



## MODULE SPECIFICATION

Part 1: Information			
Module Title	Scientific Frontiers and Enterprise		
Module Code	USSKCF-15-3	Level	Level 6
For implementation from	2020-21		
UWE Credit Rating	15	ECTS Credit Rating	7.5
Faculty	Faculty of Health & Applied Sciences	Field	Applied Sciences
Department	HAS Dept of Applied Sciences		
Module type:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p><b>Educational Aims:</b> 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.</p> <p><b>Outline Syllabus:</b> Students will:</p> <ul style="list-style-type: none"> <li>Investigate scientific frontiers within a specified field (environmental sciences, biological sciences,biomedical sciences)</li> <li>Engage with practicing researchers</li> <li>Gain an understanding of the scientific research process and technology readiness levels</li> <li>Study the importance and meaning of discovery, innovation and enterprise in the sciences</li> <li>Learn the push pull levers that drive business-led commercialisation of scientific ideas that impact on business, economy and society.</li> </ul>

## STUDENT AND ACADEMIC SERVICES

**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.

### Part 3: Assessment

The assessment strategy has been designed to support and enhance the development of both subject-based and generic key skills and the appreciation of the commercialisation of science, entrepreneurship and innovation as indicated in the Learning Outcomes. The focus is on assessments that link directly to employability skills as described below.

Component A.

This will be assessed via 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 component will assess students' competence of pitching a scientific innovation within a commercially orientated space.

Component B

Contemporaneous Research Portfolio (approximately 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.

First Sit Components	Final Assessment	Element weighting	Description
Portfolio - Component B		60 %	Contemporaneous Research Portfolio (approx. 1000 words)
Presentation - Component A	✓	40 %	Presentation - Innovation Pitch (15 minutes)
Resit Components	Final Assessment	Element weighting	Description
Portfolio - Component B		60 %	Contemporaneous Research Portfolio (approx. 1000 words)
Presentation - Component A	✓	40 %	Presentation - Innovation Pitch (15 minutes)

STUDENT AND ACADEMIC SERVICES

<b>Part 4: Teaching and Learning Methods</b>																	
Learning Outcomes	<p>On successful completion of this module students will achieve the following learning outcomes:</p> <table border="1"> <thead> <tr> <th style="text-align: left;"><b>Module Learning Outcomes</b></th> <th style="text-align: left;"><b>Reference</b></th> </tr> </thead> <tbody> <tr> <td>Demonstrate an understanding of research impact and a critical appreciation of the relationship between science and society and the economy</td> <td>MO1</td> </tr> <tr> <td>Critically discuss selected aspects of the scientific research process</td> <td>MO2</td> </tr> <tr> <td>Demonstrate an understanding of innovation and scientific entrepreneurship and research impact in the wider sense</td> <td>MO3</td> </tr> <tr> <td>Critically evaluate the need for scientific commercialisation</td> <td>MO4</td> </tr> </tbody> </table>	<b>Module Learning Outcomes</b>	<b>Reference</b>	Demonstrate an understanding of research impact and a critical appreciation of the relationship between science and society and the economy	MO1	Critically discuss selected aspects of the scientific research process	MO2	Demonstrate an understanding of innovation and scientific entrepreneurship and research impact in the wider sense	MO3	Critically evaluate the need for scientific commercialisation	MO4						
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Reading List	<p><i>The reading list for this module can be accessed via the following link:</i></p> <p><a href="https://uwe.rl.talis.com/modules/usskcf-15-3.html">https://uwe.rl.talis.com/modules/usskcf-15-3.html</a></p>																

<b>Part 5: Contributes Towards</b>
<p>This module contributes towards the following programmes of study:</p> <p>Biological Sciences [Sep][FT][Frenchay][4yrs] MSci 2018-19</p> <p>Integrated Wildlife Conservation {Top-Up} [Sep][FT][Frenchay][1yr] BSc (Hons) 2020-21</p> <p>Environmental Science [Sep][FT][Frenchay][4yrs] MSci 2018-19</p> <p>Biomedical Science [Sep][FT][Frenchay][4yrs] MSci 2018-19</p> <p>Biomedical Science [Sep][FT][Frenchay][3yrs] BSc (Hons) 2018-19</p> <p>Environmental Science [Sep][FT][Frenchay][3yrs] BSc (Hons) 2018-19</p>