

Programme Specification

B.Sc (Hons) Biology (Molecular Sciences)

Awarding Institution:	University of Bolton		
Teaching Institution:	University of Bolton		
Division and/or Faculty/Institute:	Faculty of Advances Engineering and Sciences		
Professional, statutory or regulatory body recognition:	Professional body Society of Biology	Professional body URL www.societyofbiology.org	Status of graduates; Eligible for - associate membership on successful completion of degree, - full membership after three years' postgraduate experience, (work / study).
Final award(s):	B.Sc (Hons)		
Interim award(s)	None		
Exit or Fallback award(s)	Cert HE / Dip HE		
Programme title(s)	Biology (Molecular Sciences)		
UCAS Code	C700		
JACS Code	C700		

University Course Code(s) B.Sc (Hons) Biology (Molecular Sciences) – full time
- BES 0003

B.Sc (Hons) Biology (Molecular Sciences) – part time
- BES 5003

QAA Benchmark Statement(s) Biosciences

Other internal and external reference points QAA Academic Infrastructure, including the Framework for Higher Education Qualifications and the Code of Practice

UK Quality Code for Higher Education

University of Bolton awards framework

Language of study English

Mode of study and normal period of study Full time – 3 years
Part time – 4.5 years

Admissions criteria

- Subject to satisfactory UCAS points, with at least two A2 levels (or equivalent) including biology or a related subject.
- 5 GCSEs at grade C or above, including English, mathematics and a science.

Alternative qualifications include;

- Scottish Highers, Welsh Baccalaureate, Advanced Diploma, Irish Leaving Certificates, International Baccalaureate.
- Foundation degree (science based)
- HND (science based)
- BTEC Extended Diploma at level 3 (science based)
- Access to Higher Education Diploma

Special consideration is given to applicants without the above qualifications, but with relevant work/ life experience. They will be invited for an informal discussion about the programme

If English is not your first language then the minimum IELTS score for overseas students is 6.0 (or equivalent).

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Date: [01.03.12]

Additional admissions matters

None

Fitness to practise declaration

Not applicable

Aims of the programme

The principal aims of the programme are:

- 1 To develop the analytical, practical, interpretative and presentational skills of students in biological sciences.
- 2 To provide students with the biological knowledge, scientific and transferable skills appropriate for employment in a biological field or postgraduate study.
- 3 To provide students the opportunity to gain professional experience in the workplace.
- 4 To provide the opportunity to follow a named route in molecular sciences.

Distinctive features of the programme

We

- have links with the educational charity Operation Wallacea. Students have the opportunity to study in a range of different environments throughout the world including rain forests, deserts, marine and freshwater habitats. They gain additional field and laboratory work experience and data may be used for their final year project. Expeditions run during the summer vacation.
- give students the opportunity to gain work experience through a placement module at level HE6, (placements include working in; laboratories, nature reserves, schools, hospitals).
- have a marine science residential field course module at level HE 5.
- provide opportunities for students to listen to / talk with outside speakers.
- run Bolton based field trips (over all three years), which are both popular with the students and enhance practical and vocational skills.

A high proportion of our modules are practical based (field / laboratory).

Programme learning outcomes

K. Knowledge and understanding

On completion of the programme successful students will be able to demonstrate systematic knowledge and understanding of

1. scientific orientation central to biology;
2. key theories, conceptual frameworks, and debates central to biology;
3. the range of empirical methods used and awareness of any limitations associated with their use;
4. the relevance of aspects of subject knowledge to contemporary society;
5. the inter-relatedness of biology with other subject disciplines;
6. a defined body of scientific knowledge informed by current research, and appreciation of the limits of that knowledge.

C. Cognitive, intellectual or thinking skills

On completion of the programme successful students will be able to demonstrate the ability to:

1. critical analyse and develop an argument;
2. employ evidence based reasoning to make informed judgements;
3. apply and integrate findings across multiple perspectives.
4. understand data sets and identify relationships;
5. generate and explore research questions in a systematic way;
6. learn and problem solve independently.

P. Practical, professional or subject-specific skills

On completion of the programme successful students will be able to demonstrate the ability to

1. carry out empirical studies involving a variety of laboratory and/or field methods;
2. collect and analyse data using quantitative research methods and interpret the results of the analysis;
3. carry out a systematic search, review and evaluation of scientific research findings (including electronic sources of information);
4. apply critical analysis and evidence based reasoning to current research to identify a focus for further development;
5. design and execute an original, independent piece of research having due regard for ethical and safety issues;
6. report research in an appropriate format.

T. Transferable, key or personal skills

On completion of the programme successful students will be able to demonstrate the ability to:

1. communicate effectively (orally and in writing);
2. problem solve and reason systematically;
3. use numerical and quantitative skills to carry out independent research;
4. competently use information technology;
5. self-manage / time-manage, take responsibility for thoughts and actions / self-reflect;
6. learn independently and engage in supportive peer collaboration.

Programme structure

Students must pass modules worth a total of 120 credits at each of levels HE4, HE5 and HE6 (including a project) to be awarded an honours degree.

All modules at level HE4 are core. Five of the seven modules at HE5 are core.

Students are expected to attend the Marine Science residential field course (BIO5003). In very exceptional circumstances an Independent Study module (BIO5007) may be taken in its place.

At HE 6 the project (BIO6007) is core (40 credits), four other modules (BIO HE 6) must be selected (80 credits) from a choice of five.

Module Code	Module title	Core/ Option/ Elective (C/O/E)	Credits	Length (1, 2 or 3 periods)
BIO4001	Investigating Science & Personal Development	C	20	1
BIO4002	Molecular Basis of Life	C	20	1
BIO4003	Diversity of Life	C	20	1
BIO4004	Cellular Basis of Life	C	20	1
BIO4005	Physiology	C	20	1
BIO4006	Environmental Biology	C	20	1
BIO5001	Research Science	C	20	1
BIO5002	Plant Science	C	20	1
BIO5003	Marine Science	O	20	1
BIO5004	Animal Science	C	20	1
BIO5005	Biomolecular Sciences	C	20	1
BIO5006	Wildlife Biology	C	20	1
BIO5007	Independent Study	O	20	1
BIO6001	Human Genetics	O	20	1
BIO6002	Freshwater Biology	O	20	1
BIO6004	Molecular Evolution	O	20	1
BIO6005	Sensory Physiology	O	20	1
BIO6007	Project	C	40	2
BIO6008	Placement	O	20	1

Learning and teaching strategies

This subject group uses a wide variety of teaching and learning methods in order to convey and develop knowledge, skills and concepts relating to the field of Biology to each and every student. These methods include lectures, tutorials, seminars, practicals, fieldwork, workshops, placements and supported self study. The range of teaching and learning methods are designed to enthuse students, so that they enjoy the practical and theoretical aspects of learning.

Learning activities (KIS entry)

	Course Year		
	1	2	3
Scheduled learning and teaching activities	26%	28%	19%
Guided independent study	74%	72%	66%
Placement/study abroad			15%

Assessment strategy

This subject group uses a wide variety of assessment methods (both formative and summative) these include; in class / electronic tests, essays, seminar presentations, field reports, laboratory reports, independent project work and examinations. Together, these demonstrate what students can do, what they know, as well as their critical and evaluative abilities. We use assessments in a positive way to encourage students to develop a range of important skills.

Assessment methods (KIS entry)

	Course Year						
	1	2	3	4	5	6	7
Written exams	55%	40%	41%				
Coursework	45%	50%	44%				
Practical exams		10%	15%				

Assessment regulations

- Assessment Regulations for Undergraduate Modular Programmes

Grade bands and classifications

Grade Description			Hons Degree Classification
Work of exceptional quality	High	80+	i
	Middle	75-79	I
	Low	70-74	i
Work of very good quality	High	67-69	ii.i
	Middle	64-66	ii.i
	Low	60-63	ii.i
Work of good quality	High	57-59	ii.ii
	Middle	54-56	ii.ii
	Low	50-53	ii.ii
Work of satisfactory quality	High	47-49	lii
	Middle	44-46	lii
	Low	40-43	lii
Borderline fail		35-39	
Fail		Below 35	

Honours Classification

(i) A student will normally be awarded the honours classification resulting from application of the following algorithm:

Rule ACM20

A weighted average of the marks from modules worth a total of 200 credits at Levels HE5 and HE6 combined, including the marks from modules worth no more than 80 credits at least at Level HE5 (weighted 30 percent) and marks from modules worth at least 120 credits at Level HE6 (weighted 70 percent), which represent the best marks achieved by a student at those Levels.

(ii) Where a student has marks available for 120 credits or less at Level HE6, the honours classification shall normally be based solely on a simple average of the available marks for modules at Level HE6, subject to there being marks for a minimum of 60 credits awarded by the University. Upgrading of the honours classification will not normally be available to students for whom there are marks available for fewer than 120 credits at Level HE6, unless explicitly approved.

Role of external examiners

External examiners are appointed for all programmes of study. They oversee the assessment process and their duties include: approving assessment tasks, reviewing assessment marks, attending assessment boards and reporting to the University on the assessment process.

Support for student learning

- The programme is managed by a programme leader
- Induction programme introduces the student to the University and their programme
- Each student has a personal tutor, responsible for support and guidance
- Personal Development Planning (PDP) integrated into all programmes
- Feedback on formative and summative assessments
- A Student Centre providing a one-stop shop for information and advice
- University support services include housing, counselling, financial advice, careers and a disability
- A Chaplaincy
- Excellent library and IT services
- Student Liaison Officers attached to each Faculty
- The Students' Union advice services
- Faculty and Programme Handbooks which provide information about the programme and University regulations
- The opportunity to develop skills for employment
- English language support for International students
- Specialist teaching laboratories
- Support for placement learning (tutors)
- Guest speakers
- Student membership of The Society of Biology
- Local field trips

Methods for evaluating and enhancing the quality of learning opportunities

- Programme committees with student representation
- Module evaluations by students
- Students surveys, e.g. National Student Survey (NSS)
- Annual quality monitoring and action planning through Programme Quality Enhancement Plans (PQEPs), Data Analysis Report (DARs) Subject Annual Self Evaluation Report (SASERs), Faculty Quality Enhancement Plans (FQEPs), University Quality Enhancement Plan (UQEP)
- Peer review/observation of teaching
- Professional development programme for staff
- External examiner reports

Other sources of information

Student portal <http://www.bolton.ac.uk/Students/Home.aspx>

Students Union <http://www.ubsu.org.uk/>

Faculty Handbook <http://www.bolton.ac.uk/Students>

Programme Handbook <http://data.bolton.ac.uk/staff/>

Student Entitlement Statement

<http://www.bolton.ac.uk/Students/AdviceAndSupport/StudentServices/>

Module database <http://data.bolton.ac.uk/academicaffairs/index.html>

External examiners reports

<http://www.bolton.ac.uk/Quality/QAECContents/ExternalExaminersReports/Home.aspx>

Document control

Author(s) Dr. Judith Hanson

Approved by:

Date approved:

Effective from: 2012/13

Document History:

Learning outcomes map

Module title	Mod Code	Status C/O/E	K1	K2	K3	K4	K5	K6	C1	C2	C3	C4	C5	C6	P1	P2	P3	P4	P5	P6	T1	T2	T3	T4	T5	T6
Level HE 4																										
Investigating Science & PD	BIO4001	C	DTA	TAA	DTA	D	DT	DTA	DTA	DTA	D	DTA	DTA	DAA	T	DTA	TAA	D		TAA	DTA	D	D	DTA	D	DT
Molecular basis of life	BIO4002	C	DTA	DT	DT	DT	DT	DTA	DT	DTA	DT	DT	DT	DT	DT	DT	DTA	DT		DTA	DTA	DT	DT	DT	DT	DT
Diversity of Life	BIO4003	C	DTA	DTA	DTA			DTA	DA	DTA	DA			DA	DTA		DTA			DTA	DTA	DTA		DTA	DA	DA
Cellular Basis of Life	BIO4004	C	DTA	DT	DT	DT	DT	DTA	DT	DT	DT	DT	DT	DT	DT	DT	DTA	D		DTA	DTA	D	D	DT	D	DT
Physiology	BIO4005	C	DTA	DTA	DA	T	T	TA		TA	DTA	DA	D	D	DTA	DTA	D	D		DTA	DTA	D		DA	D	D
Environmental Biology	BIO4006	C	DTA	DTA	DTA	DT	DT	DTA	DTA	DTA	DTA	DTA	DTA	DTA	DTA	DTA	DTA	D	D	D	DTA	DTA	D	D	D	D
Level HE 5																										
Research Science	BIO5001	C	DTA	DTA	DTA	D	DT	DTA	DA	DTA	DA	DTA	TA	DA		TA	DTA	DA	D	DTA	DTA	D	D	DTA	DA	D

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Plant Science	BIO5002	C	DT A	D T A	DA	D T A	T	TA	D	DA		DA	DA	D A	D T A	DA	D A	D T A	D	D A	DA	D A	D	DA	D	D	
Marine Science	BIO5003	O	DT A	D T A	DT A	D T	D T	TA	DT A	DA	D	DT A	DA	D A	D T A	DT A	D A	D	D A	D A	DA	D A	D T A	DA	D A	D A	
Animal Science	BIO5004	C	DT A	D T A	DA	D T A	T	TA	D	DA		DA	DA	D A	D T A	DA	D A	D T A	D	D A	DA	D A	D	DA	D	D	
Bio-Molecular Science	BIO5005	C	DT A	D T	DT	D T A	D T A	DT A	DT A	DT A	D T	DT A	DT	DT	D T A	DT A	D T A	D T		D T A	DT A	D T	D T	DT	D T	D T	
Wild Life Biology	BIO5006	C	D	D T A	DT A	D T A		DT A	DA	DA	D A	DT A	DT A	D A	D T A	DT A	D A	D A		D A	DA	D A	D A	DA	D A	D A	
Independent Study	BIO5007	O	DT A	D T A	DT A	D T	D T	TA	DT A	DA	D	DT A	DA	D A	D T A	DT A	D A	D A	D A	D A	DA	D A	D T A	DA	D A	D A	
Level HE 6																											
Human Genetics	BIO6001	O	DT A	D T	DT A	D T A	D T A	DT A	DT A	DT A	D T A	DT A	DT A	DT A	D T A	DT A	D T A	D T A		D T A	DT A	D T	D T	DT	D T	D T	
Freshwater Biology	BIO6002	O	DT A	D T A	DT A	D T A	T A	DT A	DA	DA	D T A	DT A	DA	D A	D T A	DT A	D A	D A		D T A	DA	D A	D A	DA	D A	D A	
Molecular Evolution	BIO6004	O	DT A	D A	DT A	D T A	D T A	DT A	DT A	DT A	D T A	DT A	DT A	DT A	D T A	DT A	D T A	D T A		D T A	DT A	D T	D T	DT	D T	D T	
Sensory Physiology	BIO6005	O	DT A	D T A	TA	D T A	T A	DT A	DA	DA	D A	DA	DA	D A	D T A	DA	D A	D A		D A	DA	D A	D	DA	D A	D A	

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Project	BIO6007	C	DA		DA			DA	DA	DA	D A	DA	DA	D A	D A	DA	D A	D A	D A	D A	DA	D A	D A	DA	D A	D A
Placement	BIO6008	O				D A	D A		DA	DA	D A			DT A							DA	D T A		DT A	D T A	D T A

K. Knowledge and understanding

P. Practical, professional and subject specific skills

C. Cognitive, Intellectual and thinking skills

T. Transferable, key or personal skills

(Developed = D, Taught = T, Assessed = A)

Module listing for B.Sc (Hons) Biology (Molecular Sciences)

Module title	Mod Code	New? ✓	Level	Credits	Type	Core/Option C/O	Pre-requisite module	Assessment 1			Assessment 2			Assessment 3		
								Assessment type	Assessment %	Add Y if final item	Assessment type	Assessment %	Add Y if final item	Assessment type	Assessment %	Add Y if final item
Investigating Science & PD	BIO4001		4	20	STD	C	-	CW	50	N	Ex	50	Y			
Molecular basis of Life	BIO4002	✓	4	20	STD	C	-	CW	50	N	EX	50	Y			
Diversity of Life	BIO4003	✓	4	20	STD	C	-	CW	30	N	EX	70	Y			
Cellular Basis of Life	BIO4004	✓	4	20	STD	C	-	CW	50	N	EX	50	Y			
Physiology	BIO4005	✓	4	20	STD	C	-	CW	50	N	EX	50	Y			
Environmental Biology	BIO4006	✓	4	20	STD	C	-	CW	40	N	EX	60	Y			
Research Science	BIO5001	✓	5	20	STD	C	-	CW	80	N	PR AC	20	Y			
Plant Science	BIO5002	✓	5	20	STD	C	-	CW	50	N	EX	50	Y			
Marine Science	BIO5003	✓	5	20	Field work	O	-	CW	60	N	PR AC	40	Y			
Animal Science	BIO5004	✓	5	20	STD	C	-	CW	30	N	EX	70	Y			
Biomolecular Sciences	BIO5005	✓	5	20	STD	C	-	CW	50	N	EX	50	Y			
Wild Life Biology	BIO5006	✓	5	20	STD	C	-	CW	30	N	EX	70	Y			

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Independent Study	BIO5007	✓	5	20	Field work	O	-	PRAC	40	N	CW	60	Y			
Human Genetics	BIO6001		6	20	STD	O	-	CW	50	N	EX	50	Y			
Freshwater Biology	BIO6002		6	20	STD	O	-	CW	25	N	EX	75	Y			
Molecular Evolution	BIO6004		6	20	STD	O	-	CW	50	N	EX	50	Y			
Sensory Physiology	BIO6005		6	20	STD	O	-	PRAC	30	N	EX	70	Y			
Project	BIO6007		6	40	STD	C	-	PRAC	20	N	CW	80	Y			
Placement	BIO6008		6	20	Place ment	O	-	Pres entat ion	40	N	CW	60	Y			

Bolton Key Core Curriculum requirements

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Module Title	Module Code	C/O	Employability											Bolton Values		
			PDP	Communication	Team work	Organisation & Planning	Numeracy	Problem solving	Flexibility & adaptability	Action planning	Self awareness	Initiative	Personal impact & confidence	Inter-nationalisation	Environmental sustainability	Social, public and ethical responsibility
Investigating Science & PD	BIO4001	C	DTA	DTA	D	DTA	DTA	DA	D	D	D	D	D	D	DA	D
Molecular basis of Life	BIO4002	C		DTA	D	DT	DTA	D	D	D	D	D	D	D	D	D
Diversity of Life	BIO4003	C	D	DTA	D	DA		D	D	D	D	D	D			
Cellular Basis of Life	BIO4004	C		DTA	D	DT	DT	D	D	D	D	D	D	D		D
Physiology	BIO4005	C	D	DA	D	D	DA	DA	D	D	D	D	D			D
Environmental Biology	BIO4006	C	DT	DT	DT	D	DTA	DTA	D	D	D	D	D	DTA	DT	DT
Research Science	BIO4007	C	DA	DTA	D	DA	DTA	DA	D	DA	D	D	D		D	D
Plant Science	BIO5002	C	D	DA	D	DA	DTA	DA	D	D	D	D	D	T	DTA	D
Marine Science	BIO5003	O	D	DA	DTA	DA	DA	DA	DA	DA	D	DA	DA	T	DTA	D
Animal Science	BIO5004	C	D	DA	D	DA	DTA	DA	D	D	D	D	D	T	DTA	DTA
Biomolecular Sciences	BIO5005	C		DT	D	DT	DTA	D	D	D	D	D	D	D		D
Wild Life Biology	BIO5006	C		DA	D	DA	DA	D	D	D	D	D	D	D	DTA	D
Independent Study	BIO5007	O	D	DA	DTA	DA	DA	DA	DA	DA	D	DA	DA	T	DTA	D
Human Genetics	BIO6001	O		D	D	DT	DTA	D	D	D	D	D	D	D		D
Freshwater Biology	BIO6002	O	D	DTA	DA	DA	DTA	DA	D	D	D	D	DA	DT	DTA	DTA

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Molecular Evolution	BIO6004	O		DT	D	DT	DTA	D	D	D	D	D	D	D		D
Sensory Physiology	BIO6005	O	D	DTA	DA	DA	DA	DA	D	D	D	D	DA			D
Project	BIO6007	C	D	DA		DA	DA	DA	DA	DA	DA	DA	DA			D
Placement	BIO6008	O	DTA	DA	DA	DTA		D	DA	DTA	DA	DA	DA	DA	DA	DA

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Learning outcomes map

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