Professional Doctorate in Statistics
For students entering in 2005

Awarding Institution: The University of Reading
Teaching Institution: The University of Reading
Faculty of Life Sciences   Programme length: 3 years (FT equivalent)

Date of specification: September 2005
Programme Director: Dr Alan Kimber
Board of Studies:
Accreditation: DStat

Summary of programme aims

The aims of the programme are to increase the knowledge and understanding of students on the programme about statistics and other relevant issues in their roles as professional statisticians. In particular this high level programme aims to examine developments at the cutting edge of current knowledge. It also aims to equip students on the programme to evaluate research findings and to conduct original research appropriate to their professional work.

A key aspect is that the programme should be sufficiently flexible to cater for the varying needs of the students. For example, it is clear that a statistician in the bio-statistics department of a large UK-based pharmaceutical company will have different statistical interests from a lone statistician in an agricultural research institute in Africa. The professional skills that are needed will also be different.

Transferable skills

Students on this programme will be able to
- Communicate orally and in writing
- Search for information in the literature and on the internet
- Use information to make decisions
- Monitor own learning
- Design and execute research projects

Programme content

Stage 1:
Research Methods (30 credits)
Project Management (30 credits)
Project Plan (30 credits)
Literature Review (90 credits)
Plus two 30-credit modules on statistics and one 30-credit CPD module
The literature review will normally be linked to the intended focus of the thesis except where special circumstances, such as employer requirements or a substantial lapse of time between the two, make this undesirable.

Stage 2:
Research project (180 credits)
Plus two 30-credit modules on statistics and one 30-credit CPD module

Progression requirements

The successful completion of all modules in Stage 1 will be required before formal permission to start Stage 2 is given. In order to be awarded the DStat, the candidate must pass all modules. If a student fails a module, then he/she will be required to resubmit the relevant coursework within three months for

reassessment. However, even if not eligible for the DStat, the student may, at the discretion on the examiners, be awarded MPhil if the research work is of appropriate quality.

Summary of teaching and assessment

All modules will be assessed. Successful completion of all modules is required for the award of DStat. The modules chosen may be from those offered by the School of Applied Statistics or from other providers agreed by the student's Higher Degree Committee. Students are responsible for payment of the course fee for any external CPD courses and, for example, courses run by the Statistical Services Centre. The modules selected must allow the student to demonstrate the application of knowledge to professional statistical issues.

The criteria for selecting and assessing coursework assignments are that students should:
Demonstrate evidence of using reading and course materials to structure the shape and content of the assignment
Involve critical analysis and judgment
Demonstrate synthesis of advanced knowledge
Discover and recognise limitations of current knowledge.

For the CPD modules a key criterion is that students demonstrate the application of knowledge to professional statistical issues

The criteria for assessing the Literature Review and Thesis are that students should demonstrate:
Originality in tackling an appropriately difficult research project
Systematic literature review
Appropriate design considerations
Appropriate description, discussion and explanation of methodology
Appropriate presentation, analysis and discussion of results
Appropriate conclusions

The criteria for the viva voce are that the student demonstrate:
that the work is the student's own
the ability to defend the thesis
Optionally any additional explanation and development of thinking on the work

Admission requirements

A second class honours degree (or equivalent) in a relevant subject and normally three years of relevant professional experience.

Admissions Tutor: Dr Alan Kimber

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.

Students will be provided with study packs and, where appropriate, email and related support in addition to face-to-face teaching and supervision. Each student will have a Higher Degree Committee to give advice and support.

Career prospects

The students will be experienced statisticians, many of whom expect to make further progress within the statistics profession.
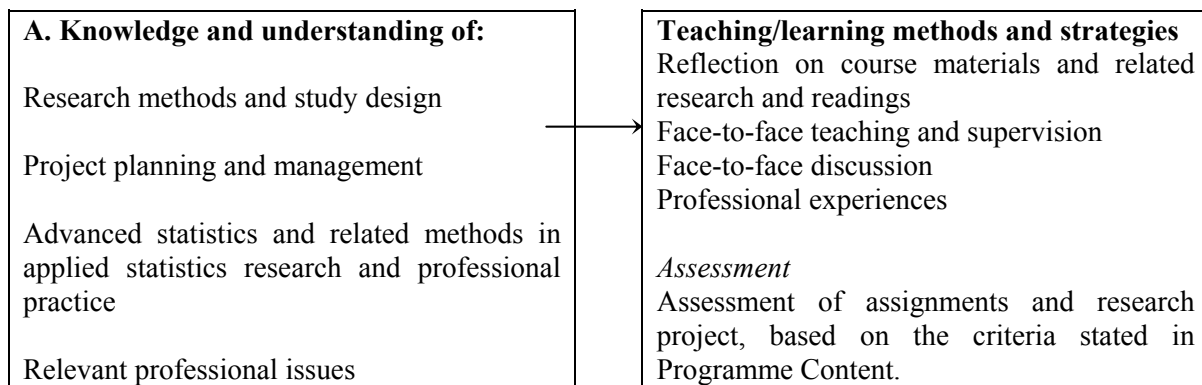
Opportunities for study abroad or for placements

Students will be encouraged to attend national and international conferences.

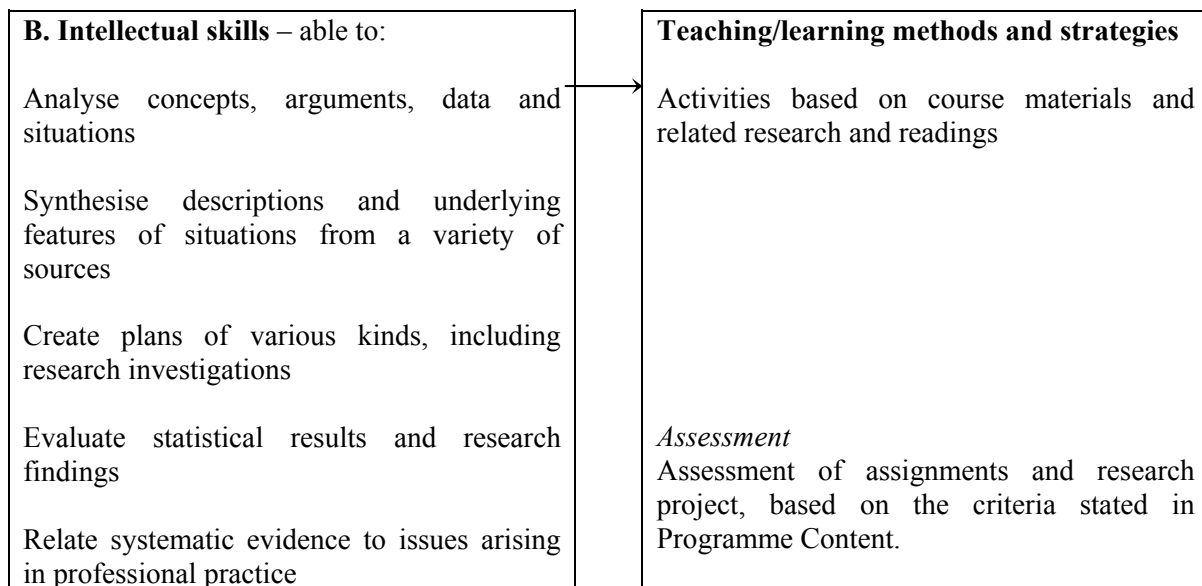**Educational aims of the programme**

The aims of the programme are to increase the knowledge and understanding of students on the programme about statistics and other relevant issues in their roles as professional statisticians. In particular this high level programme aims to examine developments at the cutting edge of current knowledge. It also aims to equip students on the programme to evaluate research findings and to conduct original research appropriate to their professional work.

Programme Outcomes

Knowledge and Understanding

A. Knowledge and understanding of: Research methods and study design Project planning and management Advanced statistics and related methods in applied statistics research and professional practice Relevant professional issues	**Teaching/learning methods and strategies** Reflection on course materials and related research and readings Face-to-face teaching and supervision Face-to-face discussion Professional experiences *Assessment* Assessment of assignments and research project, based on the criteria stated in Programme Content.

Skills and other attributes

B. Intellectual skills – able to: Analyse concepts, arguments, data and situations Synthesise descriptions and underlying features of situations from a variety of sources Create plans of various kinds, including research investigations Evaluate statistical results and research findings Relate systematic evidence to issues arising in professional practice	**Teaching/learning methods and strategies** Activities based on course materials and related research and readings *Assessment* Assessment of assignments and research project, based on the criteria stated in Programme Content.

C. Practical skills – able to:	**Teaching/learning methods and strategies**
Use statistical and related methods in professional context	Activities based on course materials and related research and readings
	Assignment preparation
Formulate and manage projects	Presentations
Access wide range of literature and data using bibliographic and IT skills	
Use IT for data handling and analysis	*Assessment*
	Assignments will report the results of such activities
Communicate to different audiences	

D. Transferable skills – able to:	**Teaching/learning methods and strategies**
Monitor own learning	Course materials
	Discussion with supervisor and peers
Communicate orally and in writing	Face-to-face presentations
	Assignment tasks
Search for information in the literature and on the internet	
Use information to make decisions	*Assessment*
Project planning and management	Assignments
	Literature review
Data analysis	Thesis
	Viva voce
Report writing	

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.