

# Module Catalogue

## Science and Technology Subjects

### Postgraduate Study Abroad 2019/0

#### Semester 1

Module Code	Module Name	Level	Semester	UK Credit Value	Credit Equivalency
<b>Computer Science and Engineering</b>					
7BDIN006W	Big Data Theory and Practice	7	Semester 1	20	US Credits 4 / ECTS credits 10*
7BDIN007W	Data Repositories Principles and Tools	7	Semester 1	20	US Credits 4 / ECTS credits 10*
7BUIS008W	Data Mining and Machine Learning	7	Semester 1	20	US Credits 4 / ECTS credits 10*
7BUIS020W	Risk Management	7	Semester 1	20	US Credits 4 / ECTS credits 10*
7BUIS024W	Business Analytics	7	Semester 1	20	US Credits 4 / ECTS credits 10*
7BUIS030W	Data System Concepts and Fundamentals	7	Semester 1	20	US Credits 4 / ECTS credits 10*
<b>Psychology</b>					
7HPSY001W	Theories and Perspectives in Health Psychology	7	Semester 1	20	US Credits 4 / ECTS credits 10*
7HPSY003W	Health Psychology: A Lifespan Development Perspective	7	Semester 1	20	US Credits 4 / ECTS credits 10*

7PSYC026W	Specialist Topics for Applied Psychology	7	Semester 1	20	US Credits 4 / ECTS credits 10*
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\* 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.

# Computer Science and Engineering

## Big Data Theory and Practice

**Module Code: 7BDIN006W**

**Level 7**

**Semester 1**

**Location: Cavendish**

**UK Credit Value: 20**

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

The module discusses how to manage the volume, velocity and variety of Big Data, SQL and noSQL databases, and it touches on issues related to data governance and data quality.

**Assessment:** Group Coursework (80%), Presentation (20%)

\*All transcripts are issued in UK credits.

## Data Repositories Principles and Tools

**Module Code: 7BDIN007W**

**Level 7**

**Semester 1**

**Location: Cavendish**

**UK Credit Value: 20**

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

An introductory module that covers theoretical & practical issues related to technologies employed in persistent storage of data. It evaluates underlying technologies & approaches used in capturing, maintaining & modelling persistent data; reviews the evolution of DBMSs their components & functionality, along with some of the predominant & emerging data models; addresses practical issues related to conceptual data modelling, practical & current trends in database design; it also discusses in detail the features and constructs of the SQL, the de-facto database language for the definition and manipulation of relational data constructs.

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

\*All transcripts are issued in UK credits.

## Data Mining and Machine Learning

**Module Code: 7BUI008W**

**Level 7**

**Semester 1**

**Location: Cavendish**

**UK Credit Value: 20**

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

This module will provide an overview of modern techniques in Machine Learning and Data Mining that are particularly customised for Data Science applications. Students will be introduced to a range of toolkits, such as R and Python and they will explore the features and strengths of different machine learning and data mining methodologies using selected data sets related to specific public sector or businesses application domains.

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

\*All transcripts are issued in UK credits.

## Risk Management

**Module Code: 7BUIS020W**

**Level 7**

**Semester 1**

**Location: Cavendish**

**UK Credit Value: 20**

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

### ***Pre-requisite: a background in Computer Science***

Information Technology (IT) risks are managed by identification of risk and controlling the risks. This module will focus on the two main areas of risk identification and risk control. Various risk control strategies will be explored and automated tools for risk assessment will also be investigated. Various protection mechanisms will also be considered.

**Assessment:** Coursework (100%)

\*All transcripts are issued in UK credits.

## Business Analytics

**Module Code: 7BUIS024W**

**Level 7**

**Semester 1**

**Location: Cavendish**

**UK Credit Value: 20**

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

This is a self-contained module in applied statistics and operational research (OR) for decision making that lays the foundations for more advanced modules in data mining, optimisation and simulation modelling. It covers the essential of descriptive, predictive, and prescriptive analytics in an application driven manner and makes use of appropriate software tools such as EXCEL (including add-ins) and R to derive meaningful solutions.

**Assessment:** Coursework (70%), In-Class Test/Assignment exam conditions (30%)

\*All transcripts are issued in UK credits.

## Data System Concepts and Fundamentals

**Module Code: 7BUIS030W**

**Level 7**

**Semester 1**

**Location: Cavendish**

**UK Credit Value: 20**

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

This module introduces the student to computer systems fundamentals and data systems fundamentals. The aim of the module is to ensure that the student has a deep understanding of the high-level systems and software that support data storage and retrieval to be able to work with such systems and to be able to critically and confidently operate with system stakeholders and technical partners such as data providers, storage, and data processing actors. Concepts of computer systems and data creation, storage, and retrieval systems shall be introduced as well as compliance and security. This knowledge shall be reinforced by practical sessions where the student shall create, store and retrieve complex data using standard tools, as well as have the opportunity to analyse and critically evaluate typical real-world data lifecycle scenarios.

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

\*All transcripts are issued in UK credits.

# Psychology

## Theories and Perspectives in Health Psychology

**Module Code: 7HPSY001W**

**Level 7**

**Semester 1**

**Location: Cavendish**

**UK Credit Value: 20**

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

***Pre-requisite: undergraduate degree in Psychology***

This introductory module explores a broad range of topics in health psychology within a multidisciplinary framework. It considers the social and cultural context of health and illness, the importance of social cognition models in health care and issues around communication and health care decisions. It emphasises theoretical and methodological issues in health psychology research and application.

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

\*All transcripts are issued in UK credits.

**Health Psychology: A Lifespan Development Perspective**

**Module Code: 7HPSY003W**

**Level 7**

**Semester 1**

**Location: Cavendish**

**UK Credit Value: 20**

**Equivalent Credit Value: US Credits 4 /**

**ECTS credits 10\***

***Pre-requisite: undergraduate degree in Psychology***

The module will take a developmental approach to understanding relationships between biological and social factors that influence health and disease through the lifespan. It will emphasise the dynamics of change rather than a 'stage' approach. Using this approach a number of key topics will be examined including children's health and the family context, normative transitions and life events, vulnerability and resilience. Age-related and gender issues will be outlined.

**Assessment:** Practical Work (30%), Coursework (20%), Coursework (50%)

\*All transcripts are issued in UK credits.

**Specialist Topics for Applied Psychology**

**Module Code: 7PSYC026W**

**Level 7**

**Semester 1**

**Location: Cavendish**

**UK Credit Value: 20**

**Equivalent Credit Value: US Credits 4 /**

**ECTS credits 10\***

***Pre-requisite: undergraduate degree in Psychology***

***Co-requisite: can only be taken with 7HPSY001W and 7HPSY003W***

This module allows students to use appropriate methods and theoretical knowledge derived from the previous semester to critically re-evaluate, review and propose future research in specialist topics in health psychology, enabling students to gain skills involved in presenting health related material both orally and in writing.

**Assessment:** Coursework (50%), Coursework (40%), Presentation (10%)

\*All transcripts are issued in UK credits.

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