



THE DEGREE ACCREDITATION PROGRAMME HANDBOOK





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About the Society of Biology

The Society of Biology is a single unified voice for biology: advising Government and influencing policy; advancing education and professional development; supporting our members, and engaging and encouraging public interest in the life sciences. With more than 14,000 individual members and almost 100 member organisations, the Society represents a significant and diverse membership including students, practising scientists, industry leaders, academics and interested non-professionals.

The Society of Biology is committed to promoting biology as a subject of choice to students in schools, colleges and universities. We support and recognise excellence in biology teaching; champion a biology curriculum that challenges students and encourages their passion for biology; support young scientists through higher education; and provide career guidance at all levels. We offer a range of tools to assist the professional development of our members working in education; we respond to education policy consultations; and we contribute to curriculum development. Through partnership with other leading science organisations, we aim to increase our influence over the advancement of biology education.

For information about the Society of Biology see www.societyofbiology.org

Contents

Introduction, aims and purpose of accreditation	04
Process of accreditation assessment	06
Costs of accreditation, and charges	09
Accreditation Assessment Panel membership and role	09
Changes made to degree programmes before the date of re-accreditation	10
Re-accreditation processes	10
Criteria for accreditation	10
Period of practice	11
Stream-specific criteria	12
Molecular Aspects of Biology criteria	13
Whole Organism Biology criteria	14
Ecological and Environmental Sciences criteria	15
<i>Appendix A</i> — Process of applying for accreditation, including documentation to be provided for stage one assessment	16
<i>Appendix B</i> — Guidelines for Accreditation Assessment Panel	18
<i>Appendix C</i> — Guidance for the site visit	19
<i>Appendix D</i> — Guidelines for publicity following successful accreditation	20
<i>Appendix E</i> — Interim accreditation	21
<i>Appendix F</i> — Glossary	23

Introduction, aims and purpose of accreditation

Degree accreditation by the Society recognises academic excellence in the biosciences, and highlights degrees that educate the research and development leaders and innovators of the future. The accreditation criteria require evidence that graduates from accredited programmes meet defined sets of learning outcomes, including gaining substantial research experience.

There has been significant and widespread discussion for several years over the possibility of the accreditation of bioscience degrees, including substantial consultation with the bioscience community. Those discussions highlighted the key reasons for moving towards the Degree Accreditation Programme in the biosciences:

- There is a lack of a generalised accredited route in the biosciences, aside from the highly specific medical and health-related degrees. Accreditation by the Society of Biology will mean that life science graduates are well prepared to enter research-based careers.
- The need for employers to identify graduates with a known profile of skills, knowledge and practice, identified in several reports from the Office for Life Sciences^{1,2}, the Association of the British Pharmaceutical Industry³, and others.
- The need to drive up the standards of our undergraduate provision to match our global reputation in research and development, and be able to sustain it.

Through the process of accreditation, higher education institutions (HEIs) will reflect on the needs of their learners in preparing them for key research positions within the biosciences. Degree accreditation will also enable the sharing of good practice across the sector, thus driving up the standard of graduates in the specific biological and life sciences.

Accreditation of degree programmes by the Society of Biology aims to:

- Recognise academic excellence
- Drive up standards of learning and teaching in the biosciences
- Ensure the pipeline of graduates supports national excellence in academic and industrial research and innovation
- Maintain and improve the UK's position as a premier location to develop the life scientists of the future

Accreditation is not about wide recognition of threshold standards, nor does it seek to make judgements on the wide range of excellent degrees delivered in UK higher education. Rather, it seeks to identify and recognise programmes that deliver the research and development leaders and innovators of the future.

¹ Office for Life Sciences (2009): Life Sciences Blueprint, <http://webarchive.nationalarchives.gov.uk/20110202090712/http://bis.gov.uk/assets/biscore/corporate/docs/l/life-sciences-blueprint.pdf>

² Office for Life Sciences (2010): Life Sciences 2010: Delivering the Blueprint <http://webarchive.nationalarchives.gov.uk/20110202090712/http://bis.gov.uk/assets/biscore/corporate/docs/l/10-542-life-sciences-2010-delivering-the-blueprint.pdf>

³ ABPI (2008): Skills Needs for Biomedical Research <http://www.abpi.org.uk/our-work/library/industry/Pages/skills-biomedical-research.aspx>



Accreditation will recognise three facets of a particular programme:

- A base of knowledge, understanding, skills and excellence as defined by the Society of Biology, which provides the framework and standards for accreditation.
- Specific knowledge, understanding and skills for routes identified by the intended learning outcomes, and defined in partnership between the Society of Biology, relevant learned societies, and other partners.
- A sizable research element, which provides the opportunity to develop skills in a range of research techniques and experience of planning and undertaking at least one substantial research project.

The Society of Biology is keen to support all bioscience programmes that aim to meet the criteria for accreditation. For established programmes, the learning outcomes attained by graduates will be judged.

However, we also encourage new programmes to apply for accreditation, where there are no graduates as yet. Under these circumstances, the accreditation process will include a review of the programme documentation and a site visit before the first cohort of students graduate. The Society may grant interim accreditation pending first cohort graduation, with full accreditation occurring afterwards.

HEIs with relevant programmes in development should refer to Appendix E, and contact the Accreditation Team to discuss interim accreditation.

Characteristics of accredited programmes

Degree programmes accredited by the Society of Biology are likely to be those that:

Enhance leadership and reward innovation

Successful degree programmes will equip students with the skills to become leaders and innovators in research and development. For this reason, the research environment in which this learning takes place is a key consideration of the accreditation process, as is the learning and teaching environment.

Develop independent research skills of graduates

Degree programmes gaining accredited status will bestow independent research capabilities upon their graduates. A period of practice will allow the student to apply the knowledge and learning gained in their academic training while carrying out their own supervised research in an active research environment. The research will be related to, and draw on, the theoretical knowledge and skills already acquired during the degree programme. During this period, students will become fully integrated into the research environment and become more independent thinkers.

Deliver excellence

Accredited degree programmes will be highly regarded within the learning and teaching community, the research community, and by employers. Such programmes will be delivered by subject experts and produce graduates with the potential to excel in a career in their chosen field.



Process of accreditation assessment

The accreditation assessment process is usually achieved in three stages and will normally take a period of six to 12 months. This is outlined in Figure 1, with further information on the method of submission in Appendix A.

The Society will offer two rounds of applications per year. Please note the dates listed below are subject to change.

01

Stage one

HEIs are required to submit evidence to the Society in support of their application. Full details are listed in Appendix A. This process, designed to be brief and not to replicate existing paperwork or to be unduly bureaucratic, outlines how the institution believes that it achieves the intended learning outcomes as stipulated in the accreditation criteria, and how it delivers and monitors the research experiences of its students.

The application will be assessed by an Accreditation Assessment Panel, which will produce a stage one report summarising the assessment. This will be sent to the HEI for fact-checking. HEIs will have the opportunity to submit additional evidence following this report.

If the programme is deemed suitable, the Accreditation Assessment Panel will recommend that the application progresses to assessment stage two. However, in some cases, the panel may feel that the programme is not appropriate for further assessment and recommend it is not accredited.

Deadlines:

Application round 1 – 1 February

Application round 2 – 1 September

02

Stage two

The Accreditation Assessment Panel will carry out a site visit to evaluate the HEI's facilities, speak to students about their learning experience, and hold face-to-face discussions with the applying HEI. A provisional recommendation on accreditation will be provided during the site visit where appropriate. Outcomes of stage two will be summarised in the stage two report, which will be sent to the HEI for fact-checking.

Application Round 1 – March to May

Application Round 2 – October to December

03

Stage three

The Accreditation Assessment Panel will make a recommendation to the Society of Biology Council to award or withhold accreditation.

The Accreditation Assessment Panel may recommend that:

1. The programme should be accredited
2. The programme should be accredited subject to minor amendments
3. The programme should not be accredited

Application Round 1 – June

Application Round 2 – February



Accreditation awarded

Following a successful assessment, accreditation will be awarded for a period of five years. The Society of Biology will list accredited degree programme titles, HEIs, and UCAS codes on its website, and provide a link to the HEIs' web pages. HEIs will also be asked to provide graduate destination data for all accredited programmes on a yearly basis. The assessment reports produced by the Accreditation Assessors will not be made publically available.

In recognition of the period of practice, the Society of Biology will offer graduates of accredited programmes membership of the Society of Biology at MSB level after just one further year of practice, rather than the usual three years. For more information on publicity following accreditation, please see Appendix D.

Accreditation subject to minor amendments

In the case of minor amendments, a period of six weeks from the date the stage two report is received by the HEI will be allowed for amendments to be made. A response will be submitted from the HEI to the Accreditation Assessment Panel, providing any supporting documentation. If internal approval is required for the amendments, then it would normally be expected that approval has been given before accreditation is granted.

Accreditation withheld

If the programme does not meet the accreditation criteria, guidance will be provided by the Society of Biology on how the programme could meet the criteria. The programme will not normally be reconsidered for accreditation until a period of 12 months has elapsed from the date the stage two report is received by the HEI. For reconsideration, a full report will be required from the programme organisers explaining and documenting changes made to address each of the points made by the Accreditation Assessment Panel. If internal approval is required for the amendments, it would normally be expected that approval has been given before the programme is reconsidered. The Accreditation Assessment Panel shall decide whether or not a further site visit is required in order to make a recommendation to the Society of Biology Council.

The Society of Biology maintains an appeals procedure for HEIs that wish to challenge specific decisions, where they feel that an assessment was not conducted as it should have been and in a fair and transparent manner. Disagreement about a judgement does not constitute grounds for appeal.

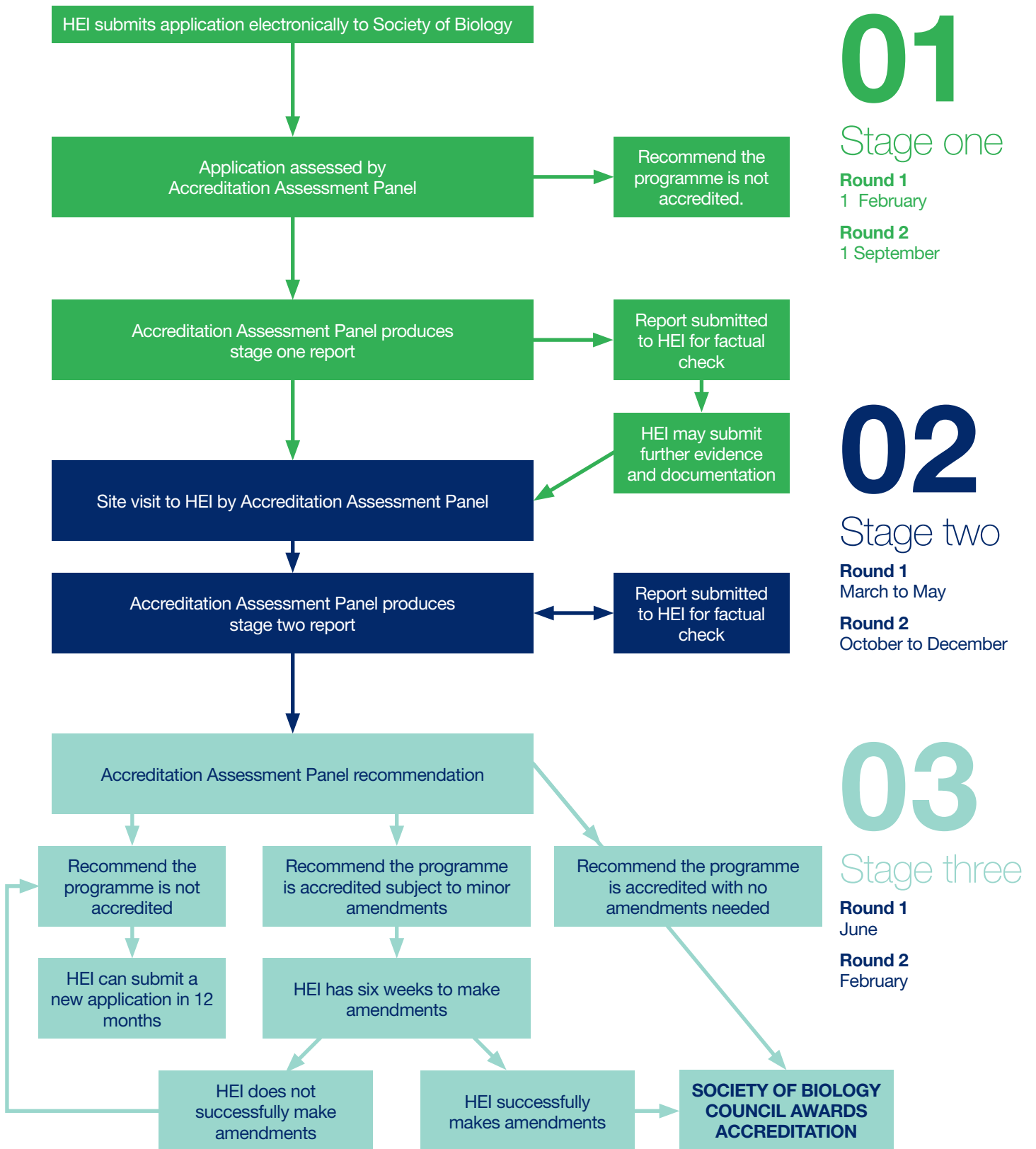
Appeals will be considered at the discretion of the Society of Biology Council. Further details about the appeals process are available on request.

Interim accreditation

Please see Appendix E.



Figure 1 – Process of Accreditation



Costs of accreditation, and charges

HEIs applying for accreditation will be charged a fee to cover the Society's cost of accreditation. Due to significant external funding, we are able to match the cost of accreditation until 31st August 2014. Therefore charges will be as follows:

Applications made before 1st September 2014 – £2500
 Applications made from 1st September 2014 onwards – £5000

If you are seeking accreditation of multiple programmes, we will assess the most appropriate fee, given the level of similarity between the programmes. The initial form for expression of interest (see Appendix A) provides further details.

Programmes seeking re-accreditation by the Society of Biology will be charged a minimum of £1500 for a single degree programme, although multiple programmes will be reviewed at a reduced rate. The cost of re-accreditation will depend, in part, on the changes that have been made to the programme, and whether the Accreditation Assessment Panel feels that a site visit is required.

Please note that after external funding has ended, institutions applying for accreditation will be required to pay for the honorarium and expenses of the assessors. The cost is estimated to be £3000.

Accreditation Assessment Panel membership and role

The Accreditation Assessment Panel considers the evidence submitted by HEIs through an initial application and site visit and provides a recommendation to the Society of Biology Council as to whether the degree programme(s) should be accredited. The assessment is not simply a tick-box exercise and requires a great deal of academic judgement.

An Accreditation Assessment Panel will include a panel chair with experience of chairing, approvals, and quality assurance, and three panel members. Accreditation Assessment Panel members are selected based on their experience and subject area expertise. We would normally expect panel members to be well-informed of the current practices, methodologies, and advancements in their area of expertise. Panellists should also have an understanding of the scientific content of degree programmes. The Society of Biology will provide training prior to the assessment, administrative support, and a panel secretary for the site visit.

The size and make-up of an Accreditation Assessment Panel may depend on the type of programme(s) being accredited. Members of the panel are expected to be up to date with current practice in higher education with a focus on quality assurance, content assessment, and programme design and content.

All panel members will provide valuable insight into the practical value of the skills taught by each degree programme. Panellists from industry will give clearer context to the significance of the learning outcomes from the point of view of the employer. Members of the Accreditation Assessment Panel are expected to:

- Attend a Society of Biology Accreditation Assessment Panel training event
- Read all initial documentation submitted by the applying HEI and work with the chair to complete the stage one report
- Take part in a pre-meeting with other panel members by teleconference
- Attend a stage two site visit to the applying HEI



- Work with the panel chair to draft a stage two report for submission to the Society of Biology Council

Further information on the guidelines for panel chairs and members can be found in Appendix B.

Information on becoming an assessor and application forms can be found on the Society of Biology website at: www.societyofbiology.org/aap

Changes made to degree programmes before the date of re-accreditation

Programmes of study evolve to reflect the latest developments in the subject and to meet the needs of students, applicants and external influences such as professional and statutory bodies and policy changes. Changes to human and physical resources may also bring about programme changes.

The HEI must inform the Society of Biology immediately of any significant planned changes to the accredited programme(s) which occur during the period of accreditation, as well as providing a clear rationale for the change. The Society of Biology reserves the right to remove accreditation from a degree programme if significant changes are made to the programme that deviate from the learning outcomes defined by the Society.

Re-accreditation processes

HEIs that have an accredited degree programme will be contacted by the Society of Biology towards the end of the period of accreditation to invite them to submit their programme for re-accreditation. Where there are significant changes to a programme within the accreditation period, the HEI may be asked to re-submit earlier.

Re-accreditation will follow the three-stage process of accreditation, but here the focus will be on changes made to the programme, its learning outcomes, and best practice.

Programmes seeking re-accreditation by the Society of Biology will be charged a minimum of £1500 for a single degree programme, although multiple programmes will be reviewed at a reduced rate. The cost of re-accreditation will depend in part on the changes that have been made to the programme, and whether the Accreditation Assessment Panel feels that a site visit is required.

Criteria for accreditation

To achieve accreditation for a programme, HEIs will need to provide evidence of excellence in support of their application, which will be judged by peer review against the standard metrics listed below. The evidence for (a) and (d) should show how the appropriate intended learning outcomes are being achieved through appropriate assessment strategies.

A – Academic excellence

1. Knowledge and understanding of the subject informed by current scholarship and research
2. Proven practical expertise in the laboratory, field and elsewhere appropriate for the main research project
3. Knowledge and understanding of research methodology



4. Appropriate and clear assessment criteria

B – Research-active environment, as evidenced by

1. An appropriate breadth in the area being offered for accreditation
2. Research excellence, as defined by appropriate national and international criteria
3. The provision of projects in research-active laboratories
4. Achievement of the period of practice learning outcomes

C – The infrastructure supporting the claim for excellence, including

1. Access to, and standards of, library and information and communications technology
2. Learning and teaching environments and research laboratories and facilities
3. Experience and expertise of teaching team
4. Achievement of the period of practice learning outcomes
5. A track record of success for the programme's graduates in research in industry or higher education

D – Other student outcomes, requiring evidence of the means by which students are brought to the level needed to support their particular specialism

1. Appropriate levels of knowledge and understanding in physics, chemistry and maths in a biological context
2. The ability to study independently
3. Experience of using a range of techniques and research methods in a safe and responsible manner
4. An analytical, problem-solving approach to their work and the ability to critically evaluate evidence
5. An understanding of research study design
6. Provision of necessary and appropriate research facilities and equipment
7. An appreciation of the significance of ethical, social and legal issues and critical awareness of current developments in the subject

Period of practice

For an accredited degree programme the student period of practice must be an evaluated working experience in an appropriate environment.

Inclusion of a period of practice outside the normal learning environment in a professional working structure will enhance the students' experience and should be considered normal practice for accredited degree programmes. The clear objective, therefore, is to augment and develop the skills and competencies delivered by the degree programme, and to practice science in a working context. There is also value to employers in this process in interaction of staff with young scientists at a formative stage of their career, as well as offering supervisory or mentoring experience as part of career development for selected staff.

Periods of practice in accredited degree programmes should have the following outcomes:

1. A period of practice will allow the student to apply the knowledge and learning gained in their academic training while carrying out their own supervised research in an active research environment



2. The research will be related to, and draw on, the theoretical knowledge and skills already acquired during the degree programme

Factors that define appropriate periods of practice

It is expected that the student will gain scientific and interpersonal skills which complement the learning experience delivered by their sponsoring HEI. Periods of practice will therefore contribute to the overall objective of identification and training of talented students interested in careers as practising scientists.

Where?

There are significant opportunities for student periods of practice in universities, hospitals, other public institutions and the private sector both inside and outside the UK. The HEI responsible for the student must ensure that the location of the period of practice provides a suitable environment for that student (i.e. safe, appropriate, and able to support the development needs of the individual concerned).

The existing landscape within the UK could also include both small and medium-sized enterprises (SMEs) as well as contract research organisations (CROs) – both of these opportunities are currently under-exploited. The former would require a mechanism to support funding and the latter requires that the HEI is satisfied that the student would be given sufficiently challenging projects and adequate supervision.

Common format

There are a number of common elements, which should be included in the process regardless of subject or location. These are:

1. The effort required by the student for the research component of this work would **normally be the equivalent of** at least 80 credits, with the final assessment made at a minimum of level 6 (QCF/QCFW/EQF)/level 10 (SCQF) [equivalent to the 'end of first cycle' point in the language of the QF-EHEA]
2. The assessment of the period of practice will include a written report and other evidence (e.g. a self-reflective report, or oral examination) to show achievement of the learning outcomes
3. The student should receive significant contact from the sponsoring HEI, such as a site visit or teleconference
4. Passing the period of practice must be a requirement for award of the degree

Placements and assessment

The Society of Biology's Accreditation Assessment Panel must see evidence of the common elements described above as well as a clear account of the discipline-specific learning and skills required within any subject. HEIs must justify their calculation of equivalent credits and illustrate how they assess outcomes one and two to the assessors in their stage one application. There will be flexibility for exceptional circumstances at the discretion of the Accreditation Assessment Panel.

Stream-specific criteria

Following consultation with stakeholders in the sector, accreditation spans three broad areas of biology, and applications must be made to a specific stream chosen by the institution. These are:

- Molecular Aspects of Biology
- Whole Organism Biology
- Ecological and Environmental Sciences



Specific criteria for each subject area are based on the learning outcomes specific to each of these areas and based primarily on the required skills of graduates entering job roles, as contributed by industry and relevant learned societies.

Some degree programmes may meet the criteria for accreditation only if a specific combination of units or modules is selected. Where this is the case it is only possible to award accreditation if the route or pathway that meets the criteria is formally designated with a unique title.

Molecular Aspects of Biology criteria

These learning outcomes are in addition to the criteria for accreditation listed on pages 10-11.

On completion of the degree, students should be able to demonstrate the following:

- An in-depth and practically-grounded knowledge of the principal ideas, concepts and analytical methods associated with the molecular biosciences
- An appreciation of the role and limitations of all aspects of analysis within the molecular biosciences through appropriate application and evaluation
- The ability to employ, independently and appropriately, a range of experimental approaches in modern research while demonstrating knowledge and appreciation of, and adherence to, accepted procedural protocol, conduct and performance
- An application of the molecular principles underlying biological processes that are appropriate for the degree subject

The following examples are recognised by the Society of Biology as providing relevant opportunities and experiences to enable students to fulfil the learning outcomes listed above to the required levels of independence and competency.

- Molecular bioscience – opportunities to develop appropriate levels of knowledge and critical application of key biological and chemical concepts, to include:
 - atomic and molecular structure, including sufficient bio-inorganic, organic and physical chemistry necessary for the degree subject
 - chemical, molecular and analytical methods appropriate for the degree programme
 - macromolecular structure and function, which should be in relation to biological processes where appropriate, and include gene function, macromolecule interaction and genome architecture
 - cellular organisation and processes, for example metabolism
- Laboratory practice – opportunities to demonstrate competence in a range of appropriate practical procedures and techniques including experimental design, execution and interpretation, risk assessment, and good laboratory practice
- Analytical skills – through practical experiences and skill applications students could be afforded opportunities to embed theory, hone practical skills, and enhance the use of analytical methods and procedures, for example:
 - critical analysis of literature
 - mathematical application
 - data collation, representation, interpretation
 - effective use of statistics



Whole Organism Biology criteria

These learning outcomes are in addition to the criteria for accreditation listed on pages 10-11.

On completion of the degree, students should be able to demonstrate the following:

- An in-depth and practically-grounded knowledge of the principal ideas, concepts and analytical methods associated with the study of whole organism biology
- An appreciation of the role, limitations and therefore rationale for a range of methods that are applied to study the whole organism
- The ability to employ, independently and appropriately, a range of experimental approaches used in research on the whole organism
- Knowledge and appreciation of, and adherence to, accepted procedural protocol, including an understanding of appropriate research conduct and ethics
- A knowledge and understanding of the integrative nature of biological processes appropriate to understanding the functioning of whole organisms

The following examples are recognised by the Society of Biology as providing relevant opportunities and experiences to enable students to fulfil the learning outcomes listed above to the required levels of independence and competency:

- Whole organism studies that develop appropriate levels of knowledge and the ability to critically apply key biological concepts, interactions between these elements should be understood. These studies are likely to include:
 - genetics and evolution
 - structure, diversity and reproduction
 - metabolism and physiology
 - health and disease
 - interaction with the environment

Interactions between these elements should be understood.

- Laboratory and/or field practice – opportunities to demonstrate competence in a range of appropriate practical procedures and techniques including experimental design, execution and interpretation, and good laboratory and/or field practice
- Analytical skills – through practical experiences and skill applications students could be afforded opportunities to embed theory, hone practical skills, and enhance the use of analytical methods and procedures, for example:
 - critical analysis of literature
 - mathematical application
 - data collation, representation, interpretation
 - effective and valid use of statistics



Ecological and Environmental Sciences criteria

These learning outcomes are in addition to the criteria for accreditation listed on page 10-11.

On completion of the degree, students should be able to demonstrate the following in the context of ecological and environmental sciences:

- A deep, wide-ranging and practically-grounded knowledge and understanding of the principal ideas, concepts and methods associated with the discipline
- A knowledge and understanding of different levels of biological organisation
- An appreciation of the roles and limitations of different experimental design strategies, practical methodologies and analytical approaches, through appropriate application, interpretation and evaluation
- The ability to undertake independent research using appropriate methodologies and analyses

The following examples are recognised by the Society of Biology as providing relevant opportunities and experiences to enable students to fulfil the learning outcomes listed above to the required levels of independence and competency:

- Opportunities to develop appropriate levels of knowledge and critical application of key concepts, including:
 - the role of evolution in driving ecological structure and function
 - ecosystems services and natural capital
 - the identification and management of threats to ecosystems
 - the application of relevant modern technologies to environmental problems
 - the role of ecology in supporting the evidence base of policy and legislation
 - the application and limitations of tools and technologies for assessing biodiversity
- Opportunities to apply theoretical knowledge to practical experiences in a range of environments, including both laboratory and field settings
- Through various teaching and learning experiences, students will be given opportunities to develop skills in:
 - the interpretation, analysis and critical evaluation of literature
 - the use of methods and tools for data collection in field and laboratory environments
 - the collation, management, interpretation and presentation of data
 - the use of data analysis, including statistics, at appropriate stages of the degree programme



Appendix A – Process of applying for accreditation, including documentation to be provided for stage one assessment

Interested HEIs should first express their interest in seeking accreditation by completion of an Expression of Interest form, which can be downloaded from our website: www.societyofbiology.org/apply-for-accreditation

Documentation for the stage one review should be submitted to the Accreditation Team by 17:00 on the specified date. For guidance, please contact the Accreditation Team by emailing accreditation@societyofbiology.org or visiting www.societyofbiology.org/apply-for-accreditation

For each degree programme under consideration for accreditation, the following documents should be submitted to the Society of Biology:

1. Letter of intent. This should summarise how the programme meets the criteria for accreditation and characteristics of an accredited programme. A model letter of intent from an institution involved in the pilot programme is available on our website: www.societyofbiology.org/apply-for-accreditation
2. Programme specifications, including:
 - programme structure (where only a specific route or pathway within the core degree programme will meet the accreditation criteria, the HEI should ensure that this is made clear)
 - learning outcomes
 - list of acronyms definitions used by the HEI
 - assessment strategy
3. Module or unit descriptors
4. Resource documents:
 - an overview of the facilities available at the HEI relating to the programme
 - brief CVs for the programme leader(s) and key academic staff involved in the programme
 - relevant handbooks or guidance
5. Internal or external reviews and reports. The following should be included, if available:
 - periodic review self-evaluation statement and recommendations
 - external examiners' reports covering the previous two years
 - most recent QAA or QAA (Scotland) Review, if applicable, e.g. Institutional Audit or Review (England, Northern Ireland and Wales), Integrated Quality and Enhancement Review (England and Northern Ireland), or Enhancement-led Institutional Review (Scotland)
6. Details of procedures and processes adopted within the HEI for consideration and approval of ethical issues and Home Office Licences, as relevant to the programme submitted for accreditation. Evidence of student exposure to and understanding of these processes in generic terms and as required by particular research projects
7. Destination data for recent graduates of the programme, in particular those who are engaged in research
8. Most recent summative assessments (e.g. examination papers, etc.) and marking criteria for all modules of the degree programme(s)
9. Completed accreditation matrix (see below)



Where internal programme reviews contain the required information, it is perfectly acceptable to submit these.

Wherever possible, online access to the HEI's e-learning facilities should be made available to the Accreditation Assessment Panel.

Accreditation matrix

All applying HEIs must complete an accreditation matrix for each programme, highlighting where the evidence of achieving each criteria can be found. Please create your own matrix to best suit your institution's application, and match your submission to the criteria highlighted below.

List of accreditation criteria:

A – Excellence within the teaching programme

1. Knowledge and understanding of subject informed by current research/scholarship
2. Proven laboratory/field expertise for research project
3. Understanding of research methodology
4. Appropriate and clear assessment criteria

B – Research-active environment

1. Appropriate breadth in the area offered for accreditation
2. Research excellence
3. Provision of projects in research-active laboratories
4. Achievement of the period of practice learning outcomes

C – Infrastructure support

1. Access to and standard of library and IT facilities
2. Learning and teaching environment – research laboratories
3. Experience and expertise of teaching team
4. Process to support and monitor achievement
5. Record of success achievements of graduates in higher education or industry
6. Research equipment provision

D – Student learning outcomes

1. Appropriate levels of chemistry, physics and mathematics
2. Independent learning
3. Range of techniques and research methodologies in a safe and responsible manner
4. Analytical and evaluative approach to solving problems
5. Understanding of research approach
6. Effective communication using a variety of media to targeted audiences
7. Appreciation of ethical, social and legal aspects of subject



Figure 2 – Example accreditation matrix

Evidence	Teaching programme				Research active environment				Infrastructure						Student learning outcome							
	A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	C5	C6	D1	D2	D3	D4	D5	D6	D7	
Letter of intent																						
Programme specification																						
Module X																						
Module XX																						
Module XXX																						
External examiners report																						
Periodic review																						
Student handbook																						
Staff CVs																						
Will also be illustrated during site visit																						
Period of practice (see Glossary)																						

Appendix B – Guidelines for Accreditation Assessment Panel

Members of the Accreditation Assessment Panel must abide by the Society of Biology Code of Conduct and declare, prior to the start of the accreditation process, any potential conflicts of interest with the degree programme being accredited.

Conflicts of interest

Members of the Accreditation Assessment Panel must not have worked for, or acted as an external examiner for, the HEI being assessed in the last five years. Members of the Accreditation Assessment Panel are expected to (and will be given the opportunity to) declare any previous working relationships with the HEIs that would prevent them assessing a particular application.

Code of Conduct

In the course of conducting accreditation assessments for the Society of Biology, the Accreditation Assessment Panel may come in contact with individually identifiable, commercially sensitive and/or confidential information. Accreditation Assessment Panel members must treat all information received or obtained while performing any duties on behalf of the Society of Biology as confidential and not divulge such information to any other person or organisation unless authorised to do so. This responsibility continues after the assessment has concluded.

In order to ensure that HEIs, the scientific community, and the wider public may have confidence in the effectiveness and impartiality of the Society of Biology's Degree Accreditation Programme, members of the panel must undertake to:

- Inform the Society of Biology of any potential conflicts of interest as soon as is possible
- Not use their position as a member of the Accreditation Assessment Panel to promote their personal, professional or business interests



- Respect the confidentiality of information acquired to them solely by virtue of their position as a member of the Accreditation Assessment Panel and not discuss any specific aspects of an ongoing accreditation application with anyone working/studying at or associated with the HEI being accredited or any other unauthorised person
- Attend all meetings at which their presence is required
- Prepare for meeting by reading all papers issued beforehand
- Direct relevant questions about an accreditation event to the Society of Biology
- Be fair, open-minded, unbiased and non-prejudicial on grounds of gender, race, disability, lifestyle, culture, beliefs, sexuality, age or any other irrelevant ground and not use any language that could be deemed offensive or discriminatory
- Not request or accept any inducement, gift, commission, discount or any other profit from the HEI being assessed or from any other interested person

Adhering to this Code of Conduct is a minimum expectation of all members of the Society of Biology Accreditation Assessment Panel. The Society of Biology reserves the right to revoke membership of the Accreditation Assessment Panel if any panel member does not abide by this Code of Conduct.

The Assessment Panel will be covered by public liability and/or indemnity insurance for committee members held by the Society whilst carrying out assessments.

Appendix C – Guidance for the site visit

Before the site visit

The panel will meet the evening before the site visit. Accommodation and evening meal will be provided.

HEIs will book accommodation for the panel members in a suitable nearby hotel. If necessary, the HEI should also arrange a taxi to take the Assessment Panel to the venue for 09:00.

Day of site visit

The example agenda and guidance provided below are flexible and subject to change, depending on individual circumstances. All times given are approximate.

09:00-10:00 – Private meeting of Accreditation Assessment Panel

A private room should be provided for this meeting. During this time, student project reports and any additional documentation requested should be made available for viewing by the panel.

Meeting between Accreditation Assessment Panel and programme team

10:00-10:30 Introductions and presentation by programme team

The HEI should prepare a presentation of no more than 20 minutes duration on the degree programme(s) being submitted for accreditation, preferably given by the programme leader. This should describe any unique or particularly valuable features of the programme(s) and highlight the links between research and teaching on the programme.

10:30-12:00 – Meeting with programme team

The Assessment Panel will meet with up to 10 key individuals from the programme team. The Assessment Panel may request particular individuals to be present, and the programme leader, placement co-ordinator and assessment officer (or equivalent) should all be present. Name boards should be provided by the HEI for this stage of the meeting.



The Accreditation Assessment Panel will explain any queries raised during stage one as well as highlighting the good practice identified. The programme team will have the opportunity to respond and provide further evidence. The programme team may wish to explain how they have addressed, or plan to address, any issues or to query the panel's interpretation of the evidence provided.

12:00-13:00 – Meeting with students and recent graduates

The HEI should issue an invitation to students and recent graduates to speak to the Assessment Panel about their learning experiences. The panel ask that a selection of 10-20 student representatives across all years of the programme should attend, including, if possible, recent graduates and students currently undertaking placements.

13:00-13:30 – Lunch with students and recent graduates

The HEI should provide a light lunch for the panel and the students in a suitable venue.

13:30-14:30 – Tour of facilities

A tour should be arranged to give the Assessment Panel a chance to see laboratories and other facilities available to students on the programme being considered. This should concentrate on facilities integral to learning and teaching for students on the programme(s) being assessed.

Where possible, any relevant student activities taking place on the day, such as laboratory-based learning, teaching, or presentations, should be included. The Assessment Panel may request to see particular laboratories or facilities and advance notice will be given if this is the case. Where visits to particular facilities that may have restricted access are required, the HEI is asked to arrange this in advance. The timing of this stage of the visit is flexible to ensure that the labs will be in use during the tour of the facilities. Please alert the Society of Biology if this is not a suitable time for the tour.

14:30-16:30 – Private meeting of panel

A private meeting room should be provided. The panel may require additional documentation to be made available during this meeting and so ask that the contact details of a staff member be available in case documents are requested during the day.

16:30-17:00 – Feedback to team

The timings of feedback session are flexible depending on the private meeting of the Assessment Panel. The chair will deliver feedback to the programme team including the provisional outcome of the process where possible (final decisions are made by the Society of Biology's Council).

17:00 – End of visit

Appendix D – Guidelines for publicity following successful accreditation

Programmes undertaking the accreditation process will not be publicly announced until they have successfully completed the accreditation process and we ask that you keep your participation confidential.

Upon completion, successfully accredited degree programmes will be entitled to:

- Receive a Certificate of Accreditation from the Society of Biology
- Offer graduates from the accredited degree programmes the opportunity to apply for Member of the Society of Biology (MSB) status following one additional year of practice rather than the usual three years
- Promote the accredited degree programme(s) and the advantages to students of being accepted on the programme in marketing materials



- Use the Society of Biology's name and logo on all materials relating to an accredited degree programme(s)
- Use the Society of Biology's name and logo on the HEI's website in relation to the accredited degree programme(s)
- Use the Society of Biology's name and logo on the UCAS website where the HEI's name appears in relation to the accredited degree programme(s)
- Use the Society of Biology's name and logo on other marketing materials relating to the accredited degree programme(s), following permission from the Society of Biology
- Use the following statement for the Key Information Set in relation to the accredited degree programme(s):

This course is accredited by the Society of Biology for the purpose of meeting in part the academic and experience requirement for Membership and Chartered Biologist (CBiol).

- Use the following statement on the HEI's website in relation to the accredited degree programme(s):

This programme has been accredited by the Society of Biology. Degree accreditation by the Society recognises academic excellence in the biosciences, and highlights degrees that educate the research and development leaders and innovators of the future. The accreditation criteria require evidence that graduates from the programme meet defined sets of learning outcomes, including gaining a substantial period of research experience.

In recognition of the period of practice, a graduate of an accredited programme can apply for membership of the Society of Biology at Member (MSB) level after just one year of experience, rather than the usual three years. This will allow these graduates to attain the qualifications of Chartered Biologist or Chartered Scientist two years sooner than graduates from other degree programmes.

Participating HEIs must not imply that other establishments, yet to achieve accreditation, are not offering relevant, high-quality programmes when making reference to the Accreditation Programme in external literature.

The Society of Biology maintains the right to request the removal of its name and all of its trademarks including its logo from printed or electronic material or publications at any time.

Appendix E – Guidance for interim accreditation

The Society of Biology encourages new programmes, where students have yet to graduate, to apply for accreditation. Under these circumstances, the accreditation process is likely to include a review of programme documentation and a site visit before the first cohort of students graduate. The Society may grant interim accreditation pending first cohort graduation, with full accreditation status awarded afterwards, if appropriate.

HEIs with relevant programmes should contact the Accreditation Team in advance of their application, to discuss potential pathways to gaining accredited status, and application charges.

The decision process for interim accreditation is likely to involve the following steps:

- Submission of all relevant stage one documentation, as detailed in Appendix A
- Review of documentation by the Accreditation Assessment Panel, and completion of an interim accreditation stage one report:



If assessors feel there is a substantial gap between the proposed outcomes for the programme and those required for accreditation, this will be communicated to the HEI. At this point, the HEI may choose to implement any suggested changes and resubmit for interim accreditation; or apply for full accreditation following the graduation of the first cohort of students; or withdraw their application. Any reapplication will incur additional costs for assessors' time and effort, but consideration will be given to the initial review that had already been conducted

If assessors feel the course demonstrates the potential to meet the required outcomes, a site visit will be scheduled

- The Accreditation Assessment Panel will conduct the site visit, as detailed in Appendix C
- Following the site visit, the assessment panel will complete an interim accreditation stage two report, highlighting the final steps for the programme in question:

If the site visit highlights aspects of the programme that do not achieve the outcomes for accreditation, these will be communicated to the HEI. At this point, the HEI may choose to implement any suggested changes and resubmit for interim accreditation; or apply for full accreditation following the graduation of the first cohort of students; or withdraw their application. Any reapplication will incur additional costs for assessors' time and effort, but consideration will be given to the initial review that had already been conducted

If the assessment panel is satisfied that the required outcomes for accreditation will be achieved, they can recommend to the Society of Biology Council that the programme should be awarded interim accreditation

Following the award of interim accreditation, the HEI must complete an annual report declaring any changes implemented since the initial stage one review, until the first cohort of students graduate.

In order to gain full accreditation, documentation should be provided to assure the assessors that the graduate learning outcomes are being achieved, and that any recommendations made by the assessment panel for improving the programme are being acted upon.

Once the first cohort of students has graduated, and if the assessment panel is satisfied that the programme meets the requirements for accreditation, it can recommend to the Society of Biology Council that full accreditation status should be awarded.

Should the assessment panel conclude that there is insufficient evidence to award full accreditation, the programme will continue with the status of interim accreditation, until sufficient evidence is submitted.

Interim accreditation will be awarded for a period of five years; if there is insufficient evidence that the programme meets the requirements for full accreditation at the end of that period, interim accreditation status will be withdrawn.

Accredited status will be awarded for a period of five years from the date of the ratification of full accredited status by the Society of Biology Council.

The timeframe for the stage one assessment is estimated to be similar to those applying for full accreditation. We expect the timeframe for the second stage of the assessment, the site visit and ratification by Council, would be subject to the nature and number of programmes submitted for interim accreditation.

Guidelines for publicity following award of interim accreditation

Following achievement of interim accreditation, the HEI will be entitled to:

- Use the Society of Biology's name and logo on all printed and digital materials, including the HEI's website, relating to programmes awarded with interim accreditation



- Use the Society of Biology's name and logo on the UCAS website where the HEI's name appears in relation to the interim accredited degree
- Use the Society's name and logo on all other marketing materials relating to the interim accredited programme(s), following permission from the Society of Biology
- Use the following statement on the HEI's website in relation to the interim accredited programme(s):

This programme has been awarded interim accreditation by the Society of Biology. Degree accreditation by the Society of Biology acknowledges academic excellence in the biosciences, and highlights degrees that educate the research and development leaders and innovators of the future. The accreditation criteria require evidence that graduates have met defined learning outcomes, including gaining substantial research experience. Following a successful demonstration to the Society that these graduate attributes have been attained, and graduation of the first cohort of students from the programme, the programme may be awarded full accreditation.

Institutions must not imply that award of full accreditation of any programme is guaranteed following receipt of interim accreditation.

Participating HEIs must not imply that other establishments, yet to achieve accreditation or interim accreditation, are not offering relevant, high-quality programmes when making reference to the Degree Accreditation Programme in external literature.

The Society of Biology reserves the right to request removal of its name and logo and all trademarks, including its logo, from printed or digital materials or publications at any time.

Appendix F – Glossary

Accreditation criteria look for evidence that graduates meet our defined set of learning outcomes. Currently, these focus on research intensive courses involving a substantial period of practice and are used by the Accreditation Assessment Panel to aid their judgement in recommending a course for accreditation.

Credit: One credit is notionally ten hours of student effort, assuming that one academic year is 120 credits, and one calendar year is 180 credits. 80 credits is equivalent to 40 European Credit Transfer and Accumulation System (ECTS) credits.

Degree accreditation is acknowledgement by an external body that a degree programme meets certain prescribed specifications.

Interim accreditation: acknowledgement by the Society of Biology that a degree programme with no current graduates demonstrates the potential to meet the prescribed criteria for accreditation. Full accreditation may be granted following further assessment, and a sufficient number of students have graduated to demonstrate the learning outcomes are being achieved.

Learning outcomes are statements that specify what a graduate will know, understand, or be capable of doing as a result of obtaining a qualification. Learning outcomes are expressed knowledge, understanding, skills, and attributes, and will be able to be assessed in the graduate.

Levels: Qualification levels indicate the relative academic demand, complexity of understanding, depth of learning and degree of autonomy expected of the learner. A number of different qualifications frameworks are used in the UK and when referring to levels it is essential to know which framework is being used:



The Framework for Higher Education Qualifications (FHEQ) applies in England, Wales and Northern Ireland (NI). Although it replaced a previous version of FHEQ, the titles used in the previous version (e.g. Masters) are still widely used. FHEQ describes five levels of qualifications, 4-8 (with 8 being the highest). This definition aligns with the Qualifications and Credit Framework (QCF) that encompasses post-16 levels of learning, including National Vocational Qualifications (NVQs).

In Scotland, the Scottish Credit and Qualifications Framework (SCQF) is mapped against the Scottish Higher Education Levels (SHE).

The Bologna Process requires each country to verify that its national framework is compatible with an overarching Framework for Qualifications of the European Higher Education Area (FQ-EHEA). The FQ-EHEA consists of three main cycles.

The relationship between the different systems is shown below:

FHEQ level (England, Wales and NI)	FHEQ 2001 Level	SCQF level (Scotland)	SHE level (Scotland)	FQ-EHEA cycle	Qualification
8	Doctoral (D)	12	D	Third cycle (end of cycle) qualifications	Doctoral degrees (eg PhD/ DPhil (including new-route PhD), EdD, DBA, DCLinPsy)*
7	Master (M)	11	M	Second cycle (end of cycle) qualifications	Masters degrees (eg MPhil, MLitt, MRes, MA, MSc)
					Integrated Masters degrees** (eg MEng, MChem, MPhys, MPharm)
					Postgraduate diplomas
					Postgraduate Certificate in Education (PGCE)***
					Postgraduate certificate
6	Honours (H)	10	H	First cycle (end of cycle) qualifications	Bachelors degrees with honours (eg BA/BSc Hons)
					Bachelors degrees
		9	3		Professional Graduate Certificate in Education (PGCE)***
					Graduate diplomas
					Graduate certificate
5	Intermediate (I)	8	2	Short cycle (within or linked to the first cycle) qualifications	Foundation degrees (eg FdA, FdSc)
					Diplomas of Higher Education (DipHE)
					Higher National Diplomas (HND)
4	Certificate (C)	7	1		Higher National Certificates (HNC)****
					Certificates of Higher Education (CertHE)

Table based on www.qaa.ac.uk/Publications/InformationAndGuidance/Pages/Bologna-Process-in-HE.aspx and www.qaa.ac.uk/standardsandquality/otherrefpoints/qualsboundaries.asp

Notes

- * Professional doctorate programmes include some taught elements in addition to the research dissertation. Practice varies but typically professional doctorates include postgraduate study equivalent to a minimum of three full-time calendar years with level 7 study representing no more than one-third of this.
- ** Integrated Master's degree programmes typically include study equivalent to at least four full-time academic years, of which study equivalent to at least one full-time academic year is at level 7. Thus study at Bachelor's level is integrated with study at Master's level and the programmes are designed to meet the level 6 and level 7 qualification descriptors in full.
- *** See www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/QUALIFICATIONS/Pages/Statement-on-the-PGCE-Qualification.aspx
- **** Higher National Certificates (HNCs) are positioned at level 4, to reflect typical practice among higher education awarding bodies that award HNC under license from Edexcel.
-

Outcomes-based procedures are the methods our Accreditation Assessment Panel use to judge applications for accreditation. Graduates of these courses meet our learning objectives within the specified criteria upon graduation.

Period of practice: a planned period of learning which is designed to support the student's attainment of a defined set of learning outcomes relating to supervised practice in the particular subject area. It includes those circumstances where students have arranged their own learning opportunity with a provider, with the approval of the HEI. In all cases, programme providers are responsible for monitoring the quality of the learning experience, and its ongoing capacity to meet students' needs.

Programme: a coherent learning experience followed by an individual, the successful completion of which results in the conferment of a named HE award.

Programme specification: a concise description of the intended learning outcomes of an HE programme, and the means by which the outcomes are achieved and demonstrated.

Programme structure: content of the programme, including mandatory and optional modules, rules for combining units and any specified pathways.

QAA: the Quality Assurance Agency for higher education responsible for maintaining standards across UK HEIs.

Quality Assurance: a range of review procedures designed to safeguard academic standards and promote learning opportunities for students of acceptable quality.

Society of Biology degree accreditation: externally recognises academic excellence in the biosciences, highlighting degrees which educate the research and development leaders and innovators of the future.

Subject benchmark (UK): This is overseen by QAA in England, and provides a reference point against which outcomes can be measured. Subject benchmark statements provide a means for the academic community to describe the nature and characteristics of programmes in a specific subject. They also represent general expectations about the standards for the award of qualifications at a given level and articulate the attributes and capabilities that those possessing such qualifications should be able to demonstrate.



Becoming a member

The Society of Biology is the leading professional body for the life sciences in the UK. Our vision is to represent all who are committed to biology in academia, industry, education and research; facilitate the promotion and translation of advances in biological science for national and international benefit; and engage and encourage public interest in the life sciences.

The Society represents more than 14,000 individual members, including professionals from industry, academia and education; practising scientists; students; and interested non-professionals.

As a member, you will receive a wide range of benefits, all designed to support you as a biologist.

- Access to Professional Registers and Continuing Professional Development programme - Chartered Scientist (CSci), Chartered Biologist (CBiol), Chartered Science Teacher (CSciTeach), Registered Scientist (RSci) and Registered Science Technician (RSciTech)
- Discounted training courses - members save up to 75% when attending courses from our newly-expanded training programme
- Networking events - members are invited to attend nationally and locally organised events throughout the year, where they can meet peers, other biologists and senior Society staff

- *The Biologist* magazine - all members receive a subscription to our award-winning magazine, published six times a year
- Opportunities to proactively support the future of UK biology - input to our science and education policy work, and support our public engagement regional activities
- Postnominal letters - associates, members and Fellows of the Society can use the appropriate postnominal letters (AMSB, MSB or FSB) to signify their status as a professional biologist

For more information on membership benefits and grades, visit www.societyofbiology.org/join or email membership@societyofbiology.org

Join







The Degree Accreditation Programme has received co-investment from the UK Commission for Employment and Skills through the Growth and innovation Fund.

To find out more about The Degree Accreditation Programme visit www.societyofbiology.org/accreditation or contact the Accreditation Team at accreditation@societyofbiology.org



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