

Module Catalogue

Faculty of Science and Technology

Undergraduate Study Abroad with Internship 2018/9

Semester 2

As part of the Internship programme all students must take three modules per semester, including the following module in either Semester 1 or 2:

5BUSS005X	Professional and Personal Skills Development	Level 5	Semester 1 or 2	20	US Credits 4 / ECTS credits 10*
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If you choose to take the Internship option this semester, then you are able to take two free-choice modules in addition to the above module.

Westminster Electives

These modules are cross-disciplinary in nature and have been co-created with students in order to provide a unique learning experience.

Module Code	Module Name	Level	Semester	UK Credit Value	Credit Equivalency
5WSEL001W	Art/Science Collaboration	5	Semester 2	20	US Credits 4 / ECTS credits 10*
5WSEL010W	Designing Narrative Experiences	5	Semester 2	20	US Credits 4 / ECTS credits 10*
5WSEL019W	Pop Goes the Now: Deconstructing Popular Culture	5	Semester 2	20	US Credits 4 / ECTS credits 10*
5WSEL020W	Applying the Tools of Positive Psychology for Personal and Professional Development	5	Semester 2	20	US Credits 4 / ECTS credits 10*

Faculty Modules

Module Code	Module Name	Level	Semester	UK Credit Value	Credit Equivalency
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Biomedical Sciences					
4BIOM004W	Functional Anatomy	4	Semester 2	20	US Credits 4 / ECTS credits 10*
5BIOM002W	Medical Genetics in Practice	5	Semester 2	20	US Credits 4 / ECTS credits 10*
5BIOM007W	Applied Pathobiology	5	Semester 2	20	US Credits 4 / ECTS credits 10*
6BIOM004W	Diagnostic Biochemistry and Haematology	6	Semester 2	20	US Credits 4 / ECTS credits 10*
6BIOM007W	Cancer Biology	6	Semester 2	20	US Credits 4 / ECTS credits 10*
Computer Science					
4COSC005W	Programming Principles II	4	Semester 2	20	US Credits 4 / ECTS credits 10*
5BUIS002W	Business Analytics	5	Semester 2	20	US Credits 4 / ECTS credits 10*
5COSC004W	Client Server Architecture	5	Semester 2	20	US Credits 4 / ECTS credits 10*
5COSC005W	Mobile Application Development	5	Semester 2	20	US Credits 4 / ECTS credits 10*
5COSC006W	Server-side Web Development	5	Semester 2	20	US Credits 4 / ECTS credits 10*
5COSC013W	Digital Imaging and Computing	5	Semester 2	20	US Credits 4 / ECTS credits 10*
5COSC014W	Fundamental Mathematics and Data Analysis for Science	5	Semester 2	20	US Credits 4 / ECTS credits 10*
5MMCS002W	Usability Testing	5	Semester 2	20	US Credits 4 / ECTS credits 10*
5SENG001W	Algorithms: Theory Design and Implementation	5	Semester 2	20	US Credits 4 / ECTS credits 10*

6CCGD002W	Advanced Maths and Game AI	6	Semester 2	20	US Credits 4 / ECTS credits 10*
6CCGD003W	Networked Games and Security	6	Semester 2	20	US Credits 4 / ECTS credits 10*
6COSC002W	Security and Forensics	6	Semester 2	20	US Credits 4 / ECTS credits 10*
6COSC003W	Web Intelligence	6	Semester 2	20	US Credits 4 / ECTS credits 10*
Life Sciences					
4BIOL001W	Applications of Biological Sciences	4	Semester 2	20	US Credits 4 / ECTS credits 10*
4HMDS001W	Yoga and Meditation	4	Semester 2	20	US Credits 4 / ECTS credits 10*
4PHYM002W	Fundamentals of Pharmacology	4	Semester 2	20	US Credits 4 / ECTS credits 10*
5BICH002W	Bioinformatics	5	Semester 2	20	US Credits 4 / ECTS credits 10*
5BIOL001W	Exploring the Microbial World	5	Semester 2	20	US Credits 4 / ECTS credits 10*
5EVBI001W	Contemporary Global Issues	5	Semester 2	20	US Credits 4 / ECTS credits 10*
5HMNT003W	Health and Exercise Practices	5	Semester 2	20	US Credits 4 / ECTS credits 10*
5PHYM002W	Physiological Networks	5	Semester 2	20	US Credits 4 / ECTS credits 10*
6BICH001W	Advanced Molecular Biology	6	Semester 2	20	US Credits 4 / ECTS credits 10*
6BIOL002W	Advanced Cell Biology	6	Semester 2	20	US Credits 4 / ECTS credits 10*
6CLCH002W	Clinical Neuropharmacology	6	Semester 2	20	US Credits 4 / ECTS credits 10*
			Semester		US Credits 4 /

6HMNT001W	Global Challenges in Food and Health	6	2	20	ECTS credits 10*
Psychology					
4PSYC003W	Biological Psychology	4	Semester 2	20	US Credits 4 / ECTS credits 10*
4PSYC004W	Developmental Psychology	4	Semester 2	20	US Credits 4 / ECTS credits 10*
5PSYC007W	Lifespan Development	5	Semester 2	20	US Credits 4 / ECTS credits 10*
6PSYC004W	Cognitive Disorders	6	Semester 2	20	US Credits 4 / ECTS credits 10*
6PSYC005W	Psychology of Counselling and Psychotherapy	6	Semester 2	20	US Credits 4 / ECTS credits 10*
6PSYC006W	Health Psychology	6	Semester 2	20	US Credits 4 / ECTS credits 10*
6PSYC009W	Clinical Neuropsychology	6	Semester 2	20	US Credits 4 / ECTS credits 10*

* All transcripts are issued in UK credits. Please note the recommendation of a 4 US credit value equivalency is provided as guidance. Final credit values for all modules for US students are decided by your home institution and will be dependent on its credit transfer policies.

Internship Module

Professional and Personal Skills Development

Module Code: 5BUSS005X

Level 5

Semester 1 or 2

Location: Marylebone

UK Credit Value: 20

Equivalent Credit Value: US Credits 4 / ECTS credits 10*

Internship Programme Information: You can apply for a study abroad internship as part of a single semester or year-long study abroad programme at the University of Westminster, but the maximum duration of the internship is one semester. Alongside your academic studies, you will be expected to work 14 hours over two to three days per week in your internship. Internships are part-time and run for 12 weeks, until the end of the teaching period.

Module Description: The module is designed to allow you to draw upon your experience in the workplace in order to reflect on (and to challenge) your behaviours, attitudes and assumptions at work. This greater self-awareness will help you to appreciate differences in cultural and ethical working practices. The module uses coaching tools to help you to discover your own solutions to issues, thus developing you as an 'independent' self-reliant learner and

increasing your resilience. The module also fosters the development of your analytical thinking skills by applying relevant theory and concept to your work experiences. Your learning and practical experience is designed to enable you to reflect on both your work and learning so that you can articulate your global skills set to future employers.

Assessment: Individual Oral Presentation (25%), Individual Reflective Learning Log (25%), Essay (50%)

*All transcripts are issued in UK credits.

Westminster Electives

These modules are cross-disciplinary in nature and have been co-created with students in order to provide a unique learning experience.

Art/Science Collaboration

Module Code: 5WSEL001W

Level 5

Semester 2

Location: Regent

UK Credit Value: 20

Equivalent Credit Value: US Credits 4 /
ECTS credits 10*

This module focuses on the research and the development of interdisciplinary project work, for students from both art and science disciplines. Students undertaking this module learn by engaging others with their own expertise and collaborating with others outside of their discipline, in a process of research and experimentation. The results of these explorations will be shared with the group through visual, textual and/or oral presentation. Collaborative project work develops from a central theme, which changes each year.

Assessment: Research and Production Journal (70%), Critical Evaluation (30%)

*All transcripts are issued in UK credits.

Designing Narrative Experiences

Module Code: 5WSEL010W

Level 5

Semester 2

Location: Regent

UK Credit Value: 20

Equivalent Credit Value: US Credits 4 /
ECTS credits 10*

Narratives are critical for understanding the world in which we live. This module focuses on how we can use narrative to achieve the impact that will make a difference to a range of professional and organisational settings. The module encourages students to develop an interdisciplinary project which showcases how narrative (and the careful construction of stories) helps to convey meaning around a given topic. Collaborating with your fellow students you will research, explore and experiment with possibilities for developing narratives that communicate that strategic objectives of a topic. You will develop your narrative through a range of perspectives (including visual, textual or spoken presentation). This module allows you to apply narrative (and story-telling) to a range of different contexts.

Assessment: Group Proposal (50%), Individual Reflective Journal (50%)

*All transcripts are issued in UK credits.

Pop Goes the Now: Deconstructing Popular Culture

Module Code: 5WSEL019W

Level 5

Semester 2

Location: Regent

UK Credit Value: 20

Equivalent Credit Value: US Credits 4 /
ECTS credits 10*

'Pop Goes the Now' takes the student on a cross-disciplinary exploration of contemporary popular cultural

expression and modes of practice, taking in philosophy, fashion, film, TV, music, comic books and graphic novels, technology, architecture, politics and history, critical thinking, business and psychology, while also aiming to explode conceptions of 'Pop' as a superficial means of expression. The module is important and relevant to students who will learn to appreciate their place in the context of contemporary culture, taking ownership as agents of change to speculate on and to create cultural futures. The module is predominantly delivered across inner London interpreting key sites as cultural texts.

Assessment: Group Practical (50%), Portfolio (50%)

*All transcripts are issued in UK credits.

Applying the Tools of Positive Psychology for Personal and Professional Development

Module Code: 5WSEL020W

Level 5

Semester 2

Location: Regent

UK Credit Value: 20

Equivalent Credit Value: US Credits 4 / ECTS credits 10*

This module will demonstrate how utilising the transformative and empowering tools of positive psychology can enhance professional well-being and contribute to personal and professional success. The identification and assessment of strengths, perceived as the foundation for personal development and performance management will be explored, as well as a successful alignment of strengths with personal goals and their attainment. This will be complemented by an investigation of happiness (or positive well-being) in all areas of life. Theoretical perspectives on 'flow' and 'engagement' will also be examined and techniques of coaching psychology for enhancing positivity will be practice. This module is ideal for those students who wants to develop positive strategies of resilience, innovation and creativity to achieve success. Students will engage with different perspectives of positive organisational behaviour, especially as they relate to developing strategies for success within a workplace environment.

Assessment: In-Class Test (25%), Individual Reflective Report (75%)

*All transcripts are issued in UK credits.

Biomedical Sciences

Functional Anatomy

Module Code: 4BIOM004W

Level 4

Semester 2

Location: Cavendish

UK Credit Value: 20

Equivalent Credit Value: US Credits 4 / ECTS credits 10*

The emphasis for this module is to develop an understanding of how the structural organisation of different cell types within a tissue/organ enable and support the tissue/organ's normal function. For every tissue/organ studied, the functional role of that tissue/organ in the whole body, as covered in Human Physiology, will be studied. A significant component of the module will be evaluating the impact of pathological processes on whole body physiology and integrity.

Assessment: Coursework (60%), In-Class Test/Assignment exam conditions (40%)

*All transcripts are issued in UK credits.

Medical Genetics in Practice

Module Code: 5BIOM002W

Level 5

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

Pre-requisites: 4BIOL002W Cell Biology and 4BICH001W Biochemistry or equivalent

Students will build on their knowledge of classical, population and diagnostic genetics and genomics from core module: Medical Genetics and Genomics (level 5 – 1st semester). Students will be introduced to the field of applied medical genetics through the detailed study of both common and rare human genetic disorders. Several complex disorders will be explored in detail from different perspectives. The importance of medical genetics will be highlighted through the consideration of recent developments, current practices and new perspectives in modern medicine, including ethical aspects.

Assessment: Oral (40%), Coursework (60%)

*All transcripts are issued in UK credits.

Applied Pathobiology

Module Code: 5BIOM007W

Level 5

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

Pre-req: 4BIOM004W Functional Anatomy, 4PHYM001W Human Physiology, 4BICH001W Biochemistry or equiv

The module aims to build on knowledge of human physiology, biochemistry and anatomy acquired at Level 4 and to provide a biological insight into understanding disease processes. At the end of this module the student will be able to explain the patho- physiological alterations occurring in a number of disorders and be able to elucidate shared mechanisms within or between disease states. This module also aims to introduce the principle laboratory tests carried out by the specialist Biomedical Science disciplines as well as their integrated role of in disease investigation.

Assessment: Coursework (50%), Examination - closed book (50%)

*All transcripts are issued in UK credits.

Diagnostic Biochemistry and Haematology

Module Code: 6BIOM004W

Level 6

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

Pre-requisite: 5BIOM007W Applied Pathobiology and 5BICH001W Metabolic Biochemistry or equivalent

Clinical and technical theory and practice underpinning the current biochemistry and haematology laboratory investigation of selected disorders. Including processes for method evaluation and the incorporation of quality assurance systems for decision making.

Assessment: Presentation Group (50%), Examination - closed book (50%)

*All transcripts are issued in UK credits.

Cancer Biology

Module Code: 6BIOM007W

Level 6

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

Pre-requisite: Medical Physiology or equivalent, or Metabolic Biochemistry or equivalent

The module is concerned with the biology, diagnosis and clinical investigation of cancer. The key molecular changes in cancer will be discussed and how these have translated into tests used in clinical practice will be considered in the context (for example) of biomarker analysis and imaging tests. The emphasis will be on how knowledge of

cancer biology has translated and impacted on clinical practice.

Assessment: Essay (60%), Examination - closed book (40%)

*All transcripts are issued in UK credits.

Computer Science

Programming Principles II

Module Code: 4COSC005W

Level 4

Semester 2

Location: Cavendish

UK Credit Value: 20

Equivalent Credit Value: US Credits 4 /
ECTS credits 10*

Pre-requisite: 4COSC001W Programming Principles I or equivalent

The module aims to develop skills in the selection and implementation of problem-solving algorithms. It will consider analysis of algorithms in terms of soundness and completeness, and introduce more advanced programming methods including the implementation of classes and methods and more sophisticated data structures such as lists, queues and trees.

Assessment: In-Class Test/Assignment exam conditions (50%), In-Class Test/Assignment exam conditions (50%)

*All transcripts are issued in UK credits.

Business Analytics

Module Code: 5BUIS002W

Level 5

Semester 2

Location: Cavendish

UK Credit Value: 20

Equivalent Credit Value: US Credits 4 /
ECTS credits 10*

Pre-requisite: 4BUIS002W Business Mathematics or equivalent

This module introduces students to the Operational Research (OR) techniques, commonly used for business analytics, such as Linear programming, forecasting and simulation. It helps students to develop and analyse analytical models that support making effective business decisions.

Assessment: Coursework (50%), Examination - closed book (50%)

*All transcripts are issued in UK credits.

Client Server Architecture

Module Code: 5COSC004W

Level 5

Semester 2

Location: Cavendish

UK Credit Value: 20

Equivalent Credit Value: US Credits 4 /
ECTS credits 10*

This module introduces the student to the various layers of software architectures, from the network to the application layer, to enable them to maintain, build and deploy a typical client server system.

Assessment: Coursework (60%), In-Class Test/Assignment exam conditions (40%)

*All transcripts are issued in UK credits.

Mobile Application Development

Module Code: 5COSC005W

Level 5

Semester 2

Location: Cavendish

UK Credit Value: 20

Equivalent Credit Value: US Credits 4 /
ECTS credits 10*

The Android mobile programming architecture. Restrictions of using small devices such as mobile phones tablets and wearables. Programming user interfaces, networking, persistent storage and multi-threading. Device profiling, application deployment and installation.

Assessment: Coursework (50%), Coursework (50%)

*All transcripts are issued in UK credits.

Server-side Web Development

Module Code: 5COSC006W

Level 5

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

This module will cover the analysis, design and implementation of commercial web applications from a programming and database perspective and will be suitable for students with a background in SQL, programming, HTML, and browser scripting. A server-side language will be covered to the depth required for implementing high-quality functional applications that appropriately fulfil user requirements.

Assessment: In-Class Test/Assignment exam conditions (50%), In-Class Test/Assignment exam conditions (50%)

*All transcripts are issued in UK credits.

Digital Imaging and Computing

Module Code: 5COSC013W

Level 5

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

Digital images are all around us. A very large number of scientific and creative industries (motion pictures, video, visual effects, mobile, internet, medical, astronomical, etc.) are concerned with still and moving image capture, processing, analysis, communication and display. The module provides key concepts on how images are formed in optical and digital media how they are represented and stored as digital data, and are rendered and visualised. It introduces image-processing methods and algorithms for the manipulation, enhancement and analysis of images. Students use MATLAB - a high-level technical computing language and interactive environment – for interpreting concepts around image formation, representation and visualization and for the development of image processing algorithms.

Assessment: In-Class Test/Assignment exam conditions (30%), Coursework (20%), Project (50%)

*All transcripts are issued in UK credits.

Fundamental Mathematics and Data Analysis for Science

Module Code: 5COSC014W

Level 5

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

This module is for students of science who feel that they need to cover more mathematics and data analysis, perhaps to fill gaps or reinforce areas that are lacking. An applied, practical and real world approach is taken whereby students will gain skills in order to solve mathematical and statistical problems related to their area of study thereby gaining more confidence with numeracy related problems on their course. The module will be delivered with a combination of online lectures and activity together with practical 'hands-on' face-to-face tutorials.

Assessment: Coursework (50%), Coursework (50%)

*All transcripts are issued in UK credits.

Usability Testing

Module Code: 5MMCS002W

Level 5

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

The module provides students with essential skills and practice in a range of usability techniques, how to conduct usability studies and focuses on the role of the user within the design process. The importance of experimental design and statistical analysis is illustrated through real world examples. The ability to interpret and critically discuss results is stressed throughout.

Assessment: Group Coursework (60%), Examination - closed book (40%)

*All transcripts are issued in UK credits.

Algorithms: Theory Design and Implementation

Module Code: 5SENG001W

Level 5

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

The module equips the student with the theoretical and practical background of computing and computer science towards the problem solving strategies, design, implementation and evaluation of computationally efficient algorithms. Given the vast range of applicable problems, e.g., technology, economics, biosciences, society, environment, mathematics, game theory, the module particularly draws upon current real world problems.

Assessment: Coursework (50%), Examination - closed book (50%)

*All transcripts are issued in UK credits.

Advanced Maths and Game AI

Module Code: 6CCGD002W

Level 6

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

Pre-requisite: Programming experience required

Creating robust artificial intelligence is one of the greatest challenges for game developers, yet the commercial success of a game is often dependent upon the quality of its AI. This module introduces an engagingly realistic and immersive experience in modern videogames for creating game terrains to simulate complex behaviour of game objects. The main focus of the module is to learn how to create an automatic random game world with metrics to generate human like intelligent behaviours primarily in non-player characters (NPCs). The algorithms and logic covered in this module are also widely used in a variety of computing sectors which will make the module a great choice for CS and SE students.

Assessment: Coursework (60%), Examination - closed book (40%)

*All transcripts are issued in UK credits.

Networked Games and Security

Module Code: 6CCGD003W

Level 6

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

Pre-requisite: Programming experience required

This module aims to provide a detailed understanding of the network infrastructures that are available and suitable for online games, including referencing to the controls that are included within systems and applications software and the steps used in their development such as Systems Development Life Cycle (SDLC), Application Environment

and Security Control and Effectiveness of Application Security. It also covers a selection of topics that are related to distributed multimedia such as online chat and standards that are widely used for games interaction. The module will assess the limitations and problems of the technologies and the user interaction that have to be resolved.

Assessment: Practical Coursework (40%), Practical Coursework (60%)

*All transcripts are issued in UK credits.

Security and Forensics

Module Code: 6COSC002W

Level 6

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

This module examines various aspects of computer security and forensics giving a sound introduction to theoretical and practical areas such as network security, cryptography, security architecture and operations security. A substantial amount of work will be laboratory based involving the deployment of security tools, the hardening of operating systems and the analysis of compromised systems.

Assessment: Coursework (50%), Examination - closed book (50%)

*All transcripts are issued in UK credits.

Web Intelligence

Module Code: 6COSC003W

Level 6

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

The module equip the students with the theoretical and practical knowledge to apply intelligent information technology on the Web in order to create the next generation of products, services and frameworks based on the internet for the sake of using the Web as a huge and trustworthy knowledge source for a variety of contemporary problems in society, environment, economy. The module draws upon many fields such as Web text mining end engineering, information retrieval and search engines, Semantic and Social web and the Web of data, which underpin the contemporary Web as a source of knowledge.

Assessment: Coursework (50%), Examination - closed book (50%)

*All transcripts are issued in UK credits.

Life Sciences

Applications of Biological Sciences

Module Code: 4BIOL001W

Level 4

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

A study of how molecular bioscience can help solve biological problems encountered by human beings. The theme followed molecular bioscience will start with a consideration of how sequencing the human genome and bioinformatic analysis has led to the incarnation of personal medicine. It will consider how human diseases and conditions are being treated in the 21st Century: the development of new antibiotics the use of stem cell biology and the science of tissue regeneration. Specific studies will be made of cancer and neuro-degeneration to show how modern molecular biochemical and biophysical techniques are being used by Bioscientists to study these diseases. In addition the wider applications of molecular science in agriculture forensic science and biotechnology will be

explored.

Assessment: Coursework (40%), Essay (60%)

*All transcripts are issued in UK credits.

Yoga and Meditation

Module Code: 4HMDS001W

Level 4

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

This experiential module aims to provide an introduction to the theoretical and conceptual framework for exploring the physical, mental, spiritual and social dimensions of yoga and meditation. Students are given the opportunity to personally experience the effects of yoga postures, breathing, relaxation and meditation techniques. The principles underlying the safe practice of yoga and meditation are considered. For the duration of the module students will be expected to develop a yoga and meditation practice, as well as maintain a learning journal. The journal will enable the student to reflect on the experience of practising yoga and meditation.

Assessment: Practical Work (50%), Essay (50%)

*All transcripts are issued in UK credits.

Fundamentals of Pharmacology

Module Code: 4PHYM002W

Level 4

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

The module explores the scope of pharmacology and introduces the concept of drugs as biologically active, selective molecules. In addition, drug interactions with cellular targets will be studied in order to provide examples of their clinical usage and consideration of potential adverse effects. Selected experimental techniques used in pharmacology will be reviewed. The significance of absorption, distribution, metabolism and excretion in determining systemic drug action will also be studied.

Assessment: Practical Work (40%), Coursework (10%), Examination - closed book (50%)

*All transcripts are issued in UK credits.

Bioinformatics

Module Code: 5BICH002W

Level 5

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

Pre-requisite: 4BICH001W *Biochemistry or equivalent*

The module will build on the cell biology, biochemistry, information technology and critical thinking skills acquired at level 4. This module will allow students to develop skills in the area of bioinformatics including the computational analysis of DNA and protein sequences using alignment and evolutionary models. Students will use a variety of computational methods to assign gene and protein function including data from gene expression analysis and proteomics.

Assessment: Group Coursework (50%), Coursework (50%)

*All transcripts are issued in UK credits.

Exploring the Microbial World

Module Code: 5BIOL001W

Level 5

Semester 2

Location: Cavendish

UK Credit Value: 20

Equivalent Credit Value: US Credits 4 /

ECTS credits 10*

Pre-requisites: 4BIOL002W Cell Biology or equivalent

The physiological and metabolic diversity of micro-organisms (eukaryotes, prokaryotes, archae) and their impacts on the environment (e.g. nutrient cycles); and man (e.g. technological applications) will be explored. Safe handling of micro-organisms, their identification, enumeration and control also will be considered.

Assessment: Portfolio (60%), In-Class Test/Assignment exam conditions (40%)

*All transcripts are issued in UK credits.

Contemporary Global Issues

Module Code: 5EVBI001W

Level 5

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

This module will explore regional and global problems and their impact on the world's resources, the environment and human societies (social and economic). The underlying causes of environmental and societal pressures, e.g. climate change and infectious and non-infectious diseases, will be identified and examined and the risks these pose, e.g. water scarcity and conflicts and biodiversity loss, examined.

Assessment: Coursework (30%), Group Coursework (70%)

*All transcripts are issued in UK credits.

Health and Exercise Practices

Module Code: 5HMNT003W

Level 5

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

This module will examine the complexity of practices and behaviors in health and disease in all its diversity, including effects on society's health, well-being and economy. Understanding the nature of human choice related to health and exploring the role and responsibility of government promoting societal health outcomes. Students will also consider the possibilities of intervention strategies to improve behaviour-related health.

Assessment: Coursework (30%), Coursework (10%), Examination - closed book (60%)

*All transcripts are issued in UK credits.

Physiological Networks

Module Code: 5PHYM002W

Level 5

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

Pre-requisite: 4PHYM001W Human Physiology or equivalent

This module examines the fundamental mechanisms of cell communication in mammalian physiology, both intra- and intercellular. It explores common and divergent mechanisms that underlie the function of three principal systems (endocrine, immune and nervous), ultimately presenting the student with the notion that whilst systems can function autonomously, they must also function as integrated networks.

Assessment: Coursework (20%), Coursework (30%), Examination - open book (50%)

*All transcripts are issued in UK credits.

Advanced Molecular Biology

Module Code: 6BICH001W

Level 6

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

Pre-req: 5BICH003W Molecular Biology & Genetics or 5BIOM001W Medical Genetics & Genomics or equiv

Unique patterns in DNA are responsible for the differences seen between individuals and can predict the likelihood of developing particular disorders. Alongside these polymorphisms, epigenetics and microRNA have all greatly enhanced our knowledge about regulation of gene expression. This module will look at how a range of advanced molecular techniques such as next generation sequencing, microarrays, quantitative and multiplex PCR can be used to enhance understanding gene regulation and polymorphisms.

Assessment: Presentation (40%), Examination - closed book (60%)

*All transcripts are issued in UK credits.

Advanced Cell Biology

Module Code: 6BIOL002W

Level 6

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

Considerable experience in Biochemistry required.

The cell is the basic unit of life and an understanding of molecular basis of cellular structures offers profound insights into biology and applications of the biological sciences. This module will allow students to explore the biochemistry and biophysics of these structures and the processes that rely upon them and thereby deepen their understanding of the molecular basis of life.

Assessment: Coursework (50%), Essay (50%)

*All transcripts are issued in UK credits.

Clinical Neuropharmacology

Module Code: 6CLCH002W

Level 6

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

Pre-requisite: 4PHYM002W Fundamentals of Pharmacology and 5PHYM002W Physiological Networks or equiv

The module further explores selected neurotransmitter systems, with an emphasis on receptor specificity and distribution, to demonstrate how complex interactions between these systems can affect cognition, affective state, motor activity and behaviours in health and disease. Mechanisms underlying neurotransmission will be examined in detail with a focus on therapeutic effects, side-effects, drugs of abuse and potential therapeutic targets. The impact of developmental changes across the lifespan and genetic variants on central nervous system function will also be examined.

Assessment: Coursework (40%), Examination - open book (60%)

*All transcripts are issued in UK credits.

Global Challenges in Food and Health

Module Code: 6HMNT001W

Level 6

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

This module will explore the many challenges to sustainable, safe and equitable food supplies. Different conceptual frameworks, such as food security and food regimes, will be compared with food providing a lens to examine the contributions of different academic disciplines in developing multi-sectoral actions. The role of the UN, government and private sectors actors in relation to food production, trade, access and consumption will be examined while

current policies to establish safe and equitable food supplies will also be discussed.

Assessment: Group Coursework (100%)

*All transcripts are issued in UK credits.

Psychology

Biological Psychology

Module Code: 4PSYC003W

Level 4

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

The module considers human psychology and behaviour from a biological perspective. The module assumes no prior knowledge and provides a basic introduction into the breadth of psychobiology, neurology, psychophysiology and related areas. This includes introductory level neuroanatomy and physiology, progressing to higher organisation of the nervous system and functional anatomy. Also introduced are basic physiology, the biological bases of behaviour and learning, nociception, control systems and the fundamentals of evolution and genetics.

Assessment: Presentation (20%), Examination - closed book (80%)

*All transcripts are issued in UK credits.

Developmental Psychology

Module Code: 4PSYC004W

Level 4

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

This module provides a broad based, contemporary view of developmental Psychology taking a lifespan approach. It explores key topics such as attachment, language development and aging. The module includes the interacting contributions of biology and the environment to the developing person, and their social context throughout the lifespan.

Assessment: Essay (40%), Examination - closed book (60%)

*All transcripts are issued in UK credits.

Lifespan Development

Module Code: 5PSYC007W

Level 5

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

Pre-requisite: 4PSYC004W Developmental Psychology or equivalent

Considers topics in the field of lifespan development (from pre-birth to old age), e.g. (neuro)constructivism; Prenatal Programming; Cerebral Lateralization; Multisensory Integration; Attention; Educational Neuroscience; Theory of Mind & Deafness; Autism & Language Alignment; SES, Family & Culture. These topics are widely discussed in the literature, and will give students depth of knowledge, both in terms of theory as well as practice (eg. intervention).

The aim of the module is to let students discover the relevant building blocks of development, as well as have them take a lifespan approach. Teaching and learning methods include lectures (including guest lectures by distinguished external speakers), student-led discussion panels in seminars, academic writing skills, and independent study.

Assessment: Coursework (50%), Examination - closed book (50%)

*All transcripts are issued in UK credits.

Cognitive Disorders

Module Code: 6PSYC004W

Level 6

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

Pre-requisite: 5PSYC002W Brain, Mind and Behaviour or equivalent

Much of what is known about cognition has come from studying what happens when it goes wrong. This module aims to provide students with a deeper understanding of the relationship between cognition and cortical function, using the effects of cortical lesions as an indicator of brain organisation and localisation of function. Disorders examined will include those of memory, perception, thinking, and language, and the neuropsychological lesions underlying them.

Assessment: Group Coursework (40%), Examination - closed book (60%)

*All transcripts are issued in UK credits.

Psychology of Counselling and Psychotherapy

Module Code: 6PSYC005W

Level 6

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

Pre-requisite: 4PSYC001W Social Psychology and 4PSYC002W Cognitive Psychology or equivalent

The primary aims of this module are to facilitate students' understanding of some of the key counselling and psychotherapeutic theories and frameworks and to enable students to evaluate the various approaches in terms of the available research evidence along with current debates about the nature of psychotherapy and psychotherapy related research. This module does not prepare students to become Counselling Psychologists but will give students a sound basis for understanding and identifying the further study and training required to become a Counselling Psychologist.

Assessment: Presentation Group (30%), Examination - closed book (70%)

*All transcripts are issued in UK credits.

Health Psychology

Module Code: 6PSYC006W

Level 6

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

Pre-requisite: 4PSYC001W Social Psychology or equivalent

This module considers the interdisciplinary and applied nature of health psychology, exploring biological, psychological and socio-cultural determinants of health and illness. Topics include approaches to health and illness behaviour, management of long-term conditions, health-care communication, psychoneuroimmunology and wellbeing. Emphasis is given to an evidence and practice-based approach.

Assessment: Coursework (50%), Examination - closed book (50%)

*All transcripts are issued in UK credits.

Clinical Neuropsychology

Module Code: 6PSYC009W

Level 6

Semester 2

Location: Cavendish

UK Credit Value: 20

**Equivalent Credit Value: US Credits 4 /
ECTS credits 10***

Pre-requisite: 4PSYC003W Biological Psychology and 4PSYC002W Cognitive Psychology or equivalent

The aetiology, assessment, diagnosis and treatment of psychological disorders are considered from a neuropsychological and neuroanatomical perspective. The theory and practice of clinical psychology in general is studied with an emphasis placed on how specialist knowledge of the neurosciences contributes to the understanding of psychological illness and the care of people experiencing mental health problems. Psychological conditions focused on in the module include, depression, the psychoses, and anxiety disorders.

Assessment: Essay (40%), Examination - closed book (60%)

*All transcripts are issued in UK credits.