

## **MSc/Postgraduate Diploma in Cognitive Neuroscience For students entering in 2010**

Awarding Institution:	The University of Reading
Teaching Institution:	The University of Reading Faculty of Life Sciences
Programme length:	12 months (24 part-time)
Date of specification:	June 2010
Programme Director:	Dr C van Reekum
Board of Studies:	MSc Programmes in Psychology

### **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.

### **Transferable skills**

By the end of the course, 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 of work of peers.
- Ability to make oral presentations.

### **Programme content**

<i>Compulsory Modules</i>		<i>Credits</i>	<i>Level</i>
PYM0RT	<i>Research Methods and Transferable Skills for Psychology</i>	20	7
PYM0S1	<i>Data Collection &amp; Analysis 1</i>	10	7
PYM0S2	<i>Data Collection &amp; Analysis 2</i>	10	7
PYM0QQ	<i>Qualitative and Quantitative Methods in Psychology</i>	10	7
PYM0CG	<i>Methods in Cognition</i>	10	7
PYM0NS	<i>Methods in Neuroscience</i>	10	7
PYM0CS	<i>Cognitive Neuroscience</i>	10	7
PYM2CL	<i>Clinical Neuropsychology</i>	10	7
PYM0PP	<i>Project Preparation</i>	10	7
PYM0EP	<i>Empirical Project ( Must be undertaken in a relevant field)</i>	60	7

/contd.

### Optional Modules

Modules totalling 10 credits may be selected from a list such as the following:

		Credits	Level
PYM0CP	<i>Methods in Clinical Psychology</i>	10	7
PYM0DP	<i>Methods in Developmental Psychology</i>	10	7
PYM0SP	<i>Methods in the Study of Perception</i>	10	7
PYM1CD	<i>Child Development</i>	10	7
PYM3P1	<i>Development of Psychopathology</i>	10	7
PYM3P2	<i>Topics in Developmental Psychopathology</i>	10	7
PYM0FM	<i>fMRI Data Analysis</i>	10	7

### Part-time/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.

### 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, computer program project, portfolio, unseen essay- and short notes examinations, open-book test, submission of practical reports, oral presentations, and submission of project dissertation.

The University's taught postgraduate marks classification is as follows:

<u>Mark</u>	<u>Interpretation</u>
70 – 100%	Distinction
60 – 69%	Merit
50 – 59%	Good standard (Pass)
<u>Failing categories:</u>	
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 (see <http://www.reading.ac.uk/Exams/pgaward08-09.pdf>); 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 (see <http://www.reading.ac.uk/Exams/pgaward08-09.pdf>); in addition, students must have marks not below 40 in modules PYM2CL and PYM2CS.

## **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. Applicants whose academic qualifications do not meet these formal standards may in the first instance be admitted to the Diploma course; they may then transfer to MSc status subject to satisfactory performance in their first two terms. We discourage applications from holders of Third Class degrees. The Admissions Tutor for this course is Dr. Aileen Ho.

## **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, School Senior Tutors, the Students' Union, the Medical Practice and the Student Services Directorate. The Student Services Directorate is housed in the Carrington Building and includes the Careers Advisory Service, the Disability Advisory Service, Accommodation Advisory Team, Student Financial Support, Counselling and Study Advisors. Student Services has a Helpdesk available for enquiries made in person or online ([www.risisweb.reading.ac.uk](http://www.risisweb.reading.ac.uk)), or by calling the central enquiry number on (0118) 378 5555. 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 on everything from accommodation to finance. The Carrington Building is open between 8:30 and 17:30 Monday to Thursday (17:00 Friday and during vacation periods). Further information can be found in the Student website ([www.reading.ac.uk/student](http://www.reading.ac.uk/student)).

Support for graduate students in the Department of Psychology is similarly aimed at 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 from the Board of Studies.

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 go 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.

**Educational aims of the programme**

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.

## Programme Outcomes

### *Knowledge and Understanding*

<b>A. Knowledge and understanding of:</b>	<b>Teaching/learning methods and strategies</b>
<ol style="list-style-type: none"><li>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.</li><li>2. A broad variety of methods and approaches in the psychological understanding of cognition in adults, and its development throughout the lifespan.</li><li>3. Applications of psychological and neuropsychological understanding of the human cognitive system, and how it is affected by pathology .</li><li>4. Particular difficulties inherent in the psychological study of, and care of, adults with dementia and other insults to the cognitive system.</li><li>5. Ethical issues in the psychological study of clinical aspects of human cognition.</li></ol>	<p>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.</p> <p>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.</p> <p><i>Assessment</i></p> <p>1-4 by coursework essays and seen examinations.</p> <p>1, 3, 4, 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).</p> <p>In all cases, students are expected to perform at a level above that required for undergraduate study.</p>

### *Skills and other attributes*

#### **B. Intellectual skills – able to:**

1. Use advanced (graduate level) evidence-based reasoning to argue or evaluate a claim about 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 or brain insult.
3. Critically evaluate the design and conduct of neuroscientific research into the human cognitive system, its development and disruption.
4. Write well-structured and well-argued essays.
5. Abstract complex orally presented material, at a level beyond the capabilities of most undergraduates.
6. Understand the theoretical and ethical frameworks in which psychological and neuroscientific research is conducted.

#### **Teaching/learning methods and strategies**

1-3, and 6, are explicated in seminars.  
2 is supported by the requirement to coach undergraduate students in practical classes.  
6 is supported by self-paced study using web-based teaching.  
Coursework essays give opportunity for formative feedback.  
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 6 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.  
5 is assessed by students handing in a number of abstracts of departmental seminars.  
6 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 up empirical research relevant to the understanding of the human cognitive system.
5. 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 4 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 5 is delivered by special seminar.

*Assessment*

1 and 2 are assessed by the requirement to undertake a project planning assignment.  
1-5 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.

**D. Transferable skills** – able to perform the following at graduate level:

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.

**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 compulsory modules PYM0S1 Data Collection and Analysis 1 and PYM0QQP Qualitative and Quantitative Methods in Psychology, and is additionally a major component of the optional Methods courses viz. PYM0CP, Methods in Clinical Psychology; PYM0DP, Methods in Developmental Psychology; and PYM0SP, Methods in the Study of Perception.  
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.

*Assessment*

1, 2, 4, 6, and 8 are formally assessed as coursework.  
An adequate standard in 3, 5, and 7 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 processes or external sources, such as professional bodies, requires a change to be made. In such circumstances, a revised specification will be issued.**