



UNIVERSITY OF
LINCOLN

BSc (Hons) Bioveterinary Science

With exit points at:

BSc Bioveterinary Science
Certificate of Higher Education
Diploma of Higher Education

Bioveterinary Science

Programme Specification

June 7 2008

Marketing Summary

This *BSc. (Hons) in **Bioveterinary Science*** is designed to meet the needs of students and employers looking for practical skills and knowledge in the professions allied to the practice of veterinary medicine. It is suited to those who want a career in science related to animals. The course covers the fundamentals of animal biological systems, and includes study of welfare in order to enhance the quality of life of the animals for which the graduate may be responsible.

Teaching methods include conventional lectures and practical classes, which cover the core subject matter and technical skills of animal science, supported by tutorials and seminars which allow students to develop, analyse and present their own findings in areas of the field of interest. Practical classes allow students to practise information gathering and project management skills, which can be put to use in their final year dissertation project. Assessment is by coursework and examination, though practical and scientific skills and the independent project is entirely based on coursework.

The course offers a scientific education in the care and management of animals and is therefore suitable both for students planning to work with animals and for students looking for a rounded graduate education in an interesting and challenging subject area. Graduates will typically find employment in careers associated with veterinary science, primarily in relation to laboratory work. Graduates may also follow careers in education, in media and in the development, marketing and sales of animal products. The course also offers a route to enter specialised courses such as the veterinary and para-veterinary professions.

For the purpose of benchmarking, the subject-specific components of the course can be seen as referring to aspects of both the Biomedical Science (BMS) and Veterinary Science (VS) benchmark statements. BMS graduates are seen as having “an understanding of scientific investigation and disease”, while VS graduates demonstrate “knowledge and understanding ... as the basis for the study and practice of clinical veterinary medicine”. Thus, it is considered that the appropriate benchmark attributes and capabilities are the BMS core subjects applied in the non-human animal context, together with the underpinning VS subjects.

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1. Basic programme data

This document describes one of the University of Lincoln's programmes using the protocols required by the UK National Qualifications Framework as defined in the publication *QAA guidelines for preparing programme specifications*

Final award(s)	<i>BSc. (Hons)</i>
Programme title	<i>Bioveterinary Science</i>
Other exit awards	<i>BSc Bioveterinary Science</i> Certificate of Higher Education Diploma of Higher Education
Other awards using modules from this programme	Animal Behaviour Science, Animal Management and Welfare, Bioveterinary Science, Certificate in Health Studies (Veterinary Medicine and Science), Conservation Biology, Equine Science, Equine Sports Science
Mode of delivery	Full time
UCAS code	D300
Awarding body	University of Lincoln
Teaching institution	<i>University of Lincoln</i>
Relevant QAA subject benchmarks	Biomedical Science; Veterinary Science
Professional/statutory accreditation	
Date of validation	<i>May 2008</i>
Programme start date	<i>September 2008</i>
Document publication date	<i>Date of confirmation of approval by Faculty</i>
Revision 1	<i>Date of confirmation of approval of revision by Faculty</i>
Revision 2	<i>Date of confirmation of approval of revision by Faculty</i>
Revision 3	<i>Date of confirmation of approval of revision by Faculty</i>

2. Programme aims and objectives

2.1. Educational aims of the programme

The *BSc (Hons) Bioveterinary Science* aims to provide students with skills and knowledge necessary to pursue graduate careers in professions allied to the practice of veterinary medicine. This will be achieved by providing students with an understanding of the fundamental principles of animal science and their applications in the laboratory. The programme combines the development of practical animal management skills with essential subject specific knowledge and the opportunity to develop their own academic and vocational interests through independent study.

The *BSc (Hons) Bioveterinary Science* is distinctive in that

Firstly, students will have the opportunity to acquire competence in a wide range of analytical and investigatory techniques, underpinned by appreciation of the biological systems of animals.

Secondly, lecturing staff are active in research in nutrition, biochemistry, pathology and exercise physiology. Consequently teaching covers both the established fundamentals of the subject and important recent development. Students are encouraged to adopt an enquiring, research orientated approach to their studies, which ultimately better equips graduates than knowledge alone.

Thirdly, teaching staff have strong links with animal industries notably feed companies, welfare charities, the farming industry, bio-medical institutes and the veterinary and para-veterinary professions. We, therefore, appreciate the requirements of employers in animal based careers and are well placed to offer career advice and direction to undergraduates interested in working with animals.

2.2. QAA Subject benchmarks (Available at <http://www.qaa.ac.uk/academicinfrastructure>)

The *BSc (Hons) Bioveterinary Science* responds to the United Kingdom QAA benchmark statements for the subjects of Biomedical Science and Veterinary Science. In relation to transferable skills and attributes, the reference point is the benchmark for Biosciences.

Appendix III provides a detailed specification of the relationship between this programme's curriculum **and the relevant QAA** benchmarks.

2.3. Internal contexts

The *BSc (Hons) Bioveterinary Science* is part of the suite of Animal Science programmes delivered by Department of Biological Sciences at University of Lincoln. The Department is based at Riseholme Park Campus, where there are laboratory and animal facilities and expertise in nutrition, health and disease, molecular biology and physiology, animal care, behaviour and welfare.

2.4. External contexts

The *BSc (Hons) Bioveterinary Science* includes the basics of animal nutrition, disease, physiology and breeding as applied to farm animals, companion animals, laboratory animals, exotic animals, zoo species and native wild animals. In addition, the course places a strong emphasis on the bioethical and welfare contexts within which these sciences operate.

Interest in companion animal sciences, the veterinary and para-veterinary sciences and whole animal biology, including behaviour and welfare, has grown in response to public concern for the behaviour and welfare of farm, zoo, laboratory and companion animals. Many highly motivated students are seeking graduate careers in professions and subjects allied to veterinary medicine. Traditionally animal science courses and careers were focussed on production of farm animals, and animal science courses had an emphasis on breeding, nutrition and productivity of agricultural domestic animals. Animal science students were therefore expected to have a strong background in agricultural or biological sciences and there were few opportunities to bridge the gap between these subject areas and the veterinary and para-veterinary sciences.

The degree appeals to a wide spectrum of potential students by teaching in the first year both the fundamental biological concepts that are most relevant to the understanding of animal health and welfare, and the practical laboratory skills and underpinning bioethical and welfare issues. This is followed by a concentration on the understanding of the scientific principles underlying veterinary practise in the second year and application of these principles to practical animal husbandry issues in the final year.

3. Programme outcomes

Programme-level learning outcomes are identified below. Refer to *Error! Reference source not found.* for details of how outcomes are deployed across the study programme.

3.1 Knowledge and understanding

On successful completion of the *this programme* a student will be able to

A1	Understand scientific principles underlying the veterinary and paraveterinary professions
A2	Appreciate the legal restrictions and ethical considerations placed on those responsible for animal well being
A3	Appreciate how this knowledge underpins the approaches adopted in the veterinary and para-veterinary professions
A4	Apply fundamental aspects of animal science to issues in bio-veterinary science
A5	Assess welfare status of animals and take steps to assure it
A6	Design and conduct studies to investigate a hypothesis
A7	Develop appropriate interdisciplinary solutions to problems in bio-veterinary science
A8	Appreciate strengths, weaknesses, risks and opportunities associated with changes in animal based operations & use these criteria decision making
A9	Understand fundamental aspects of biology relating to functioning of animals in relation to bio-veterinary science

3.2 Subject specific skills and attributes

On successful completion of *this programme* a student will be able to demonstrate the following capabilities related to intellectual and practical skills (section 4.4 and 4.5 of Agriculture benchmark statements)

B1	Work safely and effectively in laboratories and other animal installations
B2	Demonstrate competence in a range of laboratory analytical techniques
B3	Design, manage, monitor, present and critically analyse relevant project work
B4	Understand the range of techniques available to generate and analyse data
B5	Acquire, evaluate, process, review and interpret information from scientific publications and reports
B6	Handle farm, laboratory and companion animals in a safe and compassionate way

3.3 Transferable skills and attributes

On successful completion of this programme a student will be able to demonstrate those skills that relate to sections 4.6 to 4.10 of Agriculture benchmark statement

C1	Communication and citation of Scientific Information
C2	Application of number
C3	Information technology and presentation including word processing and spreadsheet management, use of electronic learning resources, web-based resources and analysis and presentation software
C4	Evaluation of own work including effective time management and assessment of project outcomes
C5	Managing team-working situations and working effectively with others on

	projects
C6	Improve own learning and performance through group and class discussion and evaluation
C7	Apply skills derived from their degree to further career development

4. Teaching, learning and assessment strategies

Appendix 1 (<http://www.qaa.ac.uk/academicinfrastructure/FHEQ/EWNI/default.asp>) of Higher Education Qualifications Framework states that

Honours degrees are awarded to students who have demonstrated:

- i) a systematic understanding of key aspects of their field of study, including acquisition of coherent and detailed knowledge, at least some of which is at or informed by, the forefront of defined aspects of a discipline;
- ii) an ability to deploy accurately established techniques of analysis and enquiry within a discipline;
- iii) conceptual understanding that enables the student:
 - to devise and sustain arguments, and/or to solve problems, using ideas and techniques, some of which are at the forefront of a discipline; and
 - to describe and comment upon particular aspects of current research, or equivalent advanced scholarship, in the discipline;
- iv) an appreciation of the uncertainty, ambiguity and limits of knowledge;
- v) the ability to manage their own learning and to make use of scholarly reviews and primary sources (eg refereed research articles and/or original materials appropriate to the discipline).

Typically, holders of the qualification will be able to:

- a) apply the methods and techniques that they have learned to review, consolidate, extend and apply their knowledge and understanding, and to initiate and carry out projects;
- b) critically evaluate arguments, assumptions, abstract concepts and data (that may be incomplete), to make judgements, and to frame appropriate questions to achieve a solution - or identify a range of solutions - to a problem;
- c) communicate information, ideas, problems, and solutions to both specialist and non-specialist audiences;

and will have:

- d) qualities and transferable skills necessary for employment requiring:
 - the exercise of initiative and personal responsibility;
 - decision-making in complex and unpredictable contexts; and
 - the learning ability needed to undertake appropriate further training of a professional or equivalent nature.

The programme ensures compliance with the Framework for Higher Education Qualifications as described below.

4.1. Teaching and learning strategy

Students studying *BSc (Hons) Bioveterinary Science* will come from diverse backgrounds, including National Diplomas, science based and non-science based AS/A2 level, Access courses and mature students with practitioner experience. The teaching strategy of year 1, therefore aims to bring all students up to similar levels of core knowledge, subject specific skills and skills appropriate to studying in higher education. Level 1 covers the principles and practice of animal biology and promotion of well-being through lectures, seminars and practical classes, and assessments are designed both to test this knowledge and skills as well as develop the learning skills required in year 2. Lectures introduce key topics in the subject area and guide students' independent study. Practical classes allow students to practise and develop experimental skills essential to each component of the course and to demonstrate principles introduced in the lectures. Practical classes also allow multiple opportunities for formative feedback on skills, knowledge and their application, as well as rapid formative feedback through log books and short reports/presentations, whereby specific skills are assessed.

In Level 2, teaching is more focussed on the key areas of subject specific knowledge, such as animal nutrition, microbiology, biochemistry and reproduction and these are presented and assessed in greater depth than in year 1. The use of journal based research is encouraged at this stage and greater emphasis placed on reviewing and discussing areas of debate in the field. Practical classes allow more opportunity to investigate alternative methodologies and approaches to analysis and presentation of data and students will present more complete write-ups of specific practical findings in the form of scientific reports. In addition a number of units use longer term group based projects to help to students develop the management and presentation skills required in project work. Small group tutorials are used to allow students to raise problems they are having with course contents as well as discuss topics of interest.

In level 3, lectures and practical classes are more focussed on application of knowledge and skills developed in years 1 and 2 to real world situations such as the practical issues encountered in veterinary and para-veterinary practice. Students will also develop their own interests through self-guided research skills, as library based study and background research and project work. Seminars and small group tutorials will be used to facilitate class discussion and in addition to the subject-specific expertise of lecturing staff, there will be site visits and lectures by external specialists to provide experience of animal management in practice and exposure to a wider constituency of scientific opinion.

Development of graduate skills is integrated and embedded within subject specific units. A tutorial system whereby students are allocated academic tutors who guide and advice on academic development is used to support students' Personal Development Plans and advise on preparation for post-graduate careers. Information technology, data handling, scientific writing, time management, communication and presentation skills are taught and tested as part of coursework in year 1. In year 2, there is an emphasis on career preparation, team working, planning and project management, whilst in year 3, students are exposed to a wider range of working environments and greater opportunity to pursue their own academic and career interests, as well as integrate all these skills within their dissertation project.

Academic tutors work closely with central university services, such as Careers Service, Disability Access Resource Team (DART) and Student Support Services where students require specialist support in job seeking, financial and emotional guidance and support of teaching and learning for students with disabilities.

4.2. Assessment strategy

Assessment is by coursework for the majority of units, supported by end of unit examination where appropriate. Examinations are designed to test students' knowledge base and application, whilst practical, academic and transferable skills are largely assessed on coursework.

Summative assessment in year 1 is based on a larger number of smaller items of coursework focussed on individual learning outcomes. The idea of "little but often" is to ensure rapid and focussed feedback both on subject knowledge and on learning and presentation skills. For example, in the first year students receive their experimental protocols for practical classes in laboratory log books. Log books are marked and students receive rapid feedback on each practical. In year 1, examinations tend to take form of short answer questions to ensure comprehensive coverage of subject areas.

Formative assessment is provided during practical classes where students can apply knowledge from lectures as well as seek guidance on practical skills. Students are also encouraged to ask questions during lectures to clarify issues, or even develop ideas derived from lecture material. Lecturer's will also set aside time for workshops and seminars focussed on key subjects, where for example students can work in groups on one of a number of topics, present their conclusions for class based debate and receive feedback from lecturers as well as peers.

In Level 2, assessment is also more focussed on the key areas of knowledge of the subject, which are assessed in greater depth than in year 1. Individual assignments are larger and cover a wider range of learning outcomes with the aim of students integrating ideas and knowledge from a wider range of information sources. Greater emphasis is placed on reviewing and discussing areas of debate in the field. Practical work is assessed by more complete formal written reports rather than completion log books. Examinations are normally a mix of long (essay) and short answer questions with the aim of both covering entire knowledge base of units and allowing more detailed exploration of key subjects.

In year 3 assignments are smaller in number but larger in scale than year 2 to provide opportunity to investigate topics in more depth and to demonstrate the analytical skills and critical insight expected of graduate students. Similarly examination includes questions that stimulate evaluation of information. Each student conducts a large dissertation thesis where they are allocated a subject specialist to provide support and guidance throughout the year long project. Projects are usually experimental in nature, and students have opportunity to practise project planning and design, problem solving and time management, collection, analysis and presentation of data, and discussion of their study subject. Assessment includes literature review, experimental write up and spoken presentation, with tutors able to provide feedback and advice based on production of drafts. In addition to continued opportunity for in class-room based feedback as part of formative assessment, one to one tutorial support of projects provides many opportunities for feedback and improvement in performance as well as experience of working closely within a team.

Appendix II Assessment Map gives a top-level indication of the scheduling and distribution of assessment modes within the programme. Details of unit assessment strategy are included with each unit specification. Students are also provided with an assignment pack that includes a schedule of assignments throughout the semesters.

5. Programme structure

The *BSc (Hons) Bioveterinary Science* adopts the University's standard model for a 360 CATS points, 3 year undergraduate programme.

Table 1 Programme structure: Core Units in Bold. All units are 15 credits unless otherwise stated.

Level 1 (120 credit points)	Sem A	Mammalian Physiology	Research Skills and Biometrics	Evolution, Genetics & Domestication	Animal Husbandry and Welfare	
All 15 credits	Sem B	Mammalian Physiology	Cell Biology and Immunology	Comparative Anatomy	Biochemistry	
Cert. HE						
Level 2 (240 credit points)	Sem A	Nutritional Science	Applied Statistics	Veterinary Microbiology	Metabolism	
All 15 Credits unless stated Dip HE	Sem B	Livestock Systems	Veterinary Parasitology	Reproduction & Breeding	Veterinary Anatomy	
Level 3 (360 credit points)	Sem A	Project and Dissertation (BVS) (30 credits)	Equine disease	Animal Disease	Diagnostics and Analytics	
BSc	Sem B	Project and Dissertation (BVS) (30 credits)	Clinical nutrition	Current Issues in Bio-veterinary Science	Biotechnology	

Table 1 Programme structure illustrates the unit composition of the *BSc (Hons) Bioveterinary Science* programme.

For details of each unit contributing to the programme, please consult the individual unit specifications.

6. Regulatory framework

The *BSc (Hons) Bioveterinary Science* is operated under the policy and regulatory frameworks of the University of Lincoln.

The following sub-sections note the applicable University policy documents and draw attention to any exceptions, peculiarities or conditions that relate particularly to this programme. Many of the policy documents are convenient abstracts of *University Regulations*, published annually by the university.

6.1 Admissions

Directorate, *University Regulations* (University of Lincoln: current edition). (see Secretariat portal site 'Regulations')

6.2 Assessment

Academic Registry, *Progression, Awards and Award Classifications - Degree Programmes* (University of Lincoln: current edition). (see Secretariat portal site 'Regulations')

6.3 Progression

Academic Registry, *Progression, Awards and Award Classifications - Degree Programmes* (University of Lincoln: current edition). (see Secretariat portal site 'Regulations')

6.4 Placement

Placement policy (University of Lincoln: current edition). (see Secretariat portal site 'Academic policies')

6.5 Study abroad

No provision is made for study abroad.

6.6 Student support and guidance

Handbook for Academic Tutors (See Teaching and Learning Development Office portal site)

6.7 Off-campus delivery

No provision is made for off-campus delivery.

6.8 Ethical Issues

Secretariat, *Ethical Principles for Conducting Research with Humans or other Animals*, (University of Lincoln: current edition) (see Secretariat portal site 'Academic policies')

6.9 Equal Opportunities

Student Services, Statements on Equal Opportunities

Appendix I - Curriculum map BVS

This table indicates which study units assume responsibility for delivering (D) and assessing (X) particular programme learning outcomes.

Study unit	A1	A2	A3	A4	A5	A6	A7	A9	A8	B1	B2	B3	B4	B5	B6	C1	C2	C3	C4	C5	C6	C7
Animal Husbandry and Welfare		X	X		X					X		X			X					D	X	
Cell Biology and Immunology	X		X			X		X		X	X	X	X					X				D
Evolution, Genetics and Domestication	X					X		X								D		D	X	X		
Research Methods and Biometrics	X					X						X	X			X	X	D	X	D	D	
Mammalian Physiology (30 CATS)	X		X					X		X	X		X			X	X	D				
Basic Biochemistry	X							X					X			X		D	X			
Comparative Anatomy	X		X					X		X	X		X			X						
Applied Statistics						X							X			X	X	D				
Veterinary Microbiology	X		X		X			X		X	X			X		D	D					D
Metabolism	X		X				X	X			X									D		
Nutritional Science	X		X				X	X			X					D				D		D
Veterinary Parasitology	X		X	X			X	X		X	X			D		D						D
Veterinary Anatomy	X		X				X	X			X									D		
Livestock Systems			X						D					X	D					D	D	
Reproduction and Breeding	X		X				X	X			X					X				D		D
Project Preparation (BVS)						X	X			D	D	D		D		X		D	X		D	
Animal Disease	X		X	X	D		X	X		D	D			X	D	X		X		D	D	
Daignostics and Anatytics	X		X		X		D	D		X	X			D		X	D		D	D		
Project and Dissertation (BVS) (30 CATS)	X		D			X	X			D	D	D	D	D		X	X	X	X	D	X	D

Study unit	A1	A2	A3	A4	A5	A6	A7	A9	A8	B1	B2	B3	B4	B5	B6	C1	C2	C3	C4	C5	C6	C7
Equine Disease	D		X	X	X		X	X		D	D			X	D	X		X		D	D	
Clinical Nutrition	X	D	X				X	X		D	X		X	D		X			X		D	
Current Issues in Bioveterinary Science	X	D	X	X			D	X		D	D	X		D		X			X	X	D	
Biotechnology	X	D								D	D					X	X		X			

Appendix II - Assessment map

This table indicates the modality of module assessment within Bioveterinary Science. Percentages indicate assessment weighting. Shading indicates examination (as opposed to in-course assessment). Where assessment is group based, the entry is decorated with the letter 'G'. Those in italics are where the assessment may be spread across a number of weeks, such as presentations.

Level	Semester	Module	Week															
			1	2	3	4	5	6	7	8	9	10	11	12	13	14		
1/C	A	Animal Husbandry and Welfare									50						50	
	A	Mammalian Physiology					25							25			50	
	A	Evolution, Genetics and Domestication							50								50	
	A	Research Skills and Biometrics				25						25		50				
	B	Cell Biology and Immunology								25			25					50
	B	Mammalian Physiology					25								25			50
	B	Biochemistry									25				25			50
	B	Comparative Anatomy														50		50
2/I	A	Nutritional Science								25				25				50
	A	Veterinary Microbiology											50					50
	A	Applied Statistics									50							50
	A	Metabolism				25									25			50
	B	Livestock Systems						50										50
	B	Veterinary Parasitology											50					50
	B	Veterinary Anatomy									50							50
	B	Reproduction and Breeding									50							50

Level	Semester	Module	Week															
			1	2	3	4	5	6	7	8	9	10	11	12	13	14		
3/H	A	Animal Disease									50						50	
	A	Equine Disease											50				50	
	A	Diagnostics and Analytics													50		50	
	A	Project and Dissertation (30 CATS)					0											
	B	Clinical Nutrition												50				50
	B	Current Issues in Bioveterinary Science								50								50
	B	Biotechnology														50		50
	B	Project and Dissertation (30 CATS)											150					50

Appendix III - Benchmarking analysis

This table summarises the key features of BSc (Hons) Bio-Veterinary Science, with the particular aim of demonstrating the mapping between programme learning outcomes and the QAA benchmark statement for the subjects of *Biosciences*, *Biomedical Sciences* and *Veterinary Science*.

(1)

The QAA Subject Benchmark Statement for Biosciences tabulates the standards required of students to achieve honours degrees as follows. The specific graduate and key skills that should be developed in bioscience degree courses are subdivided into the following headings:

- intellectual skills;
- practical skills;
- communication skills;
- numeracy, communications and information technology (C & IT) skills;
- interpersonal and teamwork skills;
- self-management and professional development skills.

Intellectual skills

1. recognising and applying subject-specific theories, paradigms, concepts or principles. For example, the relationship between genes and proteins, or the nature of essential nutrients in microbes, cells, plants and animals;
2. analysing, synthesising and summarising information critically, including published research or reports;
3. obtaining and integrating several lines of subject-specific evidence to formulate and test hypotheses;
4. applying subject knowledge and understanding to address familiar and unfamiliar problems;
5. recognising the moral and ethical issues of investigations and appreciating the need for ethical standards and professional codes of conduct.

Practical skills

1. designing, planning, conducting and reporting on investigations, which may involve primary or secondary data (eg from a survey database). These data may be obtained through individual or group projects;
2. obtaining, recording, collating and analysing data using appropriate techniques in the field and/or laboratory, working by themselves or in a group, as is most appropriate for the subject under study;
3. undertaking field and/or laboratory investigations of living systems in a responsible, safe and ethical manner. For example, students must pay due attention to risk assessment, relevant health and safety regulations, and procedures for obtaining informed consent. In some biosciences, graduates will show that they respect the rights of access, for example in field work or in order to map the genes of a community, family or group of plants or animals, including humans. They should show sensitivity to the impact of investigations on the environment, on the organisms or subjects under investigation, and on other stakeholders.

Numeracy, communication and information technology skills

1. receiving and responding to a variety of sources of information: textual, numerical, verbal, graphical;
2. communicating about their subject appropriately to a variety of audiences using a range of formats and approaches;
3. citing and referencing work in an appropriate manner;
4. sample selection; recording and analysing data in the field and/or the laboratory; validity, accuracy, calibration, precision, replicability and uncertainty during collection;
5. preparing, processing, interpreting and presenting data, using appropriate qualitative and quantitative techniques, statistical programmes, spreadsheets and programs for presenting data visually;

6. solving problems by a variety of methods including the use of computers;
7. using the internet and other electronic sources critically as a means of communication and a source of information.

Interpersonal and teamwork skills

1. identifying individual and collective goals and responsibilities and performing in a manner appropriate to these roles;
2. recognising and respecting the views and opinions of other team members; negotiating skills;
3. evaluating performance as an individual and a team member; evaluating the performance of others;
4. developing an appreciation of the interdisciplinary nature of science and of the validity of different points of view.

Self-management and professional development skills

1. developing the skills necessary for self-managed and lifelong learning (eg working independently, time management and organisation skills);
2. identifying and working towards targets for personal, academic and career development;
3. developing an adaptable, flexible, and effective approach to study and work.

(2)

The QAA benchmark statements for the subjects of Biomedical Science and Veterinary Science are not highly prescriptive and simply state the following:

Subject-specific knowledge and understanding: in relation to Biomedical Sciences as applied to non-human animals

Graduates acquire knowledge in the core subject areas indicated below:

Anatomy and physiology

Biochemistry

Molecular genetics

Immunology

Microbiology

Subject-specific knowledge and understanding: in relation to Veterinary Sciences

Graduates demonstrate knowledge and understanding in the following areas:

Structure and function of animals

Health and husbandry of domestic animals

Understanding animal disease

Disease agents

The principles of pharmacology and toxicology

Legal, environmental and ethical considerations

			Intellectual	Practical	Numeracy Comm IT	Teamwork	Self mgmt	Biomedical	Veterinary
BVS	A1	Understand scientific principles underlying the veterinary and para-veterinary professions	1 2					1 2 3 4 5	1 2 3 4 5 6
BVS	A2	Appreciate the legal restrictions and ethical considerations placed on those responsible for animal well being	1 4				1 2 3		2 6
BVS	A3	Appreciate how this knowledge underpins the approaches adopted in the veterinary and para-veterinary professions	1 4					1 2 3 4 5	1 2 3 4 5
BVS	A4	Apply fundamental aspects of animal science to issues in bio-veterinary science						1 2 3 4 5	3 4 5
BVS	A5	Assess welfare status of animals and take steps to assure it	1 5						2 3 6
BVS	A6	Design and conduct studies to investigate a hypothesis	1			1	1 2 3	1 2 3 4 5	
BVS	A7	Develop appropriate interdisciplinary solutions to problems in bio-veterinary science	1 3		4 6	1	1 2 3	1 2 3 4 5	1 2 3 4 5 6
BVS	A8	Appreciate and analyse financial and other management information and use it in decision making	1				1		
BVS	A9	Understand fundamental aspects of biology relating to functioning of animals in relation to bio-veterinary science	1 2						
BVS	B1	Work safely and effectively in laboratories and other animal installations		2	4		1	1 2 3 4 5	1 2 3 4 5
BVS	B2	Demonstrate competence in a range of laboratory analytical techniques		2	4		1	1 2 3 4 5	1 2 3 4 5
BVS	B3	Design, manage, monitor, present and critically analyse relevant project work	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7		1 2 3		
BVS	B4	Understand the range of techniques available to generate and analyse data	1 2 3 4 5	1 2 3	1			1 2 3 4 5	1 3 4 5
BVS	B5	Acquire, evaluate, process, review and interpret information from scientific publications and reports	2	1	3			1 2 3 4 5	1 2 3 4 5 6
BVS	B6	Handle farm, laboratory and companion animals in a safe and compassionate way		1 2 3					1 2 6
BVS	C1	Communication and citation of Scientific Information	2		3				
BVS	C2	Application of Number		2	4 5 6				
BVS	C3	Information Technology and Presentation			2				
BVS	C4	Problem Solving and Critical Analysis of Own Work, with effective time management					1 2 3		
BVS	C5	Team-work and Working with Others on Projects				1 2 3 4			
BVS	C6	Improve own Learning and Performance through Group and Class Discussion				1 2 3 4			
BVS	C7	Career development skills							