

BSc Psychology & Biology

UCAS code: CC18

Awarding Institution:	The University of Reading
Teaching Institution:	The University of Reading
Relevant QAA subject benchmarking group(s):	Psychology and Biosciences
Faculty of Science	Programme length: 3 years
For students entering Part 1 in 2002	Date of profile: Nov 2002
Programme Director: Dr T C Kirkham	
Programme Adviser: Dr R T Gladwell	
Board of Studies: Psychology and Biology	
Accreditation: British Psychological Society Graduate Basis of Registration; Institute of Biology Basis for Graduate Membership	

Summary of programme aims

The aim of studies in Psychology will be to introduce students to the wide range of approaches that constitute modern Psychology as a social and biological science. They are made aware of current research – its methods, applications and unresolved issues. Within the Biology component, the aim is to provide a sound knowledge base in biology as a whole to underpin the more specialised aspects. The course allows considerable flexibility for the student to emphasise either behaviour, ecology and conservation, or the physiological, cell-biological and genetic bases of behaviour, or a mixture of those aspects if required. In both components, students have the opportunity to apply their knowledge to chosen areas of interest, increasing their degree of choice and independence as they move through the programme, with staff research expertise providing stimulation, guidance and high-quality laboratory facilities. Students will also be enabled to develop an ability to analyse, synthesise and evaluate scientific information.

Transferable skills

The University's Strategy for Teaching and Learning has identified a number of generic transferable skills which all students are expected to have developed by the end of their degree programme. In following this programme, students will have had the opportunity to enhance their skills relating to career management, communication (both written and oral), information handling, numeracy, problem-solving, team working and use of information technology.

As part of this programme students are expected to have reached an appropriate level of competence in a number of transferable skills which include: the ability to communicate clearly and effectively both verbally and in writing; an ability to take responsibility for their own learning; modern techniques in information retrieval, data handling, the use of information technology; presentation and analysis of quantitative data; written reports on projects; oral presentation and written summary of research and other material; critical evaluation of research; project management; the ability to work effectively as individuals and in a group. Students will have been encouraged to become aware of career opportunities and of the organisation and activities of science-based business and to have taken steps to plan their career path.

Programme content

The profile which follows states which modules must be taken (the compulsory part),

together with one or more lists of modules from which the student must make a selection (the 'selected' modules). Students must choose such additional modules as they wish, in consultation with their programme adviser, to make 120 credits in each Part.

Part 1 (three terms) *Credits* *Level*

Compulsory modules:

PY11A	<i>Psychological Research 1</i>	10	C
PY11B	<i>Perception & Learning</i>	10	C
PY11C	<i>Introduction to Neuroscience</i>	10	C
PY12D	<i>Psychological Research 2</i>	10	C
PY12E	<i>Cognition & Applied Psychology</i>	10	C
PY12F	<i>Developmental & Social Psychology</i>	10	C
BI1C10	<i>Cell biology and biochemistry</i>	10	C
BI1C11	<i>Genetics and molecular biology</i>	10	C
BI1M10	<i>Biodiversity</i>	10	C
BI1S11	<i>Concepts and skills 1 (inc. tutorials)</i>	10	C

Optional modules:

Other modules to the value of 20 credits will be chosen in consultation with the Programme Director normally from those presented in AMS. These include

AM1C12	<i>Animal physiology</i>	10	C
AM1Z10	<i>The whole mammal</i>	10	C
AM1Z11	<i>Environmental biology</i>	10	C
AM1C13	<i>Digestion and nutrition</i>	10	C
AM1C14	<i>Biochemistry and metabolism</i>	10	C
BI1Z10	<i>Population and community ecology</i>	10	C
AM1M3A	<i>Practical biochemistry</i>	10	C
BI1S10	<i>Chemistry for biologists</i>	10	C

Part 2 (three terms)

Compulsory modules :

PY24A	<i>Research Methods & Data Analysis 1</i>	10	I
PY24B	<i>Developmental & Social Psychology 1</i>	10	I
AM2S31	<i>Concepts and skills 2</i> <i>(incl. Group projects and data handling)</i>	10	I

At least one of:

PY24C	<i>Neuroscience 1</i>	10	I
PY25I	<i>Neuroscience 2</i>	10	I

At least one of:

PY24D	<i>Cognition 1</i>	10	I
PY25J	<i>Cognition 3</i>	10	I

Optional modules

Modules chosen from the following, if necessary, to make an overall total of 60 credits in

Psychology:

PY24E	<i>Cognition 2</i>	10	I
PY24F	<i>Applied Psychology</i>	10	I
PY25G	<i>Research Methods & Data Analysis 2</i>	10	I
PY25H	<i>Developmental & Social Psychology 2</i>	10	I

PY25L *Clinical Psychology* 10 I

Other modules will be chosen in consultation with the Programme Director to bring the Part 2 programme to a total of 120 credits. These will normally be chosen from the modules presented by AMS listed below, but up to 20 further credits can be taken in Psychology.

AM2C31	<i>Molecular biology and informatics</i>	10	I
AM2C32	<i>Endocrinology</i>	10	I
AM2C33	<i>Pharmacology and toxicology</i>	10	I
BI12Z31	<i>Evolution</i>	10	I
AM2Z32	<i>Vertebrate zoology</i>	10	I
AM2Z33	<i>Animal behaviour</i>	10	I
AM2C34	<i>Introduction to human disease</i>	10	I
AM2C35	<i>Cellular biology</i>	10	I
AM2C36	<i>Protein structure and function</i>	10	I
AM2C37	<i>Cardiovascular and respiratory physiology</i>	10	I
AM2C38	<i>Receptors and signal transduction</i>	10	I
AM2Z34	<i>Invertebrate zoology</i>	10	I
AM2Z35	<i>Immunology</i>	10	I
AM2Z36	<i>Development</i>	10	I
AM2C40	<i>Recombinant DNA technology</i>	10	I
AM2Z37	<i>Aquatic Biology</i>	10	I
AM2C41	<i>Practical nutrition exercise</i>	10	I
AM2Z39	<i>Practical molecular zoology</i>	10	I
AM2C39	<i>Regulation of gene expression</i>	10	I
AM2Z36	<i>Field course</i>	10	I

British Psychological Society Graduate Basis of Registration. Psychology Part 2 modules PY24A + PY24B + *either* PY24C *or* PY25I + *either* PY24D *or* PY25J are the minimum required for BPS accreditation. *See also Part 3 Project.*

Part 3 (three terms)

Compulsory modules:

PY3P** or AM3S75**	<i>Project</i>	40	H
PY3C	<i>Contemporary Issues in Psychology</i>	10	H
AM3S76	<i>Essays and Seminars</i>	20	H

****British Psychological Society Graduate Basis of Registration.** To qualify for BPS accreditation, the Project must be passed with at least 40%, and the topic chosen must be suitable to be examined by a Psychology Examiner.

Optional modules:

3 modules to the value of 30 credits chosen from a list of Psychology options such as the following:

PY37A	<i>Language Development</i>	10	H
PY37B	<i>The Development of Social Understanding</i>	10	H
PY37C	<i>Acquired and Developmental Dyslexia</i>	10	H
PY37D	<i>Cognitive Neuropsychology of Memory</i>	10	H
PY37E	<i>Developmental Neuroscience</i>	10	H
PY37F	<i>Clinical Neuropsychology</i>	10	H
PY37G	<i>Visual Perception</i>	10	H
PY37I	<i>Occupational Stress</i>	10	H

PY37J	<i>Organizational Cultures and Change</i>	10	H
PY37K	<i>Cognitive Perspectives in Adult Clinical Psychology</i>	10	H
PY38A	<i>Developmental Psychopathology I: nature of Disorders</i>	10	H
PY38B	<i>Developmental Psychopathology II: impact of early experience</i>	10	H
PY38C	<i>Memory, Belief, and Judgement</i>	10	H
PY38D	<i>Auditory Perception</i>	10	H
PY38E	<i>Clinical Aspects of Learning and Memory</i>	10	H
PY38F	<i>Social Cognition</i>	10	H
PY38G	<i>Biochemistry of Behaviour</i>	10	H
PY38H	<i>Applied Cognition 1</i>	10	H
PY38I	<i>Applied Cognition 2</i>	10	H
PY38J	<i>Perception for Action</i>	10	H

2 modules to the value of 20 credits chosen from a list of AMS options such as the following:

AM3C71	<i>Biochem. & Pharmacol. of cardiovascular disease</i>	10	H
AM3C72	<i>Cancer</i>	10	H
AM3C73	<i>Chromosome mapping and genetic disease</i>	10	H
AM3C74	<i>Bioinformatics</i>	10	H
AM3Z71	<i>Developmental biology</i>	10	H
AM3Z72	<i>Molecular ecology and conservation</i>	10	H
AM3Z73	<i>Functional biology of aquatic invertebrates</i>	10	H
AM3Z74	<i>Conservation biology</i>	10	H
AM3Z75	<i>Evolutionary genetics and phylogeny</i>	10	H
AM3C75	<i>Protein biotechnology</i>	10	H
AM3C76	<i>Neurobiology</i>	10	H
AM3C77	<i>Structural biology</i>	10	H
AM3C8	<i>Mammalian reproduction</i>	10	H
AM3C79	<i>Molecular endocrinology</i>	10	H
AM3C80	<i>Life and death of the cell</i>	10	H
AM3Z76	<i>Behavioural ecology and life history theory</i>	10	H
AM3Z77	<i>Research topics in aquatic ecology</i>	10	H
AM3Z78	<i>Biology of spiders</i>	10	H
AM3Z80	<i>Marine biology field course</i>	10	H

Progression requirements

To proceed to Part 2 it is sufficient to have obtained at least 40% in the Psychology modules averaged together, and at least 40% in the compulsory AMS modules averaged together, to have obtained at least 40% in Part 1 overall, and at least 30% in every module, except that marks of less than 30% in a total of up to 20 credits may be condoned, provided that the candidate has pursued the course for the module(s) with reasonable diligence and has not been absent from the examination without reasonable cause.

To proceed from Part 2 to Part 3 it is sufficient to obtain an overall average of at least 40% and have no module mark below 30% (with the proviso that up to 20 credits less than 30% may be condoned as above).

In order to be eligible for Honours, students must pass the Part 3 examination overall and pass the Project module.

Summary of teaching and assessment

Teaching is organised in modules that are principally taught by lectures, but may also involve practicals or seminars. Modules are assessed by a mixture of coursework and formal examination; only the Part 3 Project is assessed 100% by coursework. At Part 1 the coursework principally constitutes essays and practical reports; at Part 2, essays and short project reports; at Part 3, essays, some presentations (e.g. oral presentations, poster) and the Project report. The proportion of credit for coursework relative to examinations increases from Part 1 to Part 3 as students become more independent. The assessment is carried out within the University's degree classification scheme, details of which are in the programme handbooks. Part 2 contributes one third of the overall assessment and Part 3 the remaining two thirds.

Admission requirements

Entrants to this programme are normally required to have obtained Grade C or better in Mathematics at GCSE; and to have achieved: UCAS Tariff: 340 points (or 300 points from 3 A Levels) including at least 2 sciences (Biology and Chemistry preferred). Higher points may be required if only Biology or Chemistry is offered. Other qualifications: Scottish Highers BBBC (Biology B), Irish Leaving Certificate ABBBB (including Biology), International Baccalaureate 32 points including 5 in Ordinary Mathematics. Mature students and those with other qualifications such as GNVQ are encouraged to apply.

Admissions Tutor: Dr Patricia Riddell (Psychology)

Admissions Officer: Mrs Teresa Young

Support for students and their learning

University support for students and their learning falls into two categories. Learning support includes IT Services, which has several hundred computers and the University Library, which across its three sites holds over a million volumes, subscribes to around 4,000 current periodicals, has a range of electronic sources of information and houses the Student Access to Independent Learning (S@IL) computer-based teaching and learning facilities. There are language laboratory facilities both for those students studying on a language degree and for those taking modules offered by the Institution-wide Language Programme. Student guidance and welfare support is provided by Personal Tutors, the Careers Advisory Service, the University's Special Needs Advisor, Study Advisors, Hall Wardens and the Students' Union. Each Part of the programme has a Year Tutor, based in the Psychology Department, whose role is to provide information to students in that year, monitor their progress (liaising with the Course Administrator) and advise those who fall behind in academic work. Psychology staff with relevant expertise, e.g. in dyslexia, support the departmental Special Needs Advisor. The Department of Psychology and School of Animal and Microbial Sciences have extensive laboratory facilities for practical and project work.

Career prospects

The degree offers entry to many careers encompassing most that might normally be open to Psychology or Biology graduates. Because the degree is accredited by the British Psychological Society, graduates are qualified to enter professional training as, for example, clinical or educational psychologists. Psychology graduates generally move into an extremely wide range of careers with some bias towards health and education, but extending to many other professional roles. Biological science graduates enter careers in industry

[pharmaceutical, biomedical] management [e.g. health service] the Civil Service [research institutes] or other public bodies [e.g. conservation]. Psychology and Biology graduates will be particularly well-equipped to specialise in the biological aspects of behaviour. As numerate scientists they also enter a wide variety of other commercial and business occupations. Many go on to postgraduate training.

Opportunities for study abroad

Students may have the opportunity to take part in the Socrates exchange programme in which they can spend the first term of Part 3 studying in another European University. Recent exchanges have taken place with the Universities of Bergen, Cork, Crete, Montpellier, Rostock, Thessaloniki, Tours, Trondheim and Uppsala.

Educational aims of the programme

The aim of studies in Psychology will be to introduce students to the wide range of approaches that constitute modern Psychology as a social and biological science. They are made aware of current research – its methods, applications and unresolved issues. Within the Biology component, the aim is to provide a sound knowledge base in biology as a whole to underpin the more specialised aspects. The course allows considerable flexibility for the student to emphasise either behaviour, ecology and conservation, or the physiological, cell-biological and genetic bases of behaviour, or a mixture of those aspects if required. In both components, students have the opportunity to apply their knowledge to chosen areas of interest, increasing their degree of choice and independence as they move through the programme, with staff research expertise providing stimulation, guidance and high-quality laboratory facilities. Students will also be enabled to develop an ability to analyse, synthesise and evaluate scientific information.

Programme Outcomes

The programme provides opportunities for students to develop and demonstrate knowledge and understanding, skills, qualities and other attributes in the following areas:

Knowledge and Understanding

A. Knowledge and understanding of:

1. the fundamental principles and concepts of the biological systems from the molecular to the ecological levels of organisation
2. concepts, theories and evidence in at least five of six core psychology domains: research methods, individual differences, biological, cognitive, developmental and social psychology
3. a broad variety of methods and approaches used in biological and psychological research, including statistics as applied to biological and behavioural data
4. practical applications of theory and research
5. a selection of optional specialist topics, studied in depth using up-to-date research evidence
6. ethical issues in research and appropriate conduct by researchers

Teaching/learning methods and strategies

1-4 are covered in lectures and seminars. 3 is further supported by practical classes and exercises, microprojects, computer-simulated practicals, directed student-centred learning and Part 3 projects. Part 3 options cover 5 and extend 1-4 to a more advanced level. Students learn about 6 from participating in research studies in which the principles are made explicit, from lectures, and (where relevant) while planning the Part 3 project.

Assessment

1-5 are assessed by unseen or open-book examinations, coursework essays, reports on empirical work, oral and poster presentations and other exercises. The Part 3 project assesses 3 and 4 through the rationale for the choice of methods, and (where relevant) 6 in the plan and final report.

Skills and other attributes

B. Intellectual skills – able to:

1. use evidence-based reasoning to argue or evaluate a claim
2. apply multiple perspectives and levels of explanation to understand biological processes and behaviour
3. critically evaluate the design and conduct of biological and psychological research
4. write well-structured and well-argued essays
5. integrate material from different fields of psychology, biology and cognate areas
6. integrate theory and practice
7. formulate and test hypotheses

Teaching/learning methods and strategies

1-3 are explicated in lectures and option seminars. Part 3 option seminars focus strongly on 1 and 3. The Contemporary Issues module is not formally taught but gives scope for all of 1-5, especially 5. Essays, increasing in length through the programme, provide practice in 1-5 with formative feedback. The *Concepts & Skills* module and microprojects at Part 2, and the Part 3 project, develop 6 and 7.

Assessment

1-4 are assessed in examinations and coursework. 5 is encouraged and evaluated throughout, and is emphasised in the Contemporary Issues module (assessed by a pre-seen and planned examination paper). 6 and 7 are assessed at several stages and particularly in the Part 3 project.

C. Practical skills – able to:

1. use suitable sources to search for information about specific topics
2. choose and apply appropriate data-analytic techniques
3. plan and carry out empirical studies with guidance or supervision
4. interpret experimental observations and write reports on empirical studies
5. critically evaluate the applications and limitations of research methods and bioanalytical techniques

Teaching/learning methods and strategies

Dedicated modules using lectures, practical classes and exercises cover 1, 2 and the principles underlying 3, with an emphasis in biological modules on acquisition of basic skills and safe working practices through prescribed exercises. Further learning of 3 - 5 takes place through practical classes, Part 2 microprojects and the Part 3 project.

Assessment

2-4 are assessed in reports on practical classes, laboratory day-book inspections and oral/poster presentations. Microproject reports, the Part 3 project plan and report assess all 5 skills. 1 is also assessed in extended essays, and in the *Concepts & Skills* and *Contemporary Issues* modules.

D. Transferable skills – able to:

1. communicate information concisely or at length in writing
2. give oral presentations
3. work with a group
4. plan and implement a project
5. solve practical problems
6. use IT to write, to present information visually, to manage and analyse numeric data, to communicate and to find information
7. manage time
8. start planning a career

Teaching/learning methods and strategies

The Part 2 module *Concepts & Skills* gives training and practical experience in 1-5 and also 8. Transferable skills are also integrated in Psychology subject teaching. 1 is learned, with formative feedback, through essays and other exercises while 2 is included in seminars especially at Part 3. 3 is required in small-group microprojects; these, and the Part 3 project, entail 4 and 5. Special classes cover 6, and IT resources are applied throughout the programme. Staged deadlines for coursework encourage 7.

Assessment

All the skills are assessed summatively in *Concepts & Skills* at Part 2 with emphasis on 1-4 and 8. In addition, 1 is assessed in written coursework and examinations, 2 within some Part 2 modules and Part 3 seminars. 4 and 5 are necessary for microprojects and the Part 3 project; 6 and 7 are required for most coursework.

Please note: This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably expect to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. More detailed information on the learning outcomes, content and teaching, learning and assessment methods of each module can be found in module and programme handbooks.