Brunel University London | Pathway College

University Foundation Studies in Information and Computer Studies

The aim of this programme is to provide a theoretical and applied knowledge and skills required at foundation level. In completing the programme, students will be able to demonstrate understanding of research methods and methodologies, critical and creative thinking, management, decision-making, ICT and analytical skills in the production of written and oral assignments, to develop the prescribed level of inter-disciplinary language competence. Students will examine a range of research approaches, techniques and methodologies, and manage their personal development enhancing their intellectual and practical skills, which build a set of transferable skills as appropriate for continuing at the undergraduate level.

In Stage 1 of the programme you will take the following core modules, four in the first semester and four in the second.

In Semester one you will study:

- Interactive Learning Skills and Communication
- Introduction to Research Methods
- Critical Thinking and Expression
- Principles of ICT
- Management

In Semester two you will study:

- Interactive Learning Skills and Communication
- Introduction to Programming
- Introduction to Computing
- Mathematics

Module overview

Interactive Learning Skills and Communication

This module has been designed to help students develop their academic literacy and communication skills in preparation for undergraduate study and to understand the institutional culture, practices, norms and expectations of UK higher education in an international academic context and community; to enable students to develop basic academic research and communication skills and to raise students' English language levels to the required entry point for undergraduate entry.

The module is benchmarked to the Common European Framework of Reference for Languages. Assignments for each of the four skills of academic reading, writing, speaking and listening are included in order to confirm that students meet the appropriate exit threshold in English language proficiency. This is achieved using a combination of a speaking presentation at BPC and the Brunel English language test in reading, writing and listening.

Principles of ICT

The module introduces to the interesting challenges that ICT presents today and covers many anchor points that may serve as a bridge to students' interests and lifestyles from the viewpoint of the user. These bridges include the technology in their mobile phones, computing equipment, home appliances, shopping, movies and entertainment software. The module also includes an emphasis on benchmarking data collation/presentation skills using the main aspects of Microsoft Windows (Excel, PowerPoint and Project) as a platform to further study. By encouraging students to use a questioning approach to learning material, it is hoped that the transition towards true critical analysis from a variety of learning backgrounds will be aided through this module as a common skill and applied successfully throughout their undergraduate study in the prescribed degree schemes at Brunel University London.

Critical Thinking and Expression

This module has been designed to present some of the fundamental aspects of critical thinking to students seeking to progress to one of the prescribed undergraduate degree pathways at Brunel University. It will develop students' critical thinking skills and enhance their ability to differentiate between fact and opinion, and evaluate arguments in academic texts for credibility, reliability, consistency and identify problems based on a logical line of reasoning when reading in their discipline. It will also develop their ability to formulate and deliver both verbally and in writing well-structured and critically reasoned arguments and opinions.

Introduction to Research Methods

This module has been designed to prepare students with an underpinning knowledge and skills in research methods to students seeking to progress to one of the prescribed undergraduate degree pathways at Brunel University.

Specifically, the module will assist students in developing familiarity with research methods; and provide students with understanding of research methods and methodologies and a solid grounding for the research skills required in undergraduate study. By encouraging candidates to impart

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this knowledge in an open class forum (small group tutorial presentations), the beginnings of professional organization and presentation skills in an academic and professional-facing context are developed and encouraged.

Successful completion of this module indicates that students have obtained a good understanding of and ability to apply the requisite skills involved in demonstrating their understanding of, and ability to evaluate, conduct and report research findings.

Management

The module aims to provide students with an introduction of the principles and practices related to management in the modern world. The focus of the unit will be on how management ideas have developed, the environment in which the managers operate, and basic managerial principles and practices.

This module has been designed to be delivered in conjunction with Economics, Statistics, and Marketing in order to present some of the fundamental aspects of Management to provide students with an appreciation of the knowledge and skills needed to run a business.

By encouraging candidates to impart this knowledge in an open class forum (small group tutorial presentations), the beginnings of professional organisation and presentation skills in a business-facing context are developed and encouraged.

Mathematics

Introduction to mathematics at the foundation level covers basic arithmetic to introduction to pure mathematics.

The module aims to introduce the application of mathematics to real-life problems, in the business and everyday world. The employability skills are developed by encouraging students to impart their knowledge in tutorials.

Introduction to Programming

Introduction to programming module provides students with a basic level of programming competence. Students will learn how to write programs instructing the computer to perform various tasks. This module is an essential foundation for many of the modules the student will pursue in the subsequent years.

The aim of the module is primarily to develop problem-solving skills. Object-oriented programming language is used as a vehicle to empower the student with the means and techniques to develop software solutions. Students will be taught good programming practice and some of the underlying principles shared by all programming languages and those particular to object-oriented programming. Once the students have mastered the process of writing computer programs in one language, they will find learning how to write programs in other programming languages much easier.

Introduction to Computing

The main aim of the module is to provide a sound foundation in the way that computers operate and can be used to facilitate employability skills in a variety of tasks and operations to solve various types of problems.

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