

Diploma in Environmental Protection

Description:

The Diploma in Environmental Protection aims to provide a wide range of interlinking competencies, which will enable an integrated approach to pollution control. This concept acknowledges the links between pollution of the air, water and land and proposes that an integrated approach will minimise damage to the total environment.

The course is intended for technical and managerial staff in companies, environmental consultancies and local authorities who need to gain a wide understanding of the principles of pollution control, sustainability, Agenda 21 and Eco-auditing.

The Diploma is structured at postgraduate and post-experience level, and draws on the substantial number of relevant programmes produced by education and training establishments that have been approved by the RSPH.

Structure of the Diploma

Within the general requirement that a Diploma profile must reflect an integrated approach across all domains of the environment, an individual profile may be selected to match the interests and needs of a candidate or that of the employer. Component units of the Diploma will equate to credits, and a Diploma will be awarded on the successful completion of 20 credits apportioned generally as follows:

Air	Water	Land/Wastes	Integrated Environmental Management	Report/Viva
4	4	4	4	4

to allow for specialisation, candidates may transfer one credit requirement from two of the three domains to offer six in a major topic. For example, a candidate wishing to specialise in air pollution control may offer the following profile:

Air	Water	Land/Wastes	Integrated Environmental Management	Report/Viva
6	3	3	4	4

Candidates wishing to include an acoustics component, another profile may have the format:

Air	Water	Land/Wastes	Acoustics	IEM	Report/Viva
3	3	3	3	4	4

A preferred profile should be approved by the RSPH no later than the Interim Report stage.

In view of the breadth of material potentially included in a full Diploma programme it is considered inappropriate to present a detailed syllabus. For example, certain topics may not be included in a given course profile, but the general principles of environmental protection should enable a candidate to transfer the application of those principles to other areas. As a guide, broad educational objectives are provided below.

Courses Included in the Diploma programme

Courses to be included in the Diploma Programme will be assessed individually by members of the RSPH's Moderation Panel. Each course will be examined for content, level and suitability in a modular programme.

Successful completion of The Open University Modules T237 and T303 would equate to 16 credits. Candidates able to demonstrate this need no further tuition before submitting their report and taking the oral examination.

Period of Study

The registration period for the Diploma is 5 years. The period of study within the registration period is flexible to allow for individual aptitude, access and need. Candidates must register with the RSPH at the outset of their studies.

Entry Requirement

The Diploma registration will normally have open entry, but successful completion of courses will normally assume good honours degree or equivalent background, together with appropriate practical experience. The RSPH will expect candidates to be either employed or involved in work of an environmental discipline. Should candidates' circumstances change whilst engaged in their studies the RSPH would give sympathetic consideration on an individual basis.

Credit Exemption

Appropriate qualifications may allow the candidate partial exemption of credits towards the Diploma. Any relevant qualifications must have been obtained within the last five years in order to gain a 75% credit. For qualifications gained six or more years ago there may be allowed a 50% credit exemption. Those candidates who have pursued further study or have gained further experience will be considered on an individual basis.

Such qualifications include the RSPH Diploma in Air Pollution Control, the Institute of Acoustics Diploma in Acoustics and Noise Control and the Certificate and/or Diploma from the CIWEM. One or more credit(s) must be gained through completion of an appropriate updating programme. No more than two domains may have credit exemptions. The validity of exemptions will be confirmed by the RSPH when the candidate initially registers.

Tuition and Supervision

Courses that have been approved by the RSPH include the following methods of tuition and modes of presentation:

- direct teaching
- distance learning
- tutor directed study
- weekend schools, etc.

Examination and Assessment

Diploma courses will normally include summative continuous assessment carried out by the training centre. This assessment will contribute to the accumulation of credits in appropriate domains. A record of achievement should be submitted with the application to enter the examination. Final assessment will be made by the RSPH in the form of a viva voce examination following the submission of a Final Report. During this examination, two examiners will interview the candidate over a period of typically 30-40 minutes on the content of the report and the candidate's general knowledge of environmental protection.

The report

The candidate is required to submit a report to allow the RSPH to assess the adequacy of the education and training received and the experience gained by the candidate.

Submission of an Interim Report should normally be made one year after registration for the Diploma. The Final Report will normally be required no less than two years after initial registration. A candidate offering two exemptions may submit a Final Report after one year. In such cases, the Interim Report is required six months before the Final Report. Guidelines for candidates submitting their report are provided by the RSPH.

Grading of the Diploma

The Diploma in Environmental is graded fail, refer, pass or distinction.

A candidate will not be admitted to the viva voce examination without the accumulation of the appropriate credits. A candidate may be referred once in the viva voce examination. The candidate will be invited to resubmit a revised Final Report and attend a resit examination within six months of receiving the result. Failure to reach the required standard on resubmission will result in a fail grade.

Extenuating circumstances will be considered on an individual basis.

Examiners may recommend a distinction grade for good overall continuous assessment grades, an excellent report and good performance in the viva voce examination.

Examination Board

The Moderation Panel is constituted and operates in accordance with the RSPH's policy, with the objective of overseeing the programme.

The recommendations of the examiners at the viva voce examinations, together with the Final Report and credit history, will be submitted to the Moderation Panel, which will constitute an Examination Board. This Board will authorise the award of a Diploma in Environmental Protection to successful candidates.

Diploma in Environmental Prizes

The John S Owens Prize and the John Edward Worth Prize are awarded annually by the RSPH, for outstanding achievement in the Diploma in Environmental Protection.

Overall Aims and Objectives

The aims of the Diploma in Environmental Protection are to:

- provide a wide range of interlinking competencies which will enable an integrated approach to pollution control
- introduce the concept of pollution of the biosphere and its effects on humans, animals, plants, buildings, climate and amenity
- outline the way in which pollutants are dispersed, diluted and concentrated, both locally and globally
- identify options for minimisation of emissions of materials into the environment, and for the acceptable emission of unavoidable discharges, within a BPEO framework.
- Develop an understanding of corporate environmental strategies and the more formalised environmental management systems.
- ◆ Develop an understanding of corporate environmental strategies and the more formalised environmental management systems.

After completing an approved course of study a candidate should be able to:

- define pollution and pollutants
- obtain, analyse and comment critically on data on environmental quality
- appreciate environmental cycles and circulation rates
- explain distribution, dispersion, conversion and concentration mechanisms for pollutants within the environment
- discuss the concepts of pollution sources, targets, pathways and sinks
- understand the legal framework for the management of the environment
- consider how the control of emissions in one domain may have implications for other domains of the environment
- execute an environmental audit and specify methods for minimising emissions through process modifications
- outline the technical options for the control of pollution at source within a BPEO framework
- recognise the more strategic approach that businesses can take in reducing their impact on the environment.

- select appropriate control devices for minimising discharges within a BPEO framework
- apply appropriate means to ensure adequate dispersion of unavoidable discharges
- explain the rationale for setting limit values for pollutants
- recognise the health and safety implications associated with environmental pollution control
- be aware of the role of noise as an environmental pollutant
- appreciate the international and global implications of environmental pollution and the resultant control programmes required.
- recognise the more strategic approach that businesses can take in reducing their impact on the environment.

In addition to the general objectives which apply to all domains, specific objectives are applied in the individual areas of environmental protection.

1. Water Quality

At the conclusion of an approved course of study a candidate should be able to:

- 1.1 appreciate the effects of water pollutants on human health and the aquatic environment
- 1.2 discuss the legal aspects of water management and understand the impact and implications of EU Directives on the water regime
- 1.3 appreciate the relative roles and the responsibilities of the Environment Agency, OFWAT and water companies
- 1.4 outline how potential pollutants of water resources are controlled by legal and fiscal methods
- 1.5 appreciate the processes of treatment at water and liquid waste treatment works
- 1.6 understand the roles of softening, hardening, fluoridation, disinfection and advanced water treatment processes for special applications
- 1.7 appreciate the problems of sludge production, treatment and disposal
- 1.8 undertake water and effluent sampling
- 1.9 discuss the techniques for assessing biological, bacteriological and chemical quality of water

- 1.10 appreciate the use of water quality analyses for potable and industrial water as well as trade effluents and leachates
- 1.11 compare water quality data with appropriate standards and discharge consents.

2. Land and Wastes Management

At the conclusion of an approved course of study a candidate should be able to:

- 2.1 outline the main legislative provisions affecting the generation, management and disposal of wastes, including an understanding of the impact and implications of EU Directives on waste management
- 2.2 appreciate the trends in the generation, reduction, recycling and recovery of wastes
- 2.3 discuss the terms “hazardous”, “difficult” and “special” when applied to certain types of industrial wastes
- 2.4 describe how wastes may be classified
- 2.5 consider options for modifying processes to reduce waste production
- 2.6 describe the principal methods for the interim treatment, recycling or reduction of wastes prior to consideration for landfill disposal
- 2.7 identify in outline suitable treatment or recovery options for wastes
- 2.8 recognise the advantages and limitations of landfill as a disposal option
- 2.9 appreciate criteria for the selection of landfill sites
- 2.10 discuss the merits and disadvantages of the policies of “dilute and disperse” and “concentrate and contain”
- 2.11 consider the biological, chemical and physical factors associated with landfill, and resulting leachates
- 2.12 recommend other methods of treatment or disposal of wastes that may be neither reclaimed nor directed to landfill disposal
- 2.13 outline the precautions associated with the transportation of wastes.

3. Air Quality

Aims

The aims of this component of the Diploma programme should:

- show how air pollution may be caused by direct release or by atmospheric transformations of pollutants
- demonstrate dispersion of pollutants in atmospheres, and the significance of temporal variations in concentrations
- indicate typical adverse effects of air pollutants at the local and global scales
- outline principles of monitoring ambient and stationary sources of air pollutants
- demonstrate representative techniques for minimising emissions to atmosphere
- introduce representative techniques for the control of unavoidable emissions to atmosphere
- by a combination of the previous aims, develop a practical approach towards air pollution problem solving.
- place practical air pollution control strategies in the framework of national and international law.

Objectives

After studying for this component of the Diploma programme a candidate should have the knowledge and skills to:

- 3.1 identify the main sources and characteristics of air pollutants of principal concern
- 3.2 appreciate the reasons for concern such as phytotoxicity, health effects, material damage or climatic change potentially caused by these pollutants
- 3.3 recognise the contribution that meteorological factors play in causing air pollution problems and in the dispersion of pollutants
- 3.4 define the roles of the Environment Agency and local authorities in enforcing UK legislation relevant to air quality
- 3.5 understand and be able to interpret the various goals, standards and guidelines for source and ambient air quality management
- 3.6 specify standard methods for the assessment of air quality as influenced by the principal pollutants
- 3.7 outline the measurement principles on which selected air quality assessment methods are based
- 3.8 interpret measured air quality in relation to air quality standards and guidelines
- 3.9 interpret process flow-sheets and identify major causes of emissions of waste products to atmosphere from selected processes

- 3.10 estimate releases to atmosphere using emission factors and other relevant data
- 3.11 compare options for controlling mobile emissions by vehicle and traffic management schemes
- 3.12 recommend actions to minimise the production of air pollutants
- 3.13 describe and select techniques to minimise the emission to atmosphere of unavoidable air pollution from specified processes
- 3.14 recognise the role of dispersion as a final control option to reduce potential adverse effects of air pollutants, and be able to predict the effects of such dispersion
- 3.15 apply the previous objectives in the context of the UK National Air Quality Strategy.

4. Noise

At the conclusion of an approved course of study a candidate should be able to:

- 4.1 make reliable measurements of background noise and noise from a variety of noise sources, according to the requirements of the relevant British Standard or guidance document
- 4.2 present and interpret measurement data in a form suitable for inclusion in a consultant's report
- 4.3 assess the significance of measured noise levels in terms of acceptability to people, reference to established rating procedures, guidance documents and standards set by local authorities
- 4.4 identify in outline the principle methods of noise control to mitigate the impact of noise on the community
- 4.5 critically appraise the noise measurement methodology, data and interpretation in reports and environmental appraisals, and comment on proposals for noise impact mitigation.

5. Integrated Pollution Control

Integrated Pollutant Control is the driving force of the Diploma and in addition to the general objectives should address the following issues and concepts:

- 5.1 the roles of the Environment Agency, Local Authorities and Non-government and Government Departments in tackling environmental pollution,
- 5.2 best practicable means
- 5.3 best practicable environmental option
- 5.4 best available techniques (not entailing excessive cost)
- 5.5 polluter pays principle
- 5.6 waste elimination and waste minimisation through the application of clean technologies
- 5.7 life cycle thinking

Environmental Management

- 5.8 the relationship between economics and environmental management
- 5.9 the principles of Eco management and Audit Scheme (EMAS), and ISO 14001
- 5.10 .the role of environmental auditing, review and compliance monitoring
- 5.11 processes in developing corporate environmental strategies, policies and commitment
- 5.12 the role of leadership, and mechanisms for raising awareness and motivation in effective implementation of an environmental management system

Environmental Impact Assessment

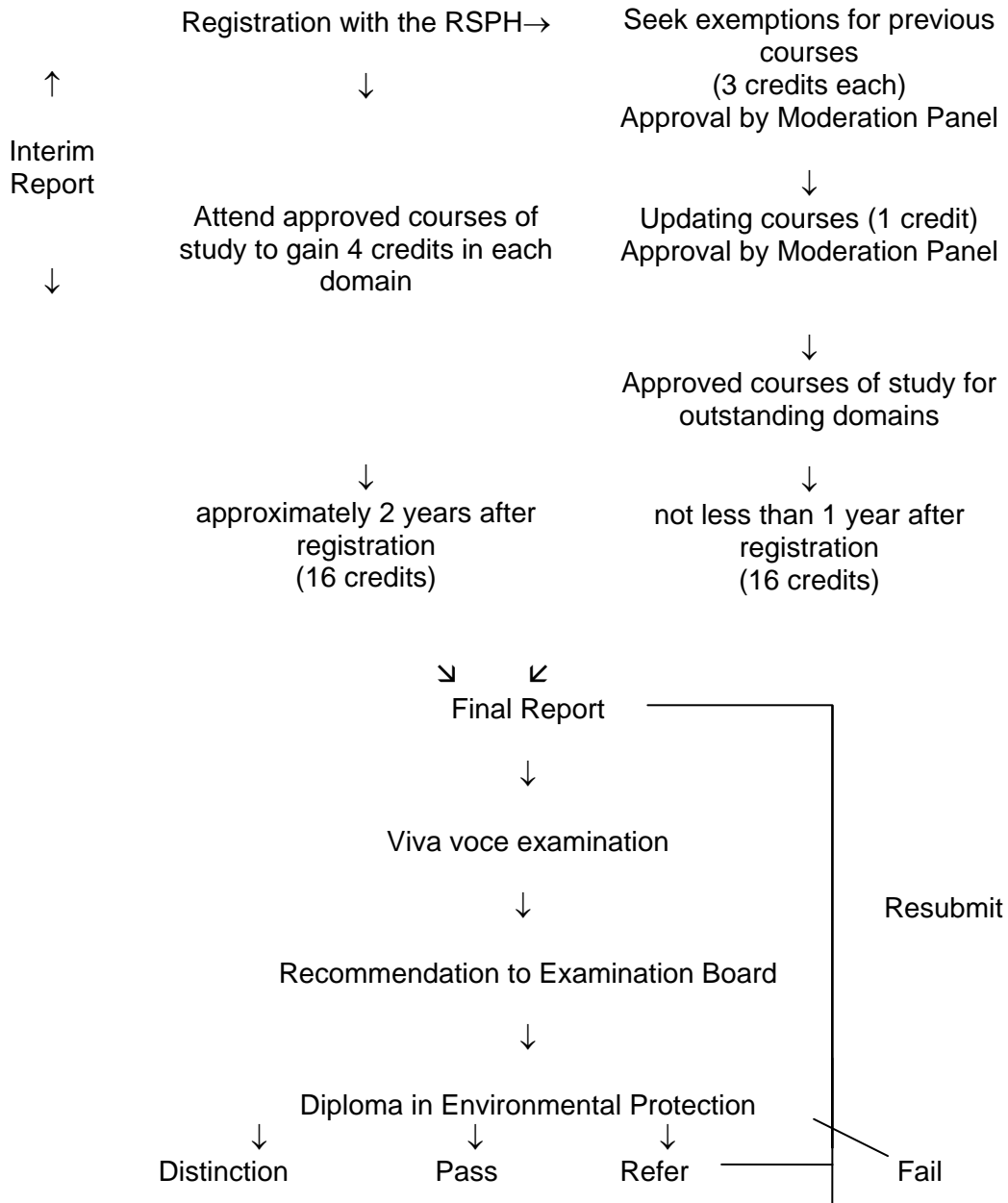
- 5.13 relevant legislation, guidance and national/regional policy.
- 5.14 role of the local authority and developers in EIA
- 5.15 relevance of EIA to planning and land use issues.
- 5.16 Environmental scoping and impact screening

Sustainable development and local Agenda 21

- 5.17 Rio Earth Summit and Agenda 21
- 5.18 Sustainable Development and its meaning and implications for the environment

- 5.19 Local Government Management Board steps in the process for achieving a Local Agenda 21
- 5.20 practical examples of Local Agenda 21 strategies and initiatives
- 5.21 Life Cycle Assessment and the guidance in ISO 14040.

Possible Routes to Gain the Diploma in Environmental Protection



Any enquiries about this qualification should be made to:

The Qualifications Department,
Royal Society for Public Health
3rd Floor
Market Towers
1 Nine Elms Lane
SW8 5NQ