Module Specification

Scientific Frontiers and Enterprise

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Part 1: Information

Module title: Scientific Frontiers and Enterprise

Module code: USSKCF-15-3

Level: Level 6

For implementation from: 2023-24

UWE credit rating: 15

ECTS credit rating: 7.5

Faculty: Faculty of Health & Applied Sciences

Department: HAS Dept of Applied Sciences

Partner institutions: None

Delivery locations: Not in use for Modules

Field: Applied Sciences

Module type: Module

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Not applicable

Features: Not applicable

Educational aims: This module concentrates on the connection between science, innovation and business enterprise. The nature of the connection between science and business is changing fast. Interestingly, there has been a large decline in

corporate industrial laboratories but an emergence of a new class of entrepreneurial firms that are deeply immersed in science sectors such as biotech, life sciences, nanotech and energy. Science-based businesses face unique challenges as they straddle two worlds with very different time horizons, risks and expectations.

Outline syllabus: Students will:

Investigate scientific frontiers within a specified field (environmental sciences, biological sciences,biomedical sciences)

Engage with practicing researchers

Gain an understanding of the scientific research process and technology readiness levels

Study the importance and meaning of discovery, innovation and enterprise in the sciences

Learn the push pull levers that drive business-led commercialisation of scientific ideas that impact on business, economy and society.

Part 3: Teaching and learning methods

Teaching and learning methods: The contact hours are distributed as follows:

33 hours of research seminars and lectures. Material will be delivered mostly as lectures and research presentations which will be reinforced by directed reading and tutorials. Tutorials and learning support will be offered at key times, as required.

In addition to the described contact time, this material will be supported through online learning material including technology enhanced lecture material (e.g. online interactive quiz apps).

117 hours of Independent learning: includes hours engaged with essential reading, data handling, presentations etc.

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

MO1 Demonstrate an understanding of research impact and a critical appreciation of the relationship between science and society and the economy

MO2 Critically discuss selected aspects of the scientific research process

MO3 Demonstrate an understanding of innovation and scientific entrepreneurship and research impact in the wider sense

MO4 Critically evaluate the need for scientific commercialisation

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 117 hours

Face-to-face learning = 33 hours

Total = 150

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link https://uwe.rl.talis.com/modules/usskcf-15-3.html

Part 4: Assessment

Assessment strategy: Assessment 1 is a Contemporaneous Research Portfolio (1000 words).
The portfolio will require students to attend at least 5 research/innovation seminars presented within the module throughout the academic year. In the portfolio, students will be required to provide a critique of two seminars in relation to its scientific discipline and summarise the main findings of the seminar. In addition, students will be asked to provide a brief discussion of the economic and societal benefits of such research and illustrate any likely impact that may arise as well as some of the

barriers that may reduce the impact of such research. An understanding of how the research process in relation to eventual research impact, economically and to society is a key skill that students need to develop if they are to be employed in the commercialisation of science, entrepreneurship and innovation. This assessment addresses these key skills.

Assessment 2 is a 15 minutes individual presentation (10 minutes presentation, 5 minutes questions). The individual presentation will be used to assess the student's key knowledge and understanding of the commercialisation of science, entrepreneurship and innovation in a relevant scientific frontier. In addition, this assignment will assess students' competence of pitching a scientific innovation within a commercially orientated space.

Assessment components:

Portfolio (First Sit)
Description: Contemporaneous Research Portfolio (approx. 1000 words)
Weighting: 60 %
Final assessment: No
Group work: No
Learning outcomes tested: MO3, MO4

Presentation (First Sit)
Description: Presentation - Innovation Pitch (15 minutes)
Weighting: 40 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2

Portfolio (Resit)
Description: Contemporaneous Research Portfolio (approx. 1000 words)
Weighting: 60 %
Final assessment: No
Group work: No

Learning outcomes tested: MO3, MO4

Presentation (Resit)
Description: Presentation - Innovation Pitch (15 minutes)
Weighting: 40 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Integrated Wildlife Conservation {Top-Up} [Frenchay] BSc (Hons) 2023-24

Environmental Science [Sep][FT][Frenchay][3yrs] BSc (Hons) 2021-22

Biological Sciences [Sep][FT][Frenchay][3yrs] BSc (Hons) 2021-22

Environmental Science [Sep][FT][Frenchay][4yrs] MSci 2021-22

Biological Sciences [Sep][FT][Frenchay][4yrs] MSci 2021-22

Biological Sciences [Sep][SW][Frenchay][4yrs] BSc (Hons) 2020-21

Environmental Science [Sep][SW][Frenchay][4yrs] BSc (Hons) 2020-21

Environmental Science {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2020-21

Environmental Science {Foundation} [Sep][FT][Frenchay][5yrs] MSci 2020-21

Environmental Science [Sep][SW][Frenchay][5yrs] MSci 2020-21

Biological Sciences [Sep][SW][Frenchay][5yrs] MSci 2020-21

Biological Sciences {Foundation} [Sep][FT][Frenchay][5yrs] MSci 2020-21

Biological Sciences {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2020-21

Biological Sciences {Foundation} [Sep][SW][Frenchay][5yrs] BSc (Hons) 2019-20

Environmental Science {Foundation} [Sep][SW][Frenchay][5yrs] BSc (Hons) 2019-20

Environmental Science {Foundation} [Sep][SW][Frenchay][6yrs] MSci 2019-20

Biological Sciences {Foundation} [Sep][SW][Frenchay][6yrs] MSci 2019-20