

# Open University (United Kingdom)

## Free courses

### Introduction:

The Open University ([www.open.ac.uk](http://www.open.ac.uk)) in the United Kingdom offers a considerable number of free courses. These can be accessed by registering at the Open University's OpenLearn website (<http://openlearn.open.ac.uk/>).

Below a number of courses are shown that are relevant to Health, Safety and Environment Professionals.

### Business and Management courses:

#### Planning a project (B713\_2):

<http://openlearn.open.ac.uk/course/view.php?id=3358>

8 hours; masters level

Gantt charts, critical path analysis, SMART objectives and estimation skills are just some of the topics covered in this unit to help you understand how to plan for a project. You will gain an appreciation of the range of planning techniques available and the situations in which it is appropriate to use them.

#### Environmental factors and organisations (B822\_1):

<http://openlearn.open.ac.uk/course/view.php?id=2589>

6 hours; masters level

The interactions of business with the non-commercial environment are under increasing scrutiny. This unit looks at the relationships between business and social and ecological environments, often referred to under the umbrella term of Corporate Social Responsibility. The unit examines efforts to reconcile what often look to be competing demands by moving towards a more ethical environment.

### Mathematics and Statistics courses:

#### Modelling pollution in the Great Lakes: a review (MSXR209\_5):

<http://openlearn.open.ac.uk/course/view.php?id=2559>

4 hours; introductory level

This is the fifth and final unit in the MSXR209 series on mathematical modelling. In this unit we revisit the model developed in the first unit of this series on pollution in the Great Lakes of North America. Here we evaluate and revise the original model by comparing its predictions against data from the lakes before finally reflecting on the techniques used. This unit assumes you have studied Modelling pollution in the Great Lakes (MSXR209\_1), Analysing skid marks (MSXR209\_2), Developing modelling skills (MSXR209\_3) and Modelling heat transfer (MSXR209\_4).

#### Modelling heat transfer (MSXR209\_4):

<http://openlearn.open.ac.uk/course/view.php?id=2556>

4 hours; introductory level

This unit is the fourth in the MSXR209 series of five units on mathematical modelling. In this unit you will be taken through the whole modelling process in detail, from creating a first simple model, through evaluating it, to the subsequent revision of the model by changing one of the assumptions. The problem that will be examined is one based on heat transfer. This unit assumes you have studied Modelling pollution in the Great Lakes (MSXR209\_1), Analysing skid marks (MSXR209\_2) and Developing modelling skills (MSXR209\_3).

**Developing modelling skills (MSXR209\_3):**

<http://openlearn.open.ac.uk/course/view.php?id=2553>

4 hours; introductory level

This unit is the third in the MSXR209 series of five units on mathematical modelling. It provides an overview of the processes involved in developing models, starting by explaining how to specify the purpose of the model. It then moves on to look at aspects involved in creating models, such as simplifying problems, choosing variables and parameters, formulating relationships and finding solutions. You will also look at interpreting results and evaluating models. This unit assumes that you have previously studied Modelling pollution in the Great Lakes (MSXR209\_1) and Analysing skid marks (MSXR209\_2).

**Analysing skid marks (MSXR209\_2):**

<http://openlearn.open.ac.uk/course/view.php?id=2551>

4 hours; introductory level

This unit is the second in the MSXR209 series of five units on mathematical modelling. In this unit you are asked to relate the stages of the mathematical modelling process to a previously formulated mathematical model. This example, that of skid mark produced by vehicle tyres, is typical of accounts of modelling that you may see in books, or produced in the workplace. The aim of this unit is to help you to draw out and to clarify mathematical modelling ideas by considering the example. It assumes that you have studied Modelling pollution in the Great Lakes (MSXR209\_1).

**Modelling pollution in the Great Lakes (MSXR209\_1):**

<http://openlearn.open.ac.uk/course/view.php?id=2549>

4 hours; introductory level

This unit is the first in the MSXR209 series of five units that introduce the idea of modelling with mathematics. This unit centres on a mathematical model of how pollution levels in the Great Lakes of North America vary over a period of time. It demonstrates that, by keeping the model as simple as possible extremely complex systems can be understood and predicted.

**Science and Nature courses:****Eutrophication (S216\_1):**

<http://openlearn.open.ac.uk/course/view.php?id=2811>

12 hours; intermediate level

Managing eutrophication is a key element in maintaining the earth's biodiversity. Eutrophication is a process mostly associated with human activity whereby ecosystems accumulate minerals. This unit explains how this process occurs, what its effects on different types of habitat are, and how it might be managed.

**Climate change (S250\_3):**

<http://openlearn.open.ac.uk/course/view.php?id=2805>

18 hours; intermediate level

Climate change is a key issue on today's social and political agenda. This unit explores the basic science that underpins climate change and global warming.

**Global warming (E500\_11):**

<http://openlearn.open.ac.uk/course/view.php?id=1526>

5 hours; introductory level

This unit provides an introduction to global warming. We will be considering the history of global warming by looking at the pattern of ice ages and analysis of recorded temperatures. We will aim to gather meaningful information from this data. We will briefly assess the impact and influence of humans on global warming and, finally, we will examine climate models and how to predict future changes.

**Health and environment (SK220\_2):**

<http://openlearn.open.ac.uk/course/view.php?id=1656>

12 hours; introductory level

To be able to understand the importance of the environment for our health, we need to know a little about the interdependence between environment and humankind. This unit will look at interactions between plants, animals and the physical and chemical environment, as well as considering ways in which humans have altered, and are altering this environment. These changes have health implications that are not always immediately obvious. Frequently, we initiate changes that are going to have their effects some time in the future, and we will be looking at the legacies that we leave to future generations. We move on to consider our own demise, and ask what exactly it is that we think we will be leaving for those who follow.

**Health and safety in the laboratory and field (STM895\_2):**

<http://openlearn.open.ac.uk/course/view.php?id=3255>

12 hours; masters level

Health, safety and risk assessment are of paramount importance both in the laboratory and the field. This unit will help make you more aware of the hazards and risks involved in laboratory and field-based research work, as well as giving you an overview of the legal requirements attached to this work. The unit discusses issues involved in the handling chemical and biological agents, basic safety procedures and common field-work hazards.

**Earth's physical resources: petroleum (S278\_1):**

<http://openlearn.open.ac.uk/course/view.php?id=2292>

12 hours; intermediate level

The discovery of the world's first major underground oilfield in Pennsylvania, USA in 1859 sparked the continuing era of the world's reliance on cheap energy from oil and gas. This unit begins by examining the geological characteristics of petroleum and the key ingredients necessary to form oil and gas accumulations. Then there is a brief description of industrial operations during the life cycle of an oilfield, starting with subsurface analysis and exploration drilling. The unit also highlights the role of safety and environmental management as an integral part of the petroleum business and concludes with a short review of global resources and non-conventional petroleum.

**Society courses:****Managing coastal environments (U216\_1):**

<http://openlearn.open.ac.uk/course/view.php?id=2780>

3 hours; intermediate level

Coastal environments are by their nature ever-changing. This unit looks at the example of the Blackwater Estuary in Essex, England, describing how the current state of the estuary came to be. It examines the contests and conflicts that centre on the estuary in terms of managing the environment for human needs and the needs of the other species who make their habitat there.

**Technology courses:****Integrated safety, health and environmental management: an introduction (T835\_1):**

<http://openlearn.open.ac.uk/course/view.php?id=3303>

15 hours; masters level

Life is full of risk. In this unit 'risk' describes the probability and consequences of harm or, at worst, disaster. Risk management involves many stakeholders and integrated management systems help to ensure that safety, quality, environmental and business risks are all managed correctly. This unit also looks at emergency preparedness, that is, the management of emergencies and disasters.

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