MRes Science

Programme Specification

Primary Purpose

Course management and quality assurance.

Secondary Purpose

Detailed information for students, staff and employers. Current students should refer to the related Course Handbook for further detail.

Disclaimer

The University of Portsmouth has checked the information given in this Programme Specification. We will endeavour to deliver the course in keeping with this Programme Specification; however, changes may sometimes be required arising from annual monitoring, student feedback, review and update of units and courses. Where this activity leads to significant changes to units and courses, there will be prior consultation of students and others, wherever possible, and the University will take all reasonable steps to minimize disruption to students. It is also possible that the University may not be able to offer a unit or course for reasons outside of its control, for example; the absence of a member of staff or low student registration numbers. Where this is the case, the University will endeavour to inform applicants and students as soon as possible. Where appropriate, the University will facilitate the transfer of affected students to another suitable course.

Copyright

Contents

Course Details

1. Named Awards

MRes Science

2. Course Code

C2429F/P

3. Awarding Body

University of Portsmouth

4. Teaching Institution

University of Portsmouth

5. Accrediting Body

Not applicable

6. QAA Benchmark Groups

UK Quality Code for Higher Education (2011)

UK Quality Code for HE Chapter B11 Research Degrees (2011) RCUK Researcher Development Framework

7. Document Control Information

June 2017

8. Effective Session

2018-19

9. Author

Dr Darren Gowers

10. Faculty

Faculty of Science

11. Departments

Department of Geography

Department of Psychology

Department of Sport and Exercise Science

School of Biological Sciences

School of Earth and Environmental Sciences

School of Health Sciences and Social Work

School of Pharmacy and Biomedical Sciences

University of Portsmouth Dental Academy (UPDA)

Curriculum

12. Educational Aims

- Enable students to demonstrate excellence in research development, planning and skills.
- Provide an extended and in-depth experience of research, data collection and analysis.
- Prepare students to move into further postgraduate (doctoral) research study and/or careers in industry, business or management in the wider STEM field.
- Provide students with enhanced transferable research and development skills for employment.
- Enhance critical analysis of methodological and conceptual issues, design experiments and analyse appropriately.

13. Reference Points

The programme learning outcomes have been developed in alignment with the University of Portsmouth regulations, policies and procedures and after consulting a number of relevant documents that are mentioned below. The MRes Science has also been developed with the Graduate Schools' Development Programme (GSDP) in mind that is benchmarked against much of the RCUK Researcher Development Framework.

- University of Portsmouth Curricula Framework Document.
- The scholarship and research expertise of academic members of staff.
- QAA Code of Practice for the Assurance of Academic Quality and Standards in Higher Education.
- Framework for Higher Education Qualifications (FHEQ).
- National Qualifications Framework.
- Subject Benchmark Statements (SBS).
- Requirements of Professional and/or Statutory Regulatory Bodies.
- Occupational Standards.

14. General Learning Outcomes

Level 7

Master's degrees/Postgraduate Certificates/Postgraduate Diplomas are awarded to students who have demonstrated:

- a systematic understanding of knowledge, and a critical awareness of current problems and/or new insights, much of which is at, or informed by, the forefront of their academic discipline, field of study or area of professional practice
- a comprehensive understanding of techniques applicable to their own research or advanced scholarship
- originality in the application of knowledge, together with a practical understanding of how established techniques of research and enquiry are used to create and interpret knowledge in the discipline
- conceptual understanding that enables the student:
  - to evaluate critically current research and advanced scholarship in the discipline
  - to evaluate methodologies and develop critiques of them and, where appropriate, to propose new hypotheses

Typically, holders of the qualification will be able to:

- deal with complex issues both systematically and creatively, make sound judgements in the absence of complete data, and communicate their conclusions clearly to specialist and non-specialist audiences

- demonstrate self-direction and originality in tackling and solving problems, and act autonomously in planning and implementing tasks at a professional or equivalent level
- continue to advance their knowledge and understanding, and to develop new skills to a high level

And holders will have:

- the qualities and transferable skills necessary for employment requiring:
  - the exercise of initiative and personal responsibility
  - decision-making in complex and unpredictable situations
- the independent learning ability required for continuing professional development

15. Learning Outcomes

Statement of Orientation:

The MRes Science Programme will reflect contemporary learning, research and practice in a specific area of science. As such, the programme will enable students to develop an enhanced critical awareness and conceptual understanding of research issues, methodology and design, data collection, relevant statistics and varying forms of reporting appropriate to the science disciplines.

It is expected that students who have successfully completed the course will, at threshold, have:

A. Knowledge and Understanding of:

A.1 The types of research methods employed by researchers
A.2 Project planning and ethical procedures required for research
A.3 How to conduct and report empirical research projects
A.4 Comprehensive techniques/methodologies applicable for the completion of research projects
A.5 Issues involved with professional practice in science related subject areas

B. Cognitive (Intellectual or Thinking) Skills, able to:

B.1 Critique varying philosophical paradigms, research approaches, and methods and how they contribute to the development of research questions
B.2 Formulate appropriate research questions within the realm of scientific research
B.3 Critically appraise the value of theoretical perspectives and research evidence collected in the specified area of study
B.4 Select research protocols to collect data that can subsequently be evaluated, interpreted and disseminated into relevant formats
B.5 Synthesise and contribute to the creation of new knowledge within the research project

C. Practical (Professional or Subject) Skills, able to:

C.1 Proficiently use scientific equipment and procedures in a safe, confident and reliable manner
C.2 Be competent in relevant data collection techniques
C.3 Produce critical reports in an appropriate format for application within a relevant scientific environment
C.4 Identify ethical considerations related to experimentation and the specified scientific discipline
C.5 Develop well-reasoned arguments and integrate appropriate variables within a scientific report
C.6 Identify and develop the relevant skills for a research career

D. Transferable (Graduate and Employability) Skills, able to:

D.1 Communicate effectively and confidently, using a range of media
D.2 Develop awareness of research funding and knowledge transfer opportunities
D.3 Be an independent learner and demonstrate collaborative skills
D.4 Solve problems and demonstrate sound judgement in decision making
D.5 Identify and use the appropriate resources to enable the successful completion of a task
D.6 Demonstrate relevant skills for a career in research
D.7 Develop a self-reflective element to learning and evaluation

16. Learning and Teaching Strategies and Methods

A variety of learning and teaching strategies will be used, based on successful methods currently used by Schools and Departments within the Faculty of Science.

- Core knowledge mainly delivered via workshops, seminars, tutorials and one-to-one training (A1 – A5).
- Utilisation of practical/laboratory/workshop sessions to reinforce topic areas (A4 & A5).
- The emphasis on good practice throughout the programme encourages students to utilise and appraise a variety of information sources including traditional books and journal-based literature, as well as using information technology resources such as internet based journals, VLE's and human resources for the applied setting (A1 – A5).
- Group work/practical work will also aid students' ability to work proactively with others (A4 & A5).
- Opportunities to attend a minimum of 30 hours of GSDP workshops, Graduate School Research Students conference and research seminars held within specific Schools/Departments, research groups and centres (A1 – A4).

To provide an overview, cognitive and intellectual skills will primarily be developed through supervision tutorials and GSDP workshops on the taught units. Individual supervision will contribute to the development of B2, B3 and B5, whilst GSDP workshop sessions will contribute to the development of B1 and B4.

The emphasis of this MRes is on the practical application of research skills with acknowledgment of the key factors involved in the research process. The taught units will provide students with the opportunity to develop their overall confidence in preparing, contributing-to and delivering research projects, as well as their own development as a researcher.

- Practical supervision will be included in the research units (C1 – C3).
- The format of the programme will enable students to obtain a range and depth of laboratory-based skills, field skills and techniques as well as the ability to communicate with varying audiences (C1 – C4 & C6). Attention to ethical considerations and health and safety issues is also promoted within units and within the production of reports and completion of a research project(s) (C1, C4 - C6).

Student work will be supervised by a research-active member of staff. Students will also enter this programme following undergraduate study and therefore many underpinning scientific and professional skills may already be evident. Further development of these skills and other transferable skills are a critical feature of this MRes. The varied nature of the course curriculum enables students to acquire a broad range and depth of research and practical skills as well as providing insight into ethical, organisational and wider-career issues faced by researchers (D1, D4, D6, & D7).

Examples of individual supervision and group tutorial sessions will be provided by staff to ensure students are able to observe how researchers and practitioners may approach their work (D1, D4, & D8). These skills have been identified for every unit and there is extensive coverage of all aspects of communication (D1, D3), application of number (D2 & D3), information technology (D1 & D3), improving own learning (D4, D5, D6, & D7) and problem-solving (D4 – D6). Further to this, the two taught units are based on the RCUK Researcher Development Framework.

17. Assessment Strategy

Alongside supervisor-guided research training and regular (at least weekly, usually daily) formative feedback, the summative assessment strategy for the MRes Science consists of six elements of coursework. These emphasise all LOs, underlining areas of research development, research strategies and skills, experience of research and the research process, project management, enhancing transferable skills for employment, and integrating a critical appreciation of methodological and conceptual issues. The assessments have been designed to enable students to build upon skills learned within the two units so that they can conduct 60 credits of research preparation and 120 credits of research related activity in an autonomous and largely independent

manner. Students on the 1-yr full-time course study both units together; 2-yr part-time students study first the Research Preparation Unit (60 credits), then the Research Project Unit (120 credits).

Assignments that cover LOs A1-A5 are the Literature Review (A1, A2, A5), Research Funding Proposal (A1-A5), Conference Poster (A1, A2, A3, A4), Research Interview (A5), Research Manuscript (A1-A5) and Research Talk (A1, A2, A3).Assignments that cover LOs B1-B5 are the Literature Review (B1, B2, B3), Research Funding Proposal (B2-B5), Conference Poster (B1-B5), Research Interview (B5), Research Manuscript (B1-B5) and Research Talk (B1-B5).

Assignments that cover LOs C1-C6 are the Literature Review (C5), Research Funding Proposal (C1-C6), Conference Poster (C3-C6), Research Interview (C4, C6), Research Manuscript (C1-C6) and Research Talk (C1-C6).

Assignments that cover LOs D1-D7 are the Literature Review (D3), Research Funding Proposal (D1-D7), Conference Poster (D1, D3, D4, D6), Research Interview (D1-D7), Research Manuscript (D1, D4, D5) and Research Talk (D1-D7).

18. Course Structure, Progression and Award Requirements

See Unit Web Search[1] for full details on the course structure and units

Standard University rules apply. The regulations must be consulted for a full description of exit awards.

- A student who exits having passed 60 credits will qualify for the award of PgC in Science
- A student who exits having passed 120 credits will qualify for the award of PgD in Science
- A student who has passed 180 credits will qualify for the award of MRes in Science
- The programme is offered as a full-time (12 month) course and as a part-time (24 month) course. The delivery of the course in each of these formats is modular.

The course will consist of one 60 credit taught unit (Research Preparation Unit) and a further 120 credit unit of research activity (Research Project Unit).

19. Employability Statement

Those students completing the course will have moved to the next level of qualifications with the advantages that this offers in terms of learning and employability. They will also be in an excellent position to apply for any related Doctoral training programme, research assistant positions, graduate teaching positions, or general research related roles.

Career management skills are embedded in course and will be supported by a tutorial programme and developed via relevant formative and summative assessment activities. A focused Personal Development Plan including the identification and review of skills will also be formulated and developed through the tutorial programme.

Career management skills are summatively assessed within both MRes units and this will enable students to demonstrate to employers that they have the necessary skills to perform research roles. Furthermore, all students will be introduced to Purple Door within their induction to facilitate links between the students and career advisors. A full list of alumni and career destinations will be published each year to promote career awareness, and alumni students will be invited to the research conference where completing students will present their research findings. Furthermore, all students will be working with staff that have experience of conducting research projects on behalf of varying organisations and as such will have plentiful opportunities to discuss research career options with their supervisor. Finally, students will be introduced to specific websites that list job vacancies in science related disciplines and searches within these websites will form the basis of some tutorial sessions.

[1] www.port.ac.uk/unitwebsearch

Course Management

20. Support for Student Learning

- The Course is managed by a Course Leader.
- University of Portsmouth Graduate School.
- Extensive induction programme introduces the student to the University and their course.
- Each student has a personal tutor (who will also be their research supervisor) responsible for pastoral support and guidance. They will also have a second supervisor for further support.
- University support services include careers, financial advice, housing, counselling etc.
- The Academic Skills Unit (ASK).
- The Additional Support and Disability Advice Centre (ASDAC).
- Excellent library facilities.
- The University of Portsmouth has consistently been awarded an excellent rating for student support and guidance in a number of Quality Assurance Agency inspections.
- Student course and unit handbooks provide information about the course structure and University regulations etc.
- Feedback is provided for all assessments.
- Personal Development Planning (PDP) for all awards.

21. Admissions Criteria

A. Academic Admissions Criteria

Students will be expected to hold a first-class or upper second-class (2i) honours degree in an appropriate science subject awarded by a UK university, EU institution or internationally recognised higher education institution.

Applicants are required to have a standard of proficiency in the English language to IELTS grade 6.5 (or equivalent), with no individual element less than 6.0 in any area.

Mature students are encouraged to apply for the course.

International students are encouraged to apply for the course with backgrounds in relevant science disciplines.

If appropriate, prior learning may be assessed and accredited.

B. Disability

The University makes no distinction in its admissions policy with regard to disability and will endeavour to make all reasonable adjustments in order to make it possible for students to study at Portsmouth on a course of their choice.

22. Evaluation and Enhancement of Standards and Quality in Learning and Teaching

A. Mechanisms for Review and Evaluation

- Course Leader's Annual Standards and Quality Evaluative Review.
- Annual Standards and Quality Evaluative Review.
- Unit and Course Level student feedback considered at Board of Studies.
- Unit Assessment Board consideration of student performance for each programme.
- Annual Standards and Quality Reports to Board of Studies, including consideration of Subject and Award External Examiner Reports.
- Periodic Programme Review.
- Student Representatives and Student/Staff Consultative Committees.

- National PG Taught Experience Survey.
- Staff Performance and Development Review.
- Peer Review and Development Framework.
- Faculty Learning and Teaching Committee.

B. Responsibilities for Monitoring and Evaluation

- Unit Co-ordinators for unit content and delivery.
- Course Leader for day-to-day running of course.
- Research supervisors
- Board of Studies with overall responsibilities for operation and content of course.
- Dean of Science
- Heads of Departments/Schools.
- Associate Dean (Academic).
- Associate Dean (Students).
- Quality Assurance Committee.
- Unit, Award and Progression Board of Examiners.

C. Mechanisms for Gaining Student Feedback

- Student Representation on Board of Studies.
- Student Staff Consultative Committees.
- Unit and Course level student feedback questionnaires.
- University participates in external student surveys, e.g., National PG Taught Experience Survey (PTES) or PG Research Experience Survey (PRES) etc.

D. Staff Development Priorities

- All supervisors should be classified as research active.
- Appropriate use of the workload-planning tool for staff hours.
- New academic staff required to undertake appropriate University of Portsmouth learning and teaching programmes
- Academic staff undertake initial and continuing professional development within the Academic Professional Excellence Framework (APEX) programme which is aligned with the Higher Education Academy (HEA)'s UK Professional Standards Framework (UKPSF)
- Academic staff undertake activities related to research, scholarship, teaching and learning and student support and guidance.
- Annual staff performance and development reviews match development to needs.
- All academic staff encouraged to seek Higher Education Academy membership.

23. Assessment Regulations

The current University of Portsmouth academic regulations will apply to this programme (*see Assessment and Regulations*[2]).

24. Role of Externals

Subject External Examiners who will:

- Oversee unit assessment and usually attend Unit Assessment Boards
- Review unit assessment strategy

[2] www.port.ac.uk/departments/services/academicregistry/qualitymanagementdivision/assessmentandregulations/

- Sample assessment artefacts
- Present report to Unit Assessment Boards

Award External Examiners (usually also a Subject External Examiner) who will:

- Oversee and attend Award/Progression Boards
- Scrutinise and endorse the outcomes of assessment
- Ensure that the standard of the award is maintained at a level comparable with that of similar awards elsewhere in the United Kingdom

25. Indicators of Standards and Quality

A. Professional Accreditation/Recognition

Despite there being no official professional links, the Graduate School has benchmarked the taught units against the RCUK Researcher Development Framework (http://www.vitae.ac.uk/rdf).

B. Periodic Programme Review (or equivalent)

A The School of Biological Sciences had a successful Periodic Review in March 2017

C. Quality Assurance Agency

QAA Higher Education Review, March 2015, judgements about standards and quality meet UK expectations (*for full report see Higher Education Review of the University of Portsmouth, March 2015*[3]).

D. Teaching Excellence Framework

The Teaching Excellence Framework (TEF) is the UK Government's first assessment of teaching excellence in higher education. The University of Portsmouth has been awarded a prestigious 'Gold' TEF rating.

E. Others

None.

26. Further Information

Further information may be found in:

- Student Handbook
- University of Portsmouth Curriculum Framework Document
- University of Portsmouth Prospectus
- University of Portsmouth[4] School of Biological Sciences[5] and Graduate School[6] websites

[3] www.qaa.ac.uk/en/ReviewsAndReports/Documents/University%20of%20Portsmouth/University-of-Portsmouth-HER-15.pdf

[4] www.port.ac.uk/

[5] www.port.ac.uk/school-of-biological-sciences/

[6] www.port.ac.uk/graduate-school/