ROYAL HOLLOWAY
University of London

PROGRAMME SPECIFICATION

This document describes the **Combined Honours Degree programme in Biology with Psychology.** This specification is valid for new entrants in **September 2015**.

The aims of the Combined Honours Degree programme in Biology with Psychology are to:

- provide a sound knowledge of the organismal, psychological and molecular principles of the subjects through a series of core courses and develop an insight into the current frontiers of knowledge, primarily through a series of specialised level 3 courses that focus on the links between Biology and Psychology in the areas of neuroscience, behaviour and selected aspects of psychology;
- develop, through a flexible and progressive structure, a range of subject-specific and transferable skills, including practical laboratory skills, fieldwork skills, self-management, information retrieval, communication and presentation skills, working with others, decision making and meeting deadlines, that equip students for future employment;
- provide experience of independent research through a final year Biology project of relevance to the degree programme;
- produce graduates who can work safely and responsibly with biological materials, laboratory equipment and in the field.

The programme is delivered in three stages, each of which comprises one year of full-time study during which the student must follow courses to the value of four units (one unit is roughly equivalent to 30 national credits). The curriculum is based around a core of mandatory units running through all three stages providing a broad base of biology in stage one, essential training in quantitative, behavioural and molecular biology in stage two and a study of evolutionary processes, neuroscience and an individual project in the final stage. Alongside these are core units in Psychology in stage one and selected options in stages two and three.

Stage one comprises a selection of core and option courses and seeks to provide a broadly based introduction to the subject. These courses consider major themes of ecological concepts, genetics, cell biology and physiology, with a choice between additional microbiology or biochemistry, along with an introduction to Psychology. In **Stage two**, students take 4 core biology courses and choose 2 courses out of the organismal and molecular options available. In addition they choose 2 psychology courses. These take the students beyond the basic courses in stage one and the choice available enables students to specialise or maintain a broadly based programme. These courses also provide a basis for research-led specialist options in stage three. In **Stage three** students take 3 core biology courses, and choose 2 courses out of the organismal and molecular options available. In addition they choose 2 psychology courses. Most of these courses closely reflect the research interests of members of staff who are all specialists in their fields. Students also complete an individual research project, which provides training in a specialised research area and also in generic skills such as independent working, literature searching, report writing, use of word processing, graphics and statistics. Options are selected in consultation with the student's advisor.

Further information:

This document provides a summary of the main features of the programme(s), and of the outcomes which a student might reasonably be expected to achieve if full advantage is taken of the learning opportunities provided. Further information is contained in the College prospectus, the College Regulations and in various handbooks issued to students upon arrival. Whilst Royal Holloway keeps all its information for prospective applicants and students under review, programmes and the availability of individual courses are necessarily subject to change at any time, and prospective applicants are therefore advised to seek confirmation of any factors

which might affect their decision to follow a specific programme. In turn, Royal Holloway will inform applicants and students as soon as is practicable of any substantial changes which might affect their studies.

Learning outcomes

Teaching and learning in the programme are closely informed by current developments (including practical aspects) in the subject and by the active research of staff, particularly in the areas of animal behaviour, biodiversity, conservation, ecology and the environment, evolution, marine biology, physiology, cell biology, and molecular biology, cognitive, behavioural and developmental psychology, and abnormal psychology. In general terms the programme provides a variety of opportunities for students to develop and demonstrate these learning outcomes:

Knowledge and understanding

- a critical understanding of the physiology, and molecular and cellular basis of life processes;
- a critical understanding of ecological systems and of the interrelationships between organisms and the environment they live in;
- a critical understanding of genetics and of the evolutionary processes that give rise to the diversity and complexity of life;
- a critical understanding of selected areas of psychology especially relevant to neuroscience and behaviour, and including some or all of sensation and perception, abnormal psychology, developmental psychology, cognitive neuropsychology and biological psychology;
- understanding cutting edge developments in a range of areas specific to the subject;
- knowledge and engagement with philosophical and ethical issues arising from some of the current developments in the biosciences.

Skills and other attributes

- the ability to employ and evaluate suitable experimental methods (both laboratory and fieldwork based) for the investigation of relevant areas of biology;
- well-developed strategies for updating, maintaining and enhancing their knowledge of the Biosciences;
- a range of laboratory and fieldwork techniques of key importance in biology;
- working safely in a scientific laboratory and in the field, with awareness of standard safety protocols;
- assessing the merits of contrasting subject-specific theories, paradigms, concepts and principles;
- applying subject-specific knowledge and understanding to address familiar and unfamiliar problems
- the ability to plan, design and execute an independent piece of research through a theoretical or practical project in biology, including the production of the final report;
- the ability to apply relevant numerical skills, including statistics, to biological data;
- the ability to access information from a wide range of sources in order to maintain and enhance knowledge of the Biosciences and to communicate that information clearly in oral and written forms;
- taking personal responsibility for learning, and developing habits of reflection on that learning;*
- identifying, retrieving (including the use of online computer searches), sorting and exchanging information;*
- abstracting and synthesising information, and developing a reasoned argument;*
- critically interpreting and evaluating experimental data and relevant literature, analysing and solving problems, and decision-making;*
- written communication and verbal presentation;*
- information technology (including spreadsheets, databases, word processing, email and WWW);*
- interpersonal skills, including working in groups/teams and recognising and respecting the viewpoints of others;*
- CV and career preparation.*

* transferable skills

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Teaching, learning and assessment

The overall strategy is to provide a progressive approach to biological concepts and systems of increasing complexity through teaching methods that aid learning and stimulate interest. Teaching is mostly by means of lectures, laboratory and fieldwork classes, seminars, tutorials, study/revision sessions, with knowledge and understanding further developed by guided independent study. Learning and analytical ability are developed and reinforced through problem solving, essay writing, practical classes (both laboratory and

fieldwork), critical evaluation and by giving students the opportunity to design, execute and evaluate their own experiments. Students are encouraged to acquire further knowledge beyond taught material, e.g. by reading topical reviews, original research literature and attending research seminars, especially in the final year. The practical assignments associated with first year and second year courses provide training in a range of subject specific laboratory techniques, including safety assessment. The culmination of these skills is demonstrated in the final year research project, and for literature skills the preparation of a literature report. Students have to prepare their own risk assessment prior to commencing their final year project work.

Training in intellectual and key transferable skills is embodied throughout the programme and forms a strong element of the tutorial and study session programmes. All students are required to meet basic standards in information technology, for which training is provided by the College Computer Centre. Assessment is typically by formal unseen written examinations at the end of each year, practical assignments (both laboratory and fieldwork based) and other coursework, oral presentations and an independent research project and the independent literature report. Full details of the assessments for individual courses can be obtained from the School.

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Details of the programme structure(s)
Please note that the list of available courses offered is subject to change and not all courses run each year. A full list of courses for the current academic year can be obtained from the School.

Stage one:
Students must take the following **mandatory** courses:
BS1050 Ecology: Animal Behaviour to Environmental Conservation (1 unit)
BS1060 Living Systems: Cell Biology and Physiology (1 unit)
BS1070 Genetics and Microbiology (1 unit)
PS1061 Sensation and Perception (½ unit)
PS1110 Introduction to Abnormal Psychology (½ unit)

Stage two:
Students must take the following **mandatory** courses:
BS2120 Biological Data Analysis and Interpretation (½ unit)
BS2140 Animal Behaviour (½ unit)
BS2150 Applications of Molecular Genetics in Biology (½ unit)
BS2550 Hormonal and Neuronal Signalling (½ unit)

and choose two optional course from the following:
BS2040 Cell Biology (½ unit)
BS2050 Essential Human Physiology in Health and Disease (½ unit)
BS2060 Developmental Biology (½ unit)
BS2110 Practical Field Ecology (½ unit)

and choose two optional courses from the following:
PS2021 Cognitive Psychology (½ unit)
PS2030 Social Psychology (½ unit)
PS2040 Developmental Psychology (½ unit)
PS2050 Personality and Individual Differences (½ unit)
PS2061 Brain and Behaviour (½ unit)
PS2080 Conceptual Issues in Psychology (½ unit)

Stage three:
Students must take the following mandatory courses:
BS3010 Individual Research Project (1unit) (Non-condonable fail – must be passed in order to qualify for the field of study)
BS3140 Evolution (½ unit)
BS3580 Cell and Molecular Neuroscience (½ unit)

and two optional courses from the following:

BS3020 Special Study: Dissertation (½ unit)
BS3030 Biology of Parasitic Diseases (½ unit)
BS3060 Conservation Biology (½ unit)
BS3120 Population and Community Ecology (½ unit)
BS3160 Behavioural Ecology (½ unit)
BS3180 Marine Ecology and Biodiversity (½ unit)
BS3190 Climate Change: Plants and the Environment (½ unit)
BS3540 Cell and Molecular Biology of Cancer (½ unit)
BS3570 Human Embryology and Endocrinology (½ unit)

and two optional courses from the following courses:
PS3021 Psychology of Language (½ unit)
PS3041 Advanced Developmental Psychology (½ unit)
PS3050 Health Psychology (½ unit)
PS3060 Attention and Perception (½ unit)
PS3090 Advanced and Applied Social Psychology (½ unit)
PS3110 Adult Psychological Problems (½ unit)
PS3120 Developmental Aspects of Abnormal Psych. (½ unit)
PS3131 Human Neuropsychology (½ unit)
PS3141 Advanced Cognitive Neuroscience (½ unit)
PS3160 Gender and Psychology (½ unit)
PS3161 Perception, Movement and Dev Disorders (½ unit)
PS3180 Violence and Victimisation (½ unit)

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Progression and award requirements

The progression and award requirements are essentially the same across all Honours Degree programmes at Royal Holloway as outlined in the College's Undergraduate Regulations. Students must pass units to the value of at least three units on each stage of the programme. Failing marks of 30 – 39% can normally be condoned in up to 30 credits across stages 1 and 2. In the final stage failing marks in up to 30 credits can normally be condoned. However, on some programmes there may be a requirement to pass specific courses in order to progress to the next stage or to qualify for a particular degree title and this will put restrictions on courses in which failing marks can be condoned (see programme structure above for details). Additionally there are requirements on the number of courses that must be passed in order to qualify for particular joint or combined Honours degrees. In order to qualify for the award of Biology with Psychology degree, students must gain a weighted average of at least 35%, pass at least 3 unit in their final year including passing the Individual Research Project and take the core courses specified above. Please note that the Individual Research Project cannot be compensated (that is, cannot be condoned) in order to qualify for an Honours Degree in Biology with Psychology.

Students are considered for the award and classified on the basis of a weighted average. This is calculated from marks gained in courses taken in stages two and three, and gives twice the weighting to marks gained in stage three. The College's Undergraduate Regulations include full details on progression and award requirements for all undergraduate programmes offered by the College.

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Student support and guidance

- Personal Advisers: All students are allocated a Personal Adviser who meets with them regularly through the programme. The Personal Adviser's role is to advise on academic, pastoral and welfare issues, but with referral of students for professional help, e.g. counselling, if required. Students work closely with their Personal Advisers in tutorial groups of around 7, primarily throughout the teaching terms.
- The Director of Teaching and Academic Coordinators provide a back-up system of academic, pastoral and welfare advice.
- Provision of study skills sessions throughout the academic year focuses on enhancing generic study skills. The aim is to facilitate the transition of students to the University learning environment allowing them to perform to the best of their academic ability. Excellent associated online resources are also available through Moodle, the virtual learning environment, and on the Royal Holloway website.

- All staff are available and accessible through an open-door policy or by operating a defined office hours system, or by appointment.
- Representation on the Student-Staff Committee.
- Staff-undergraduate ratio of 1:15 (2013/14).
- Detailed student handbook and course resources.
- Extensive supporting materials and learning resources in College libraries, the Computer Centre and via the School website and Moodle.
- Dedicated School teaching laboratories are housed in the School of Biological Sciences (Bourne) Building.
- The School of Biological Sciences has two Education Support Office network members.
- College Careers Service and School Careers Liaison Officer, supplemented by a dedicated careers area.
- Access to all College and University support services, including Student Counselling Service, Health Centre and the Disability and Dyslexia Service for students with special needs.

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Admission requirements

The programme's standard conditional offer is normally at least 320 UCAS tariff points, with a standard A-Level offer of ABB (including A2 Biology) and at least a B in GCSE Mathematics. However, the Department also has considerable flexibility in its admissions and offers policy, and strongly encourages non-standard applicants. Applicants who have passed the Science Foundation Year Programme, including Biology and Chemistry (providing the A level requirements have not already been met in both of these subjects), are also accepted onto this degree programme. Overseas students whose first language is not English must also have a qualification in English Language at an appropriate level. For further details please refer to the Prospective Students web page. It may also be helpful to contact the Admissions Office for specific guidance on the entrance requirements for particular programmes.

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Further learning and career opportunities

Graduates from Biological Sciences degree programmes have successfully progressed into a wide range of professions, while many have continued onto Postgraduate studies. For further details please refer to the Careers Service.

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Indicators of quality and standards

Royal Holloway's position as one of the UK's leading research-intensive institutions was confirmed by the results of the most recent Research Excellence Framework (REF 2014) conducted by the Higher Education Funding Council (HEFCE). The scoring system for the REF 2014 measures research quality in four categories, with the top score of 4* indicating quality that is world-leading and of the highest standards in terms of originality, significance and rigour and 3* indicating research that is internationally excellent. 81% of the College's research profile was deemed to be within the 4* or 3* categories, an increase of over 20% since 2008. This result placed Royal Holloway 31st overall in the UK for 4* and 3* research and 33rd based on an overall Grade Point Average (GPA) score. The School of Biological Sciences was ranked 3rd in the top 10 universities in the country in terms of proportion of 3* and 4* research, with 70% of its research profile being of 3* and 4* standard.

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List of programmes offered by the School of Biological Sciences

All the programmes are taught entirely by staff at Royal Holloway, University of London, and lead to awards of the University of London. Programmes in Biological Sciences are not subject to accreditation by a professional body. The QAA subject benchmark statement in Biosciences describes the general features which one might expect from Honours Degree programmes in the subject, and can therefore be used as a point of reference when reading this document (see www.qaa.ac.uk). UCAS codes are given in parentheses (see www.ucas.ac.uk).

Single Honours Degree programmes in Biological Sciences taught wholly within the School of Biological Sciences

BSc Biochemistry (C700)	Available Full Time or Part Time
BSc Biology (C100)	Available Full Time or Part Time
BSc Biomedical Sciences (B990)	Available Full Time or Part Time
BSc Ecology and Environment (C150)	Available Full Time or Part Time
BSc Medical Biochemistry (C741)	Available Full Time or Part Time
BSc Molecular Biology (C701)	Available Full Time or Part Time
BSc Zoology (C300)	Available Full Time or Part Time

Combined Honours Degree programme with Biological Sciences as a major component

BSc Biology with Psychology (C1C8)†

† Programme to be withdrawn with effect from September 2013

Accreditation

The Honours Degree programme in Biomedical Sciences is accredited by the Society of Biology.

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