

BS945-10 Environmental Protection, Risk Assessment & Safety

23/24

Department

Life Sciences

Level

Taught Postgraduate Level

Module leader

Gary Bending

Credit value

10

Module duration

2 weeks

Assessment

100% coursework

Study location

University of Warwick main campus, Coventry

Description

Introductory description

This module focuses on providing the students with an understanding of the environmental and safety risks associated with technology together with methods for limiting damage and risk.

[Module web page](#)

Module aims

This module focuses on providing the students with an understanding of the environmental and safety risks associated with technology together with methods for limiting damage and risk. Reference to practical examples will be used wherever possible.

Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

1. Introduction to the anthropocene and the ways human activity has affected the environment
2. The ecosystem services concept

3. Pathways for release of microbial and chemical contaminants into the environment
4. The characteristics and properties of chemicals released into the environment from agricultural, industrial and medicinal applications
5. Factors determining the fate and persistence of chemical pollutants in the environment, including the importance of degradation and sorption
6. The concept, measurement and significance of bioavailability
7. Antibiotic release into the environment and links to antimicrobial resistance
8. Release of genetically modified organisms into the environment
9. Ecotoxicological concepts and evidence using topical examples
10. Environmental and regulatory risk assessment

Learning outcomes

By the end of the module, students should be able to:

- Understand the critical issues which determine the contrasting perceptions of environmental pollution and ecotoxicology by different stakeholders.
- Evaluate links between release of contaminants into the environment and consequences for human exposure and health.
- Achieve a broad understanding of the ways in which human activities have impacted the environment
- Understand the pathways by which different organic and biological pollutants enter the environment and the factors which determine their fate and persistence.
- Develop an ability to critically evaluate evidence for ecotoxicological impacts of chemicals
Understand approaches used to undertake and interpret environmental impact and regulatory risk assessments.
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Indicative reading list

Review and journal papers are used through the module to illustrate key points and to provide examples; there is no course text book.

[View reading list on Talis Aspire](#)

Subject specific skills

Understand approaches used to undertake and interpret environmental impact and regulatory risk assessments.

Transferable skills

Critical evaluation

Study

Study time

Type	Required
Lectures	14 sessions of 1 hour (13%)
Seminars	(0%)
Other activity	6 hours (6%)
Private study	55 hours (52%)
Assessment	30 hours (29%)
Total	105 hours

Private study description

Independent learning

Other activity description

Workshops; 1. Stakeholder perceptions of of chemical fate and toxicity 2. Environmental risk assessment

Costs

No further costs have been identified for this module.

Assessment

You do not need to pass all assessment components to pass the module.

Assessment group A6

	Weighting	Study time
Computer-Based Test	100%	30 hours

Test will be taken under exam conditions in the SLS ICL
It will comprise a mix of short and long answer questions
The focus will be on 1. Testing understanding of key principles 2. Analysis, evaluation and interpretation of data

Feedback on assessment

Generic feedback to cohort on exam performance and areas of weakness

Availability

Courses

This module is Core for:

- Year 1 of THRA-D4A1 Postgraduate Taught Environmental Bioscience in a Changing Climate

This module is Core optional for:

- Year 1 of TLFS-J7N2 Postgraduate Medical Biotechnology and Business Management

This module is Optional for:

- Year 1 of TBSS-C5N2 Postgraduate Taught Biotechnology, Bioprocessing and Business Management
- Year 2 of TCHA-F1PE Postgraduate Taught Scientific Research and Communication
- Year 1 of ULFA-C1A1 Undergraduate Biological Sciences (MBio)