Programme Specification – 2016/17

1. Awarding body
   University of Surrey

2. Teaching institution (if different)
   NA

3. Final award and programme/pathway title
   BSc (Hons) Veterinary Biosciences

4. Subsidiary award(s) and title(s)
<table>
<thead>
<tr>
<th>Award</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSc (Ord)</td>
<td>Veterinary Biosciences</td>
</tr>
<tr>
<td>Dip HE</td>
<td>Veterinary Biosciences</td>
</tr>
<tr>
<td>Cert HE</td>
<td>Veterinary Biosciences</td>
</tr>
</tbody>
</table>

5. FHEQ Level
   4, 5 and 6

6. Credits and ECTS credits
   360 UK credits, 180 ECTS credits

7. Name of Professional, Statutory or Regulatory Body (PSRB)
   NA

8. Mode of study and route code
<table>
<thead>
<tr>
<th>Mode of study</th>
<th>Route code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time</td>
<td>Y</td>
</tr>
<tr>
<td>Full-time with PTY</td>
<td>Y</td>
</tr>
<tr>
<td>Part-time</td>
<td>N</td>
</tr>
<tr>
<td>Distance learning</td>
<td>N</td>
</tr>
<tr>
<td>Short course</td>
<td>N</td>
</tr>
</tbody>
</table>

9. JACs code
   NA

10. QAA Subject benchmark statement (if applicable)
    Veterinary Biosciences

11. Other internal and / or external reference points
    NA

12. Faculty and Department/School
    Faculty of Health and Medical Sciences; School of Biosciences and Medicine

13. Programme Leader
    Dr Teresa Hollands and Dr Jorge Gutierrez-Merino

14. Date of production/revision of the specification
    July 2016

15. Educational aims of the programme
    - To provide a high quality education in the various aspects of Biological Sciences for students with an interest in veterinary science and diverse career aspirations (including laboratory scientist, researcher, scientific writer/editor).
    - To further the students’ knowledge of the fundamental principles of biological sciences and to develop a deeper knowledge in the close relationship between human and animal health.
    - To provide the appropriate environment to encourage the development of the students’ interest in biological sciences and to help them acquire appropriate intellectual, scientific, technical and key transferable skills to promote self-directed and life-long learning.

16. Programme learning outcomes – the programme provides opportunities for students to develop and demonstrate knowledge and understanding, skills, qualities and other attributes in the following areas:

   BSc (Hons)

   Knowledge and understanding
   - An understanding of laboratory-based investigations in biological sciences applicable to studying animal health and disease.
• An understanding of the basic principles of biological sciences and the application of these to the understanding and solution of a range of scientific and academic problems related to human and animal health.

• A good breadth of knowledge in the field of biological sciences in general and a good depth of knowledge in the specialist fields as defined in these specifications and the subject benchmarking statements.

• An understanding of the basic principles of animal handling, veterinary anatomy, nutrition, toxicology, pharmacology, immunology and infectious diseases.

**Intellectual / cognitive skills**

• Evaluate research findings and scientific literature and demonstrate the ability to find and evaluate appropriate sources of material and to critically assess it.

• Demonstrate an understanding of research design and planning and the limits of scientific findings.

(3.3, 3.4, 3.5. Key Skills mapping related to many areas)

**Professional practical skills**

• Learn basic laboratory skills relevant to biological and veterinary sciences.

• Develop advanced practical skills relevant to biological and veterinary sciences.

• Interpret qualitative and qualitative data.

• Learn independently.

• Take responsibility for planning and organisation of work both their own and in a team.

(Relevant Bioscience Benchmarks 3.4, 3.5, 3.6, 3.7, 3.10 and Key Skills)

**Key / transferable skills**

• Communicate ideas, principles and theories effectively by oral, written and visual means.

• Work effectively and independently on a given project or task.

• Work effectively in small groups and teams towards a common goal/outcome.

• Apply basic statistical and numerical skills to biological data.

• Use Information Technology e.g. WWW, CD-ROM databases, word processors and statistics packages.

(Relevant Bioscience Benchmarks –3.7, 3.8)

(3.4, 3.7, 3.8, 3.9, 3.10 and Key Skills)

**BSc (Ord)**

**Knowledge and understanding**

• An understanding of laboratory-based investigations in biological sciences applicable to studying animal health and disease.

• An understanding of the basic principles of biological sciences and the application of these to the understanding and solution of a range of scientific and academic problems related to human and animal health.

• A good breadth of knowledge in the field of biological sciences in general and a good depth of knowledge in the specialist fields as defined in these specifications and the subject benchmarking statements.

• An understanding of the basic principles of animal handling, veterinary anatomy, nutrition, toxicology, pharmacology, immunology and infectious diseases.
### Intellectual / cognitive skills
- Evaluate research findings and scientific literature and demonstrate the ability to find and evaluate appropriate sources of material and to critically assess it.
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(3.3, 3.4, 3.5. Key Skills mapping related to many areas)

### Professional practical skills
- Learn basic laboratory skills relevant to biological and veterinary sciences.
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- Communicate ideas, principles and theories effectively by oral, written and visual means.
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- Apply basic statistical and numerical skills to biological data.
- Use Information Technology e.g. WWW, CD-ROM databases, word processors and statistics packages.

(Relevant Bioscience Benchmarks –3.7, 3.8)
(3.4, 3.7, 3.8, 3.9, 3.10 and Key Skills)

### Dip HE

#### Knowledge and understanding
- An understanding of laboratory-based investigations in biological sciences applicable to studying animal health and disease.
- An understanding of the basic principles of biological sciences and the application of these to the understanding and solution of a range of scientific and academic problems related to human and animal health.
- A good breadth of knowledge in the field of biological sciences in general and a good depth of knowledge in the specialist fields as defined in these specifications and the subject benchmarking statements.
- An understanding of the basic principles of animal handling, veterinary anatomy, nutrition, toxicology, pharmacology, immunology and infectious diseases.

#### Intellectual / cognitive skills
- Evaluate research findings and scientific literature and demonstrate the ability to find and evaluate appropriate sources of material and to critically assess it.
- Demonstrate an understanding of research design and planning and the limits of scientific findings.

(3.3, 3.4, 3.5. Key Skills mapping related to many areas)

#### Professional practical skills
- Learn basic laboratory skills relevant to biological and veterinary sciences.
- Develop advanced practical skills relevant to biological and veterinary sciences.
- Interpret qualitative and qualitative data.
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(Relevant Bioscience Benchmarks 3.4, 3.5, 3.6, 3.7, 3.10 and Key Skills)

### Key / transferable skills

- Communicate ideas, principles and theories effectively by oral, written and visual means.
- Work effectively and independently on a given project or task.
- Work effectively in small groups and teams towards a common goal/outcome.
- Apply basic statistical and numerical skills to biological data.
- Use Information Technology e.g. WWW, CD-ROM databases, word processors and statistics packages.

(Relevant Bioscience Benchmarks –3.7, 3.8)
(3.4, 3.7, 3.8, 3.9, 3.10 and Key Skills)

### CertHE

#### Knowledge and understanding

- An understanding of laboratory-based investigations in biological sciences applicable to studying animal health and disease.
- An understanding of the basic principles of biological sciences and the application of these to the understanding and solution of a range of scientific and academic problems related to human and animal health.
- A good breadth of knowledge in the field of biological sciences in general and a good depth of knowledge in the specialist fields as defined in these specifications and the subject bench marking statements.
- An understanding of the basic principles of animal handling, veterinary anatomy, nutrition, toxicology, pharmacology, immunology and infectious diseases.

#### Intellectual / cognitive skills

- Evaluate research findings and scientific literature and demonstrate the ability to find and evaluate appropriate sources of material and to critically assess it.
- Demonstrate an understanding of research design and planning and the limits of scientific findings.

(3.3, 3.4, 3.5. Key Skills mapping related to many areas)

#### Professional practical skills

- Learn basic laboratory skills relevant to biological and veterinary sciences.
- Develop advanced practical skills relevant to biological and veterinary sciences.
- Interpret qualitative and qualitative data.
- Learn independently.
- Take responsibility for planning and organisation of work both their own and in a team.

(Relevant Bioscience Benchmarks 3.4, 3.5, 3.6, 3.7, 3.10 and Key Skills)

### Key / transferable skills

- Provide clear and precise oral, written and visual communication of ideas, principles and theories.
- Demonstrate an independent work ethic and a willingness to assume responsibility for planning and organisation of work.
- Work effectively in small groups and teams towards a common goal/outcome.
• Communicate ideas, principles and theories effectively by oral, written and visual means.
• Work effectively and independently on a given project or task.
• Work effectively in small groups and teams towards a common goal/outcome.
• Apply basic statistical and numerical skills to biological data.
• Use Information Technology e.g. WWW, CD-ROM databases, word processors and statistics packages.

(Relevant Bioscience Benchmarks – 3.7, 3.8)
(3.4, 3.7, 3.8, 3.9, 3.10 and Key Skills)

17. Programme structure – including the route / pathway / field requirements, levels modules, credits, awards and further information on the mode of study.

All programmes operate on a 15 credit modular structure over two semesters. All taught modules are semester based and are worth 15 credits, which is indicative of 150 hours of learning, comprised of student contact, private study and assessment. Project and dissertation modules can be either 15, 30, 45 or 60 credits.

All programmes operate on a 15 credit modular structure over two semesters. All taught modules are semester based and are worth 15 credits, which is indicative of 150 hours of learning, comprised of student contact, private study and assessment.

This programme is studied full-time over three or four academic years. Three years without a Professional Training Year and four years with a Professional Training Year. In order to achieve the principal award of BSc (Hons) a student must complete 360 credits, 120 credits at FHEQ levels 4, 5 and 6 respectively. In order to achieve the principal award with a professional training year students must also complete 120 credits at level P. Students are also eligible to exit the programme with the following subsidiary awards:

• BSc (Ord) – 300 credits with a minimum of 60 credits at FHEQ level 6
• Diploma of Higher Education (Dip HE) – 240 credits with a minimum of 120 credits at FHEQ level 5
• Certificate of Higher Education (Cert HE) – 120 credits at FHEQ level 4

In order for students to progress they must achieve a minimum average of 40% and have completed all 120 credits at FHEQ levels 4 and 5 and level P.

Programme adjustments (if applicable)

NA

FHEQ Level 4: potential awards – Cert HE

<table>
<thead>
<tr>
<th>Module code</th>
<th>Module title</th>
<th>Core / compulsory /optional</th>
<th>Credit volume</th>
<th>Semester (1 / 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMS1023</td>
<td>Chemistry &amp; Maths for the Biosciences</td>
<td>Compulsory</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>BMS1025</td>
<td>Cell Biology</td>
<td>Compulsory</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>BMS1026</td>
<td>Microbiology: An Introduction to the Microbial World</td>
<td>Compulsory</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>BMS1028</td>
<td>Veterinary Anatomy and Animal Handling</td>
<td>Compulsory</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>BMS1032</td>
<td>Introduction to Principles of Physiology &amp; Practical Skills</td>
<td>Compulsory</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>BMS1035</td>
<td>Practical and Biomedical Bacteriology</td>
<td>Compulsory</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>BMS1041</td>
<td>Biochemistry: A Conceptual Overview</td>
<td>Compulsory</td>
<td>15</td>
<td>2</td>
</tr>
</tbody>
</table>
### FHEQ Level 5: Potential awards – Dip HE

<table>
<thead>
<tr>
<th>Module code</th>
<th>Module title</th>
<th>Core /compulsory /optional</th>
<th>Credit volume</th>
<th>Semester (1/2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMS2035</td>
<td>Biochemistry – Enzymes and Metabolism</td>
<td>Compulsory</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>BMS2036</td>
<td>Molecular Biology and Genetics: From Genes to Biological Function</td>
<td>Compulsory</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>BMS2037</td>
<td>Cellular Microbiology and Virology</td>
<td>Compulsory</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>BMS2038</td>
<td>Integration of Physiological Systems</td>
<td>Compulsory</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>BMS2045</td>
<td>Introduction to Immunology</td>
<td>Compulsory</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>BMS2054</td>
<td>Animal Nutrition, Toxicology and Pharmacology</td>
<td>Compulsory</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>BMS2062</td>
<td>Animal Biology</td>
<td>Compulsory</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>BMS2044</td>
<td>Microbial Communities and Interactions</td>
<td>Optional</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>BMS2046</td>
<td>Pathology and Medicine</td>
<td>Optional</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>BMS2047</td>
<td>Pharmacology: Introduction to Drug Action</td>
<td>Optional</td>
<td>15</td>
<td>2</td>
</tr>
</tbody>
</table>

How many optional modules must a student choose in order to achieve the necessary amount of credits to achieve this level? 1 from the listed 3 optional modules.

### Level P – optional Professional Training Year

<table>
<thead>
<tr>
<th>Module code</th>
<th>Module title</th>
<th>Core /compulsory /optional</th>
<th>Credit volume</th>
<th>Semester (1/2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMSP007</td>
<td>Professional Training Year Module (Full-Year Work)</td>
<td>Core</td>
<td>120</td>
<td>Year-long</td>
</tr>
</tbody>
</table>

How many optional modules must a student choose in order to achieve the necessary amount of credits to achieve this level? Students must choose one of the above three modules.

### FHEQ Level 6: Potential awards – BA (Hons) / BA (Ord)

<table>
<thead>
<tr>
<th>Module code</th>
<th>Module title</th>
<th>Core /compulsory /optional</th>
<th>Credit volume</th>
<th>Semester (1/2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMS3048</td>
<td>Research Project</td>
<td>Compulsory</td>
<td>30</td>
<td>1 and 2</td>
</tr>
<tr>
<td>BMS3092</td>
<td>Advanced Technologies in Gene Expression</td>
<td>Optional</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>BMS3052</td>
<td>Biochemistry- Receptors and Energy Metabolism</td>
<td>Optional</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>BMS3055</td>
<td>Advanced Pharmacology Selected Topics in Drug Action</td>
<td>Optional</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>BMS3060</td>
<td>Biomedical Microbial Products</td>
<td>Optional</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>BMS3079</td>
<td>Human Microbial Diseases</td>
<td>Optional</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Type</td>
<td>Credits</td>
<td>Year</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------------------------------------</td>
<td>-----------</td>
<td>---------</td>
<td>------</td>
</tr>
<tr>
<td>BMS3090</td>
<td>Introduction to Mathematical Biology</td>
<td>Optional</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>BMS3091</td>
<td>Man and the Environment</td>
<td>Optional</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>BMS3062</td>
<td>Veterinary Immunology and Pathology</td>
<td>Compulsory</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>BMS3074</td>
<td>Animal Infectious Disease &amp; Veterinary Public Health</td>
<td>Compulsory</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>BMS3073</td>
<td>Epidemiology of Infectious Diseases</td>
<td>Optional</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>BMS3071</td>
<td>Food Quality Assurance and Security</td>
<td>Optional</td>
<td>15</td>
<td>2</td>
</tr>
</tbody>
</table>

How many optional modules must a student choose in order to achieve the necessary amount of credits to achieve this level? 2 from 5 optional modules listed in semester 1 and 1 from 2 optional modules listed in semester 2.

18. Opportunities for placements / work-related learning / collaborative activity – please indicate if any of the following apply to your programme

<table>
<thead>
<tr>
<th>Opportunity</th>
<th>Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associate Tutor(s)/ Guest Speakers/Visiting Academics</td>
<td>Y</td>
</tr>
<tr>
<td>Professional Training Year (PTY)</td>
<td>Y</td>
</tr>
<tr>
<td>Placement(s) (study or work that are not part of the PTY or Erasmus Scheme)</td>
<td>Y</td>
</tr>
<tr>
<td>Clinical Placement(s) (that are not part of the PTY Scheme)</td>
<td>N</td>
</tr>
<tr>
<td>ERASMUS Study (that is not taken during Level P)</td>
<td>N</td>
</tr>
<tr>
<td>Study exchange(s) (that are not part of the ERASMUS Scheme)</td>
<td>N</td>
</tr>
<tr>
<td>Dual degree</td>
<td>N</td>
</tr>
</tbody>
</table>

19. Quality assurance

The Regulations and Codes of Practice for taught programmes can be found at:
[http://www.surrey.ac.uk/quality_enhancement/index.htm](http://www.surrey.ac.uk/quality_enhancement/index.htm)