is also available online and can be accessed via the SEFP website.

MyQMUL

The MyQMUL website is a student "portal" providing access to a range of online student-centric information. The site can be accessed via the SEFP website, or directly via: my.qmul.ac.uk

Frequently-Asked Questions (on the SEFP Programme website)

The *How do I ... What do I do if ...* link on the SEFP Programme website provides answers to some commonly-asked questions including information on:

- Plagiarism: what it is, and how to avoid it
- Making a complaint about some aspect of the SEFP
- Obtaining a reference for a job/UCAS application

PROGRAMME PRIZES

The SEFP management is keen to recognise and reward outstanding performance by students on the programme. We are therefore pleased to announce that up to four prizes (each to the value of £100) will be awarded to students who are adjudged by the Progression Board to have demonstrated exceptional achievement.

FEEDBACK & COMPLAINTS

Your views are important to the SEFP Administration and to Queen Mary. To ensure student representation at a College level, there are student representatives on all the major committees across Queen Mary.

At the programme level there are a variety of ways in which you can communicate your opinions to us. One of the best methods of bringing matters informally to our attention is through your Departmental Advisor or the SEFP's Administrative Officer. Alternatively, if you prefer, you can make an appointment to see the SEFP's Academic Director. However, we also have the following methods in place for soliciting feedback, and for processing any complaints that you might have.

STUDENT/STAFF LIAISON COMMITTEE (SSLC)

The SSLC is a forum in which matters relating to the SEFP can be discussed by representatives from both the staff and students. It provides a valuable mechanism for student feedback, and bringing issues to the attention of the SEFP management. The following provides an abbreviated summary of its operation.

There will normally be one SSLC meeting per semester. The student representation shall normally consist of 4-8 SEFP students selected by the student body. The staff representation shall consist of the Academic Director of the SEFP, the SEFP's Administrative Officer, Dr Cunnan and selected other members of staff involved with SEFP teaching and student support. The terms of reference and minutes of meetings are available from the website: http://qmplus.qmul.ac.uk/course/view.php?id=3829

MODULE QUESTIONNAIRES & PROGRAMME QUESTIONNAIRES

At various points throughout the programme (including at the end of each module) you will be asked to complete a questionnaire. These questionnaires provide you with an opportunity to anonymously comment on matters relating to teaching and other aspects of the programme. The results from these questionnaires are fed-back to individual module organisers, but are also reviewed at SSLC meetings and at meetings of the SEFP's Coordination Group, which is the management committee for the programme.

COMPLAINTS PROCEDURE FOR SEFP STUDENTS

For a description of the procedures which should be followed in the event that you wish to make a complaint about the provision of the Science and Engineering Foundation

Programme and related academic and administrative services, please see:

http://qmplus.qmul.ac.uk/mod/book/view.php?id=246137

For more details you should refer to the College's policies and procedures for dealing with student complaints, which are given on the main Queen Mary website.

REVIEW OF EXAMINATION & PROGRESSION BOARD DECISIONS

Marks in SEFP examinations are confirmed by individual Subject Examination Boards (Biological & Chemical Sciences, Physics, Mathematics Sciences, etc.) and are then reported to the SEFP Progression Board. The SEFP Progression Board considers the full set of confirmed module results for each student and makes recommendations on matters of progression and award. The decisions of the SEFP Progression Board are then reviewed and formally confirmed by the College's Degree Examination Board.

For an outline of the mechanisms for making appeals about matters relating to assessment and examination, please see: http://qmplus.qmul.ac.uk/mod/book/view.php?id=246137

For more details you should refer to the College's Academic Regulations, which are given on Queen Mary's ARCS website (http://www.arcs.qmul.ac.uk/).