

## PROGRAMME SPECIFICATION

This document describes the **Postgraduate Diploma in Applied Petroleum Geoscience**. This specification is valid for new entrants from **March 2009**.

The aims of the programme are:

- to provide understanding and skills in the application of advanced techniques to hydrocarbon exploration and production from a geoscience perspective;
- to provide vocational training in the analytical tools and practical techniques that will enable students to understand hydrocarbon occurrences on all scales from basin wide petroleum systems to reservoir models of individual fields
- to encourage a critical understanding and awareness of current issues and developments in applied petroleum geoscience;
- to foster students' intellectual development and independent learning ability required for continuing professional and personal development;
- to provide an opportunity for students to obtain a postgraduate qualification in petroleum geoscience through continuing professional development.

The programme is delivered by Fugro Robertson Limited at training centres in the UK and overseas over two to three years of part-time study. The programme is based on six modules selected from a menu of twelve options.

The programme is based on training courses that form part of the continuing professional development for geoscientists working in the hydrocarbon industry. On successful completion of the programme a student should have appropriate skills and an understanding of applied petroleum geoscience at a level appropriate for a postgraduate qualification, including the ability to read and readily understand research publications in the field and to practice as a petroleum geoscientist working in industry.

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This document provides a summary of the main features of the programme(s), and of the outcomes which a student might reasonably be expected to achieve if full advantage is taken of the learning opportunities provided. Further information is contained in the College prospectus, the College Regulations and in various handbooks issued to students upon arrival. Whilst Royal Holloway keeps all its information for prospective applicants and students under review, programmes and the availability of individual courses are necessarily subject to change at any time, and prospective applicants are therefore advised to seek confirmation of any factors which might affect their decision to follow a specific programme. In turn, Royal Holloway will inform applicants and students as soon as is practicable of any substantial changes which might affect their studies.

### Learning outcomes

In general terms, the programme provides opportunities for students to develop and demonstrate the following learning outcomes:

#### *Knowledge and understanding*

Graduates from these programmes will be expected to have a general knowledge of:

- The theories and methods used in geoscience applied to hydrocarbon exploration and production and an understanding of relevant issues;
- The application of geological, geochemical and geophysical methods to subsurface analysis;
- Recent and current developments in the field and the issues and controversies associated with such developments;

- The limitations of analytical techniques and a critical approach to the gathering, analysis and interpretation of data relating to the development of new ideas and concepts in petroleum geosciences;
- The means by which different applied geoscience approaches can be integrated to basin and reservoir analysis;
- The application of knowledge and skills developed during the programme to actual case studies in their workplace.

#### *Skills and other attributes*

In addition, graduates from this programme will be expected to develop specific knowledge and skills in some of the following fields (course options chosen will depend on previous experience and current role in the industry):

- Interpret seismic data and use that interpretation for structural, stratigraphic and sedimentological analysis, and for the appraisal of hydrocarbon prospects and accumulations;
- Use structural data in interpretation and analysis at field and basin scale;
- Interpret well log data and use that interpretation for stratigraphic and sedimentological analysis, and for the appraisal of hydrocarbon prospects and accumulations;
- Log cores and use that data for stratigraphic and sedimentological analysis, and for the appraisal of hydrocarbon prospects and accumulations;
- Use sequence stratigraphic approaches to the interpretation of successions and use this methodology in field and basin scale correlation;
- Carry out an evaluation of formation properties;
- Use appropriate modelling techniques in the analysis of sedimentary basins;
- Integrate data for the development of an understanding of sedimentary basin history;
- Construct reservoir models;
- Carry out maturity modelling of hydrocarbon source rocks.

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#### **Teaching, learning and assessment**

Teaching and learning draws on the methods and concepts used in the application of geosciences to hydrocarbon exploration and production. Courses are taught as intensive training sessions of 5 to 10 days duration delivered by training staff engaged by Fugro Robertson Limited and delivered at training centres in the UK and overseas. The main methods used to develop knowledge and understanding are: formal lectures by tutors who are the lead trainers for individual modules, individual and group practical exercises during the training sessions and directed self-learning using appropriate materials under the guidance of the course tutor and staff at Royal Holloway.

Assessment is by coursework assignments at the time of the training session, on-line tests and written examinations. On-line tests are both formative (with feedback) and summative. Written examinations are held at examination centres, normally in the country where the training courses were delivered. Full details of the assessments for individual courses can be obtained from the programme handbook and the Fugro Robertson [website](#).

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#### **Details of the programme structure**

The programme lasts up to three years (156 weeks) beginning at the time of initial registration on the programme. It consists of six elements selected from a menu of 12 courses. Students will complete the assessment for each course in not more than 12 months after the intensive training session that forms the core teaching element of each course.

All students must take six from the following:

GL5291	Seismic Interpretation
GL5391	Structural Geology
GL5491	Carbonate Reservoir Geology
GL5492	Clastic Reservoir Geology
GL5493	Integrated Sequence Stratigraphy
GL5591	Geophysical Reservoir Characterisation
GL5592	Log Interpretation

GL5593	Basin Modelling
GL5594	Formation Evaluation
GL5691	Basin Analysis
GL5692	Petroleum Geochemistry for Explorationists
GL5693	Play and Prospect Workshop

All courses constitute 16.67% of the overall mark / assessment for the programme.

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### **Progression and award requirements**

Progression is monitored through performance in coursework, on-line tests and written examinations. To pass the programme a student must achieve an overall weighted average of at least 50.00%, with no mark in any element which counts towards the final assessment falling below 50%. Failure marks between 40-49% can be condoned in one course, provided that the overall weighted average is at least 50.00%.

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### **Student support and guidance**

- The Course Tutor provides support and guidance during the training session; thereafter support and guidance is provided by the Programme Director and tutors at Royal Holloway.
- An on-line induction programme provides orientation and introduction to the programme and the facilities provided by Royal Holloway.
- Detailed Programme Handbook and course resources, provided via the Web where appropriate.
- Extensive supporting materials and learning resources in the Royal Holloway Libraries via on-line access.
- Careers Service liaison officer at Royal Holloway in collaboration with the Careers Service.
- Access to support services via remote access to RHUL facilities such as the Education Support Office for students with special needs to provide additional advice where required.

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### **Admission requirements**

Applicants will be required to hold a degree in a field relevant to Petroleum Geoscience or in a closely cognate discipline equivalent to that of at least a Second class BSc Honours degree from a UK university or an institution acceptable to the University of London. Students whose first language is not English may also be asked for a qualification in English Language at an appropriate level. For further details please refer to the [Prospective Students](#) web page.

Applicants with other qualifications and/or relevant professional experience may be considered on an individual case by case basis.

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### **Further learning and career opportunities**

The programme provides a firm foundation for careers in the hydrocarbon industry. It is anticipated that many of the graduates of the programme will be currently or recently employed within the oil and gas industry. The programme provides an opportunity for graduates to further their careers in the industry by providing them with a recognised qualification on the basis of training carried out during employment. Graduates from other postgraduate programmes at Royal Holloway have successfully progressed on to careers as Petroleum Geoscientists in international oil companies, in geological consultancy for the oil industry and for government bodies engaged with the oil industry.

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### **Indicators of quality and standards**

Royal Holloway's position as one of the UK's leading research-intensive institutions was confirmed by the results of the most recent Research Assessment Exercise (RAE 2008) conducted by the Higher Education Funding Council (HEFCE). The new scoring system for the RAE 2008 measures research quality in four categories, with the top score of 4\* indicating quality that is world-leading and of the highest standards in

terms of originality, significance and rigour. 60% of the College's research profile is rated as world-leading or internationally excellent outperforming the national average of 50%. The College is ranked 16<sup>th</sup> in the UK for research of 4\* standard and 18<sup>th</sup> for 3\* and 4\* research. The Department of Earth Sciences was ranked joint 7<sup>th</sup> in the top 10 universities in the country in terms of proportion of 3\* and 4\* research, with 70% of its research profile being of 3\* and 4\* standard.

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### **List of programmes**

The programme is taught by training staff engaged by Fugro Robertson Limited and leads to an award of Royal Holloway and Bedford New College, University of London. The Banner programme code is given in parentheses.

### **Postgraduate Diploma in Applied Petroleum Geoscience**

PGDip in Applied Petroleum Geoscience (2408)

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