MSc Cognitive Neuroscience (full-time)
For students entering in 2015/6

Awarding Institution:	University of Reading
Teaching Institution:	University of Reading
Relevant QAA subject Benchmarking group(s):	
Faculty:	Life Sciences Faculty
Programme length:	1 year
Date of specification:	25/Aug/2015
Programme Director:	Dr Carien Van Reekum
Programme Advisor:	Dr Bhismadev Chakrabarti
Board of Studies:	MSc Programmes in Psychology
Accreditation:	

Summary of programme aims

The purpose of the course is to prepare graduates in Psychology and allied disciplines for academic, clinical, educational, health, and research careers where knowledge of cognitive neuroscience is required or desirable. The course introduces students to topics on the neural and psychological underpinnings of human cognition and behaviour. Topics are covered in more depth, and with greater emphasis on current research, than is typically possible in the course of an undergraduate degree in psychology. Students are exposed to a variety of teaching methods, culminating in the completion of a piece of original research. It is intended that graduates of the course will go on to work in fields which require an understanding of how brain and cognitive function can be investigated in human and non-humans.

Students are required to operate at a more advanced level than in an Honours degree, with emphasis on the psychological issues which arise with particular prominence in this field of enquiry.

Transferable skills

By the end of the programme, students will have developed the following transferable skills:

- Ability to use computers for statistics, data analysis and communication
- Ability to use database / library resources
- Sophisticated empirical skills in neuroscience techniques relevant to the study of cognition
- Writing skills: Writing of papers, abstraction of others' work from written and oral material, reviewing work of peers
- Ability to give oral presentations

Programme content

Compulsory modules

Code	*Module title*	*Credits*	*Level*
PYM0RT	Research Methods and Transferable Skills for Psychology	20	7
PYM0S1	Data Collection and Analysis 1	10	7
PYM0S2	Data Collection & Analysis 2	10	7
PYM0CG	Methods in Cognition	10	7
PYM0NS	Methods in Neuroscience	10	7
PYMPRN	Principles of Neurobiology	10	7
PYMPBC	Programming in Behavioural and Cognitive Sciences	10	7
PYM0PP	Project Preparation	10	7
PYM0EP	Empirical Project (must be undertaken in a relevant field)	60	7

At least one of the following two modules

PYMTAN	Topics in Affective Neuroscience	10	7
PYMTCN	Topics in Cognitive Neuroscience	10	7

and Optional modules

Modules (to make 180 credits in total) may be selected from a list such as the following:

PYM0CP	Methods in Clinical Psychology	10	7
PYM0DP	Methods in Developmental Psychology	10	7
PYM0QQ	Applying Qualitative Methods in Psychological Research	10	7
PYM3P1	Developmental Psychopathology	10	7

PYM3P2	Topics in Developmental Psychopathology	10	7
PYM0FM	fMRI Data Analysis	10	7
PYM0PL	Placement	20	7
PYM2CL	Clinical Neuropsychology	10	7

Part-time or modular arrangements
The course may be undertaken over two years on a part-time basis. Selection of modules between the two years will be agreed between the student and the Board of Studies, at the commencement of the course. It is anticipated that students will normally complete at least 80 credits' worth of modules in Year 1. Modules must be assessed in the year that they are studied. The Empirical Project (PYM0EP) must be undertaken in Year 2. Modules must be stared and completed in a single academic year.

Progression requirements
Acceptance onto any module is conditional on the student having attempted all assessments set in previous modules. The Empirical Project will normally be the last piece of work to be submitted for assessment (by Dissertation).

Summary of Teaching and Assessment
Teaching is by a variety of methods, including lectures, small group seminars, web-based work-throughs, self-paced workshops, individual feedback on written work, and one-on-one supervision. Assessment mirrors this diversity of methods, with methods including written assignments and other coursework, seen essay examinations, open-book test, submission of practical reports, oral and poster presentations, and submission of project dissertation.
The University's taught postgraduate marks classification is as follows:
Mark Interpretation
70 - 100% Distinction
60 - 69% Merit
50 - 59% Good standard (Pass)
Failing categories:
40 - 49% Work below threshold standard
0 - 39% Unsatisfactory Work
For Masters Degrees (180 credits)
Award of MSc degree will follow University of Reading published criteria (www.reading.ac.uk/internal/exams/Policies/exa-class.aspx); in addition, students must have marks not below 40 in modules PYM2CL and PYM2CS.
For PG Diplomas (120 credits: as MSc but without a Project)
Award of PG Diploma will follow University of Reading published criteria (www.reading.ac.uk/internal/exams/Policies/exa-class.aspx); in addition, students must have marks not below 40 in modules PYM2CL and PYM2CS.
For PG Certificates (60 credits, without a Project)
Award of PG Certificate will follow University of Reading published criteria (www.reading.ac.uk/internal/exams/Policies/exa-class.aspx).

Admission requirements
Entrants to this programme are normally required to have obtained an Honours degree in psychology or related discipline (e.g., cognitive science, linguistics, philosophy). Applicants should have gained, or expect to gain, a class mark of 2(1) or better (i.e., 60%+ [or international equivalent, e.g. B+ US letter grade]). Applicants holding 2(2) degrees may apply and each case will be considered on its own merits. We discourage applications from holders of Third Class degrees.

Admissions Tutor: Dr Kate Harvey

Support for students and their learning
University support for students and their learning falls into two categories. Learning support is provided by a wide array of services across the University, including: the University Library, the Careers, Placement and Experience Centre (CPEC), In-sessional English Support Programme, the Study Advice and Mathematics Support Centre teams, IT Services and 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, School Senior Tutors, the Students' Union, the

Medical Practice and advisers in the Student Services Centre. The Student Services Centre is housed in the Carrington Building and offers advice on accommodation, careers, disability, finance, and wellbeing, academic issues (eg problems with module selection) and exam related queries. Students can get key information and guidance from the team of Helpdesk Advisers, or make an appointment with a specialist adviser; Student Services also offer drop-in sessions and runs workshops and seminars on a range of topics. For more information see www.reading.ac.uk/student

Support for graduate students in the Department of Psychology similarly includes both learning and pastoral support. Learning support includes use of workrooms dedicated to MSc students with networked PCs and printer, access to the departmental library, a specially selected and maintained reprint collection, provision of photocopying cards, and ready access to members of staff who are all respected scholars in the fields taught. Pastoral support augments the University's care systems, with each student being allocated a Personal Tutor. New students undergo an induction programme in the week before they start the course. A comprehensive handbook is available for the course; this is available on-line, as are a wealth of other resources via the department's intranet. Teaching is usually in small groups with much opportunity for students to discuss matters and support one another. There is an active Student-Staff Committee with postgraduate representation.

Career prospects
Graduates will have good prospects in careers which involve the understanding of the neural basis of cognition, the effects of pathology on the human cognitive system, in a variety of academic, clinical, educational, health, and research fields. It is anticipated that approximately half of graduates will to into careers involving research (interpreted broadly). The remainder will be able to use skills and insights gained on the course in areas as diverse as health care, health policy, education, and counselling.

Opportunities for study abroad or for placements
Ample opportunity for first-hand research involvement is available to students on the course through volunteer placements in laboratories at the Department of Psychology and the Centre for Integrative Neuroscience and Neurodynamics (CINN), offering training and experience in state-of-the-art neuroimaging, psychophysiological and related techniques.

Programme Outcomes

Knowledge and Understanding

A. Knowledge and understanding of:	**Teaching/learning methods and strategies**
1. Advanced concepts, theories, and evidence in the core domains of: research methods, theoretical issues for psychologists, neural basis of behaviour, cognitive changes in human adults. 2. A broad variety of methods and approaches in the psychological understanding of cognition in adults, and its development throughout the lifespan. 3. Applications of psychological and neuropsychological understanding of the human cognitive system, and how it is affected by pathology . 4. Practical training in programming relevant to psychology and neuroscience. 5. Ethical issues in the psychological study of clinical aspects of human cognition.	1-5 are covered in lectures and seminars. 2, 4 and 5 are further supported by practical experience, most notably in the completion of an empirical project. 1 and 2 are supported by the requirement to attend a number of departmental seminars given by visiting speakers, who are generally leaders in their field. *Assessment* 1-3 by coursework essays and seen examinations. 4 is assessed through coursework programming assignment. 1, 3, and 5 are assessed directly in the empirical project, and 2 is assessed indirectly (through the rationale for the methods actually deployed by the student). In all cases, students are expected to perform at a level above that required for undergraduate study.

Skills and other attributes

B. Intellectual skills - *able to:*	**Teaching/learning methods and strategies**
1. Use advanced (graduate level) evidence-based reasoning to argue or evaluate a claim about	1-4, and 6, are explicated in seminars. 2 is supported by the requirement to coach

clinical aspects of cognitive psychology.
2. Apply multiple perspectives and levels of explanation to understand behaviour and cognition in human adults, their development throughout the lifespan, and their study in disease.
3. Critically evaluate the design and conduct of research into human brain, its function and dysfunction
4. Understand and formulate simple computer programmes used for cognitive neuroscience research.
5. Write well-structured and well-argued essays.
6. Abstract complex orally presented material, at a level beyond the capabilities of most undergraduates.
7. Understand the theoretical and ethical frameworks in which psychological and neuroscientific research is conducted.

undergraduate students in practical classes.
7 is supported by self-paced study using web-based teaching.
Coursework essays give opportunity for formative feedback (point 5).
Feedback to students on coursework in 'Methods' modules (one of which is compulsory) assists students in the deployment of their intellectual understanding to practical research related issues, supporting 1-4, and particularly 3.

Assessment
1-4 and 7 are assessed in coursework essays, and, in the case of 'Methods' modules (one of which is compulsory) other assignments (e.g., critical evaluation, methods literature search, and project planning), and seen examinations.
6 is assessed by students handing in a number of abstracts of departmental seminars.
7 is assessed throughout.

C. Practical skills - *able to:*

1. Perform advanced searches for information relevant to specific topics.
2. Choose and apply appropriate data analytic techniques.
3. Plan and carry out, with supervision, graduate level psychological research relevant to the understanding the human cognitive system.
4. Write simple computer programmes used for cognitive neuroscience research.
5. Write up empirical research relevant to the understanding of the human cognitive system.
6. Make an application for ethical approval.

Teaching/learning methods and strategies

Dedicated seminars, practical classes, and exercises deliver 1 and 2.
A dedicated library and resources session supports 1.
3 and 5 are initially explicated as part of the compulsory module PYM0CG Methods in Cognition; they are then consolidated by direct supervision of a research project and associated dissertation.
Support for 6 is delivered by special seminar.

Assessment
1 and 2 are assessed by the requirement to undertake a project planning assignment.
1-3 and 5 are assessed in the main by the student undertaking an empirical research project relevant to the understanding of the human cognitive system, then writing this up as a dissertation. 4 is assessed through a dedicated coursework assignment.

D. Transferable skills - *able to:*

1. Communicate 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. Condense complex orally delivered information.
9. Understand and write simple computer programmes.

Teaching/learning methods and strategies

Transferable skills are integrated in subject-based teaching. 1 is learned, with formative feedback, through essays and other written assignments.
2 is included in seminars.
3 forms a natural part of the modules PYM0S1 Data Collection and Analysis 1 and PYM0QQ, and is additionally a major component of the optional Methods courses viz. PYM0CP, Methods in Clinical Psychology; PYM0DP, Methods in Developmental Psychology.
4 and 5 are explicated in the compulsory modules PYM0CG Methods in Cognition, PYM0NS Methods in Neuroscience, and further consolidated by the supervised empirical project.
6 and 7 pervade all aspects of the course.

8 is supported by formative feedback on research seminars written up by the student.
9 is delivered through a dedicated compulsory module.

Assessment
1, 2, 4, 6, and 8 are formally assessed as coursework.
An adequate standard in 3, 5, 7, and 8 is required to pass the course.

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 be expected 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 the module description and in the programme handbook. The University reserves the right to modify this specification in unforeseen circumstances, or where the process of academic development and feedback from students, quality assurance process or external sources, such as professional bodies, requires a change to be made. In such circumstances, a revised specification will be issued.