

CURRENT TOPICS IN BIOSCIENCES - 2024/5

Module code: BMS1029

Module Overview

In this module students have the opportunity to explore the cutting-edge of science by engaging with the most newsworthy and contemporary biosciences topics.

The students are guided through the development of key employability skills such as literature querying, critical reading and referencing, towards the discovery of a range of highly of high profile topic for their own research (e.g. antimicrobial resistance; decline in bee populations; obesity and diabetes; stem cell research). Working in groups students choose a topic which constitute the focus of their assessment, and learn to leverage on team work and personal resilience. Through the production of a group presentation and an individual summary, students develop important competences in the science communication field which strengthen their employability and academic proficiency.

Module provider

School of Biosciences

Module Leader

CAMPAGNOLO Paola (Vet Med)

Number of Credits: 15

ECTS Credits: 7.5

Framework: FHEQ Level 4

Module cap (Maximum number of students): N/A

Overall student workload

Workshop Hours: 6

Independent Learning Hours: 75

Lecture Hours: 7

Seminar Hours: 1

Tutorial Hours: 15

Guided Learning: 42

Captured Content: 6

Module Availability

Semester 1

Prerequisites / Co-requisites

N/A

Module content

Indicative content includes:

- Introductory lecture and assessment strategy
- Employability and transferable skills: find your perfect job (by the Career and Employability team)
- Academic integrity
- How the UN sustainable development goals (SDG) can be integrated in the study of the Biosciences
- Reliable sources and fake news
- How to choose a 'current' topic (previous examples CRISPR gene editing, tissue engineering, bioremediation, biofuel, long COVID)
- How to perform a literature search and assess a manuscript critically
- Reference managers
- Powerful sci-comm: preparing and delivering an engaging presentation
- 3minute challenge: writing a research abstract
- Workshop: can we develop our resilience?

Weekly small group tutorials, Q&A, and one-to-one sessions

Assessment pattern

Assessment type	Unit of assessment	Weighting
Coursework	COURSEWORK - ESSAY (250 WORDS)	40
Coursework	COURSEWORK - GROUP PRESENTATION	50
Coursework	COURSEWORK - ONLINE TEST	10

Alternative Assessment

N/A

Assessment Strategy

The assessment strategy is designed to provide students with the opportunity to demonstrate:

- Understanding of the principles of academic integrity
- Accurate and engaging reporting of a bioscience subject in the form of a scientific abstract suitable for peers with basic science background
- Accuracy and creativity in the communication of topical issues in bioscience in the form of a seminar presentation or short documentary
- Understanding of the importance of using and citing sources that provide reliable peer-reviewed information to be assessed within the individual summary and group presentation assessments
- Contribution to group-work, and assessment of the performance of a peer in the group

The **summative assessment**: consists of an online test (10%), a group presentation (50%) and an individual summary (40%).

Online test is a 10 questions timed test aimed at verifying the understanding of the facets of academic integrity, and the proficiency in using the relevant tools to identify potential breaches.

Individual summary consists of a 250 words essay written in the format of a scientific paper abstract, which summarizes the presentation prepared in the group work. The summary is correlated with relevant and correct citations, which are also evaluated alongside the writing skills and content (learning outcomes 1,3 and 4). The summary provides an opportunity to improve synthesis proficiency and precision in scientific language, which are valuable in a range of employability situations, including interviews.

Group presentation is delivered as a pre-recorded 10 minutes video which can be in the form a classical scientific presentation or a documentary-type video. The presentation is the culmination of several weeks of teamwork and individual efforts, and builds on the skills communicated and practice during the lectures and workshops, and the resilience built during the module. The work is evaluated on its content, format and delivery combining the assessment of knowledge, analytical capabilities, professional and transferable skills (learning outcomes 1,2,3 and 5). This assessment provides the opportunity of experiencing a real-life team work situation, where individual capabilities work in synergy and leadership, personal responsibility and independence are developed. Peer feedback may be incorporated into the evaluation where the professional norm is not upheld.

The informal **formative assessment and feedback** is conducted throughout the module during tutorial and Q&A where students have the opportunity to engage in a variety of activities and to receive both peer and tutor feedback, with the aim of allowing students to assess their progress week by week. Formative assessment online and live tests opportunities are also available throughout the module.

Module aims

- Investigate a range of cutting-edge developments in bioscience subjects
- Provide practical tools and skills to perform literature searches and critical reading of peer-reviewed scientific publications
- Develop a broad range of scientific communication skills both written and oral
- Discuss and present specific developments in bioscience on a scientific level including, where appropriate, ethical considerations, global impact and socio-economic implications
- Develop transferable skills such as teamwork and resilience through the engagement with group work

Learning outcomes

		Attributes Developed
001	Understand current topics of worldwide importance in bioscience subjects	K
002	Identify and communicate issues of topical importance in bioscience in the form of a seminar presentation or short documentary.	KCPT
003	Understand the importance of using sources that provide reliable peer-reviewed information	CPT
004	Interpret and summarize scientific topics for communication to an audience of peers in the form a scientific abstract.	KCPT
005	Assess and provide feedback on the performance of a peer in a selection of situations.	PT
006	Understand the definition of academic integrity and the tools available to avoid it	KCT

Attributes Developed

C - Cognitive/analytical

K - Subject knowledge

T - Transferable skills

P - Professional/Practical skills

Methods of Teaching / Learning

The learning and teaching strategy is designed to introduce students to the scientific literature which inspires the new article headlines (and click-baits) that they are exposed to in their everyday life. Through a combination of individual and group work, guided and independent learning, this module provides a unique opportunity to get acquainted with the contemporary science that have not yet been digested into textbooks.

- Lectures deliver essential content aimed at introducing key academic and employability ‘hard’ and soft skills. Lectures include active learning activities, invited speakers with real-life expertise on the subjects (sci-comm, employability) and game-based learning.
- Workshops: in these practical sessions, students are invited to apply the tools and skills discussed in the lectures, with a particular focus on digital skills, such as the use of reference manager programs
- Academic writing workshops: students will help how to structure their written work accordingly and become more familiar with how we mark your answers and provides opportunities for formative feedback. Students engage and provide peer feedback to model answers, building resourcefulness and resilience, and receiving formative feedback to devise strategies for improvement.
- Small group tutorials: work groups are invited to meet with the tutor regularly to assess progress of the presentation and discuss issues; feedback is available on request from the tutor and through peer-to-peer discussion
- Q&A sessions: during these sessions, students have the opportunity to ask for further clarification or directions for their work
- Pre-recorded material: short videos watched ahead of the tutorial/workshop mean we focus on more practical and real life learning opportunities during these sessions

- Extra content: additional content in the form of external links, examples of previous assessments and reading material is made available to enable more in-depth understanding of a subject during independent learning
- Guided learning: during groups tutorials, the tutor is available and engages on demand, providing the students the opportunity to drive their learning and build independence while having guidance on request
- Independent learning: students are invited to work on their assessment through some independent learning during which they develop elaborative and communication skills at their own pace

This module provides students with study tools that will be useful throughout the whole university course, and beyond in their academic and work lives. The module also provide students with the opportunity to engage with topical scientific issues and acquire real-life examples of the application of key employability skills, which are critical material for future interviews.

The learning and teaching methods include:

- lectures
- seminars
- workshops
- tutorials
- independent learning
- guided learning

Indicated Lecture Hours (which may also include seminars, tutorials, workshops and other contact time) are approximate and may include in-class tests where one or more of these are an assessment on the module. In-class tests are scheduled/organised separately to taught content and will be published on to student personal timetables, where they apply to taken modules, as soon as they are finalised by central administration. This will usually be after the initial publication of the teaching timetable for the relevant semester.

Reading list

<https://readinglists.surrey.ac.uk>

Upon accessing the reading list, please search for the module using the module code: **BMS1029**

Other information

The School of Biosciences and Medicine is committed to developing graduates with strengths in Employability, Digital Capabilities, Global and Cultural Capabilities, Sustainability, and Resourcefulness and Resilience. This module is designed to allow students to develop knowledge, skills, and capabilities in the following areas:

Resourcefulness & resilience: The students spend one week working on their resilience, through workshops, exercises and student-lead learning. The module provides specific tools and exercises that the students are encouraged to apply to improve their resilience levels. The assessment is designed to encourage students to independently (and as a group) apply the tools provided during the teaching of the module, and foster their resourcefulness by resolving small tasks together by applying these tools. The work requires self-regulation as it is distributed throughout 10 weeks, but is accompanied by clear expectations, and subdivided in smaller weekly

tasks which relate to the teaching in that week. Small group work is integral part of the module, and provides peer support, and opportunity for engagement. The module includes regular small group tutorials and drop-ins, where students have the chance to ask questions, but also get formative feedback on their ongoing work.

Global & cultural capabilities: Students are encouraged to work in small groups, and value different abilities, prospective and cultures in their group work. Inclusiveness in class participation and discussions is encouraged by the use of digital tools (i.e. PollEv).

Sustainability: The students explore the UN sustainable development goals (SDG), and their interconnection with the biosciences. In the assessment, students are invited to link the implications of the UN SDG in their topic of choice, which they investigate as a group.

Digital capabilities: As with all modules, students are expected to engage with online material and resources via SurreyLearn, and other digital platforms. The module is taught is an enhanced hybrid mode, with material pre-recorded available ahead of the live sessions, and interactive tools (questionnaires, self assessment etc). For one of the assessments, the students generate videos using specific tools such as PowerPoint and Panopto, and are also encouraged to include alternative communication tools such as PowToon, and include self-created short interviews or surveys. Students learn how to perform literature using specific databases and advanced search queries, and how to cite using citation manager programs.

Employability: The assessment is designed to reflect 2 key skills fundamental for students' scientific careers (presentation and scientific abstract). Each week students focus their attention on one specific transferable skill that ultimately build up to the achievement of the skillset necessary to complete the assessments. These skills include literature search and critical appraisal, referencing, preparing a presentation, summarizing and science communication. Alongside, this module provides the opportunity to understand the global relevance of the biosciences, engage with cutting-edge bioscience topics, develop personal resilience and teamwork capacities which are all highly valued soft skills in the current employment market. The employability angle is further explored by the active involvement of the Employability and Careers Team, who delivers one lecture reviewing the expectations of employers and the typical interview questions asked during interviews, and explain how this module help fulfilling both.

Programmes this module appears in

Programme	Semester	Classification	Qualifying conditions
Biological Sciences (Animal Biology and Ecology) BSc (Hons)	1	Compulsory	A weighted aggregate mark of 40% is required to pass the module
Biological Sciences (Cellular and Molecular Sciences) BSc (Hons)	1	Compulsory	A weighted aggregate mark of 40% is required to pass the module
Biological Sciences (Infection and Immunity) BSc (Hons)	1	Compulsory	A weighted aggregate mark of 40% is required to pass the module
Biological Sciences BSc (Hons)	1	Compulsory	A weighted aggregate mark of 40% is required to pass the module
Microbiology BSc (Hons)	1	Compulsory	A weighted aggregate mark of 40% is required to pass the module

Please note that the information detailed within this record is accurate at the time of publishing and may be subject to change. This record contains information for the most up to date version of the programme / module for the 2024/5 academic year.