



Module Specification

Managing Air Quality

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Part 1: Information

Module title: Managing Air Quality

Module code: UBGMT4-15-3

Level: Level 6

For implementation from: 2022-23

UWE credit rating: 15

ECTS credit rating: 7.5

Faculty: Faculty of Environment & Technology

Department: FET Dept of Geography & Environmental Mgmt

Partner institutions: None

Delivery locations: Frenchay Campus

Field: Geography and Environmental Management

Module type: Standard

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: According to the United Nations, air pollution is the single biggest environmental health risk, causing roughly 7 million deaths annually. Short-lived pollutants, such as those arising from the burning of diesel, coal, kerosene or biomass, are reported to be responsible for about one third of deaths from stroke, chronic respiratory disease and lung cancer and one quarter of deaths from heart attacks. Long-lived particles of dust, such as those carried over long distances by

sand and dust storms, can also contribute to air pollution and can lead to premature death by cardiovascular and respiratory disease, lung cancer, eye and skin infections and acute lower respiratory infections. In addition to impacting on health, air pollution can contribute to global warming, and impact on such things as water and food supply. This module recognises the significance of these impacts and equips students with appropriate scientific knowledge to understand the nature and sources of air pollution.

Features: Not applicable

Educational aims: See Learning Outcomes.

Outline syllabus: Students will be introduced to a distinction between both household and outdoor (ambient) forms of air pollution, with the module explaining how the latter is generated from emissions caused by power generation, transport, industrial activity, wildfires, agriculture, and dust and sand storms. Case studies from across the world will be used to show the nature of the challenge. The module will also allow students to engage with their local context to understand the type of pollution that is occurring in their own city or neighbourhood, and how this has changed with time. Students will be exposed to some of the policy and legislation that is being used to help tackle air pollution, with examples being drawn from a range of spatial scales (from the local to the international). Key drivers and ambitions will be critically reviewed, while the module will also seek to identify the necessary pre-conditions for the successful achievement of policy and legislation. Key stakeholders in the delivery of this activity will also be identified. The module will expose the methods and techniques for measuring and monitoring air pollution, and the type of responses that are being pursued to ensure air remains healthy now and into the future. As part of this, the module considers the role of technology in cleaning up polluted air, and how technological innovation is being used to help reduce emissions from a range of sources and sectors (such as from cars and planes). The inter-relationships between development and air quality will be revealed, with the module highlighting how the form of a development can impact on, or be influenced by, local air pollution.

Part 3: Teaching and learning methods

Teaching and learning methods: Scheduled learning will comprise assessment and lectures. Lectures will provide a framework for understanding the reading and key issues covered by the module. Where possible, scheduled learning will be enhanced with guest lecturers and / or site visits to help identify how air quality can be measured and improved through appropriate management.

Independent learning will use directed reading via the online reading list and a selection of online resources, including appropriate case studies.

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 Differentiate between the different sources and effects of selected air pollutants and critically evaluate how these have changed over the last century

MO2 Critical reflection on the use of policy, legislation and management tools for the purposes of improving air quality at different spatial and temporal scales

MO3 Demonstrate a critical understanding of methods of air quality assessment

MO4 Critically evaluate how to effectively communicate air quality challenges, impacts and solutions to different audiences and stakeholders.

MO5 Critically discuss the history of the development of emission controls on motor vehicles and assess likely future scenarios for abatement technologies

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 114 hours

Face-to-face learning = 36 hours

Total = 150

Reading list: The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://uwe.rl.talis.com/index.html) via the following link <https://uwe.rl.talis.com/index.html>

Part 4: Assessment

Assessment strategy: This module is assessed by a single component, Component A, that is split into two elements. The assessment responds to an important narrative that extends through the module. While this narrative recognizes the importance of evidence-based analysis, it also highlights the importance of effective communication with respect to delivering appropriate change and action.

The first element requires the submission of a 2,000 word technical report (worth 80% of the module). Students will be required to write their report for a technical audience (e.g. such as the Mayor, Environmental Health Department, Special Interest Group) on a chosen case study. The report should provide an evidence-led summary of a defined air quality problem, provide an analysis of trends in air quality data and suggest solutions that could be utilised to address the issue.

The second element requires the preparation and submission of an A4 infographic with explanatory text (up to 200 words) (worth 20% of the module). By preparing this infographic, students will need to communicate with a non-technical audience (e.g. public, school children, vulnerable community etc) on the case study chosen for the technical report. Drawing from the evidence used in element one, the students will need to ensure that their infographic conveys the key points in an accessible and relatable manner.

To support the assessment, students will be shown examples of technical reports and accompanying graphics. Students will also be reminded about the key ingredients for successful report writing, reinforcing guidance provided earlier in the programme. Students will be introduced to software that can be used to create infographics. In addition to this in-class support, students will also be able to discuss draft work with module staff.

Should a resit of the assessment be required then the student can rework the original assessment enhancing either the technical or artwork components (or both).

Assessment components:

Report - Component A (First Sit)

Description: A technical report presenting an evidence-led summary of an air quality problem.

Weighting: 80 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5

Artwork - Component A (First Sit)

Description: An A4-sized infographic with accompanying description (200 words)

Weighting: 20 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5

Report - Component A (Resit)

Description: A technical report presenting an evidence-led summary of an air quality problem.

Weighting: 80 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5

Artwork - Component A (Resit)

Description: An A4-sized infographic with accompanying description (200 words)

Weighting: 20 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Environmental Management [Sep][FT][Frenchay][3yrs] BSc (Hons) 2020-21

Environmental Management and Practice {Foundation} [Oct][FT][GCET][4yrs] BSc (Hons) 2019-20

Environmental Management and Practice {Foundation} [Feb][FT][GCET][4yrs] BSc (Hons) 2019-20