# Programme Specification

| | |
|---|---|
| **Programme Title** | **Foundation Certificate in Science and Engineering** |
| **Awarding Body** | **Kaplan International Colleges and The University of the West of England** |
| **Level and Credits** | **NQF level 3. 80 credits.** |
| **Name of Award** | **Foundation Certificate in Science and Engineering** |
| **Mode of Study** | **Full Time** |
| **Language of Study** | **English** |
| **UWE Progression Routes** | **See Appendix A** |
| **Valid from date** | **May 2012** |
| **Valid until date** | **May 2013** |
| **Version** | **1** |

**Programme Aims**

The Foundation Certificate in Science and Engineering equips international students with a range of subject-related understanding, knowledge and skills and English language capabilities and higher level study skills, in order that they become independent, self-directed learners and achieve the necessary academic standards to progress to a range of science and engineering degrees in UK HE institutions.

**Intended Learning Outcomes of Programme**

The programme provides opportunities for students to develop and demonstrate knowledge and understanding, skills, qualities and other attributes in the following areas. Upon successful completion of this programme, students will be able to demonstrate achievement of the following learning outcomes:

| **Learning Outcomes** | **Module Name and Code** |
|---|---|
| **All students:** | |
| **1.** Demonstrate the required level of mathematics skills appropriate to their studies, showing application of this knowledge in a variety of topics, for example algebra, geometry, calculus, trigonometry, among others; | FC017 - Foundation Mathematics |
| **2.** Apply a selection of mathematical methods to problem-solving situations; | FC017 - Foundation Mathematics |
| **3.** Demonstrate an understanding of the properties of matter; | FC018 - Fundamentals of Science<br>FC021 - Physical Sciences<br>FC023 - Basic Engineering |
| **4.** Utilise mathematical modelling, with an understanding of the relationship between 'real-world' problems and mathematical constructs; | FC017 - Foundation Mathematics |
| **5.** Demonstrate a systematic understanding of fundamental science principles with the ability to apply that knowledge to the solution of theoretical and practical problems; | FC018 - Fundamentals of Science<br>FC021 - Physical Sciences<br>FC023 - Basic Engineering |

| | |
|---|---|
| **Physical Sciences and Engineering Pathway students** | |
| 1. Demonstrate the required level of mathematics skills appropriate to their studies, showing application of this knowledge in a variety of topics, for example further calculus, further trigonometry, among others; | FC017 - Foundation Mathematics<br>FC020 - Applied Mathematics |
| 2. Apply mathematics in the description and modelling of physical phenomena; | FC017 - Foundation Mathematics<br>FC020 - Applied Mathematics<br>FC021 - Physical Sciences<br>FC023 - Basic Engineering |
| 3. Identify appropriate physical principles to formulate solutions to problems; | FC021 - Physical Sciences<br>FC023 - Basic Engineering |
| 4. Develop experimental skills, with demonstrated practical and analytical skills leading to production of conclusions based on experimental findings | FC021 - Physical Sciences<br>FC023 - Basic Engineering |
| **Life Sciences Pathway students** | |
| 1. Gain knowledge and understanding of key chemical concepts of a range of organic and inorganic materials; | FC018 - Fundamentals of Science |
| 2. Demonstrate a systematic understanding of fundamental biological principles, for example human biology, among others; | FC026 - Biological Science |
| 3. Demonstrate application of fundamental principles of biochemistry, for example organic chemical compounds, proteins including protein synthesis, among others; | FC027 - Biochemistry of Life |
| **Generic Academic Learning Outcomes** | |
| 1. Choose effective and safe laboratory procedures, selecting appropriate apparatus, with due regard to provision of measurement, scale of precision of measurement and the control of variables; | FC021 - Physical Sciences<br>FC023 - Basic Engineering<br>FC024 - Scientific Principles and Enquiry |
| 2. Demonstrate the use of logbooks to accurately record and present data, using graphs and tables; | FC021 - Physical Sciences<br>FC023 - Basic Engineering<br>FC024 - Scientific Principles and Enquiry |
| 3. Operate the English language skills of:<br>a) reading for information, attitude and evaluation;<br>b) listening with confidence to a wide range of dialogue and monologue;<br>c) understanding and controlling the writing process applicable to a variety of academic writing texts and situations;<br>d) speaking accurately, coherently and appropriately on a variety of complex topics; | FC201 – Language for Study 1<br>FC202 – Language for Study 2<br>FC203 – Language for Study 3<br><br>FC501 – Skills for Study 1<br>FC502 – Skills for Study 2<br>FC503 – Skills for Study 3 |
| 4. Analyse and critically evaluate numerical data; | All modules |
| 5. Understand how to prepare academic writing, how to use other people's work without plagiarising, how to log information sources and compile biographies, and how to take notes effectively; | FC501 – Skills for Study 1<br>FC502 – Skills for Study 2<br>FC503 – Skills for Study 3 |
| 6. Apply problem-solving and critical thinking skills within their academic context, developing into an independent learner. | All modules |
| **Transferable/Key Skills** | |
| 1. Retrieve paper-based and electronic information from a variety of sources; | All modules |
| 2. Make effective use of IT facilities, using software packages and the Internet; | All modules |
| 3. Demonstrate numeracy skills | All modules |

| | |
|---|---|
| 4. Manage resources and time; | All modules |
| 5. Work and learn independently; | All modules |
| 6. Work as a member of a team; | All modules |
| 7. Communicate clearly and concisely both orally and in writing. | All modules |

**Assessment**

The assessment regime has been designed to ensure that (a) the students are enabled to demonstrate achievement of all the core learning outcomes and (b) the learners experience a variety of assessment tasks, in line with the range of knowledge, understandings, skills and abilities they are intended to develop. Fairness and consistency in assessments is achieved through significant attention paid to students' clarity about their assignments. Outline detail of the assessments associated with each of the programmes as a whole and with each module is given within the module specifications. These are further extended and clarified in both written and oral briefings provided to students before each assignment. Attendance at all sessions is a vital part of the programme and forms an important part of the assessment. All staff operate clear and explicit criteria by which tasks are assessed and adopt and use mark schemes that are made available to the students.

Clear, comprehensive and readily accessible feedback to students on their assessments is regarded by all staff as a highly important part of students' learning formation and is given in a variety of ways, including written comments from assessors, oral comments, tutorials, and group feedback. In some cases peer feedback is also built into the assessment strategy, which gives students valuable insights into the assessment process and its role in building confidence and contributing to enhanced future performance. Feedback given on assignments may also be discussed in detail by students with the Learning Support Tutor (see Additional Relevant Information).

Further details of assessment tasks, as well as the learning outcomes they assess, are provided in the module specifications.

**Learning and Teaching Approaches**

Students are normally taught in classes of limited size, providing an environment in which students can more easily ask questions and engage in dialogue with the tutor, developing confidence and skill in classroom discussion and spoken English language proficiency. Course materials and learning support provision are designed to facilitate the gradual and supported transition to greater learner independence at NQF level 3. Curricula are developed on the basis of organised progression so that the demands on the learner in intellectual challenge, skills, knowledge, conceptualisation and learning autonomy increase.

Student learning is advanced through varied teaching methods, including lectures, tutorials, workshops and laboratories, appropriate to the subject and level, and guided self-study using skills developed in the academic skills modules and supported by materials and resources provided by the International College. Students also gain experience of working together in groups and practicing a range of transferable skills, including addressing an audience.

Subjects are taught at an introductory level in order that students are able to demonstrate a general understanding of a range of subject areas, and apply relevant skills and knowledge in a variety of complex activities. Students are supported as they move towards increasing their levels of self-directed activity, receiving guidance in order to enable them to respond to novel, but clearly defined, problems with a range of possible solutions.

**Programme Reading Strategy**

Core readings:
Any essential reading on the Foundation Certificate programme will be indicated clearly, along with the method for accessing it, e.g. students may be expected to purchase a set text, be given a study pack or be referred to texts that are available electronically, or in the library. Module handbooks will also reflect the core textbooks for each module and the range of reading to be carried out.

Further readings:
Further reading may be advisable for some modules and, where appropriate, students will be encouraged to explore specific titles held in the library. A current list of such titles will be given in module handbooks and revised annually.

Access and skills:
Formal opportunities for students to develop their library and information skills are provided within the Skills for Study modules. Additional support is available through the Library Services web pages, including interactive tutorials on finding books, evaluating information and referencing. Sign-up workshops are also offered by the library.

Indicative reading list:
Indicative reading lists are offered on module specifications to provide validation panels/accrediting bodies with an indication of the type and level of information students may be expected to consult. As such, the currency of the indicative texts may wane during the life span of the module specification. *Current* advice on core reading and additional texts will be available via the module handbooks.

**Relevant QAA subject benchmark statements and other external or internal reference points**

The Foundation Certificate in Science and Engineering has been developed in close alignment with the QAA honours degree subject benchmark statements for Biosciences (2007), Chemistry (2007), Engineering (2006) and Physics, Astronomy and Astrophysics (2008).

The KIC Quality Assurance Framework and the supporting Academic Standards and Quality Manual provided by KIC centrally reflect appropriate sections of the QAA Code of Practice. Subject benchmark statements for NQF Level 3 and A Level requirements are also used, as appropriate. KIC has also established graduate outcomes which reflect these.

**Programme Structure and Features**

The Foundation Certificate in Science and Engineering consists of seven credit-bearing modules, six of 12 and one of 8 credits.

Students entering the programme with an IELTS of 5.0 will undertake the Foundation Certificate three-term (Language) programme, with additional taught English language throughout the programme. Students entering the programme with an IELTS of at least 5.5 can choose either to undertake the programme over two terms or to undertake the three-term (Enhancement) programme, both of which include some taught English language during the programme.

Students with an overall IELTS of between 4.0 and 5.0 will be able to undertake an 'integrated' Foundation Certificate programme with Preparatory English. These students will then progress onto either a two-term or three-term academic programme, depending on performance.

A brief overview of the structure of each programme pathway is presented below, for detailed information see individual module specifications.

**Preparatory English – All Pathways (for students with IELTS between 4.0 and 5.0)**

The level at which a student enters Preparatory English depends on IELTS level, the timing of enrolment and individual study plan.

| **Level 2 - 1 Term** | |
|---|---|
| **Non-credit bearing** | |
| **Stage A – 0.5 Term** | **Stage B – 0.5 Term** |
| PE03GE – General English | PE04GE – General English |
| PE03SL – Speaking and Listening | PE04SL – Speaking and Listening |
| PE03RW – Reading and Writing | PE04RW – Reading and Writing |

| **Level 3 - 1 Term** | |
|---|---|
| **Non-credit bearing** | |
| **Stage A – 0.5 Term** | **Stage B – 0.5 Term** |
| PE05GE – General English | PE06GE – General English |
| PE05SL – Speaking and Listening | PE06SL – Speaking and Listening |
| PE05RW – Reading and Writing | PE06RW – Reading and Writing |

KAPLAN INTERNATIONAL COLLEGES

**Physical Sciences Pathway and Engineering Pathway**

**3 Term Foundation Certificate (Language)**

| Term 1 | | Term 2 | Term 3 |
|---|---|---|---|
| **Non-credit bearing** | | **Credit bearing** | |
| FC2013T - Language for Study 1 | FC2023T - Language for Study 2 | FC017 - Foundation Mathematics (12 credits) | FC020 – Applied Mathematics (12 credits) |
| FC5013T - Skills for Study 1 | | FC021 – Physical Sciences (12 credits) | |
| | | FC023 – Basic Engineering (12 credits) | |
| | | FC203 - Language for Study 3 (8 credits) | |
| | | FC5023T - Skills for Study 2 (12 credits) | FC503 - Skills for Study 3 (12 credits) |

**3 Term Foundation Certificate (Enhancement)**

| Term 1 | Term 2 | Term 3 |
|---|---|---|
| **Non-credit bearing** | **Credit bearing** | |
| **Compulsory modules** | FC017 - Foundation Mathematics (12 credits) | FC020 – Applied Mathematics (12 credits) |
| FCEN01 - Personal Development and Pre-Study Skills | FC021 – Physical Sciences (12 credits) | |
| FCEN03 – Introduction to British Society and Culture | FC023 – Basic Engineering (12 credits) | |
| **Example optional modules (one of the below)** | FC203 - Language for Study 3 (8 credits) | |
| FCEN04 - Preparatory Mathematics | FC5012T - Skills for Study 1 (0 credits) (Weeks 1-4) | FC503 - Skills for Study 3 (12 credits) |
| FCEN05 – Preparatory Science | FC5022T - Skills for Study 2 (12 credits) (Weeks 5-10) | |
| FCEN02 - Basic Computing Skills | | |

**2 Term Foundation**

| Term 1 | Term 2 |
|---|---|
| **Credit bearing** | |
| FC017 - Foundation Mathematics (12 credits) | FC020 – Applied Mathematics (12 credits) |
| FC021 – Physical Sciences (12 credits) | |
| FC023 – Basic Engineering (12 credits) | |
| FC203 - Language for Study 3 (8 credits) | |
| FC5012T - Skills for Study 1 (0 credits) (Weeks 1-4) | FC503 - Skills for Study 3 (12 credits) |
| FC5022T - Skills for Study 2 (12 credits) (Weeks 5-10) | |

**Life Sciences Pathway**

**3 Term Foundation Certificate (Language)**

| Term 1 | |
|---|---|
| **Non-credit bearing** | |
| FC2013T - Language for Study 1 | FC2023T - Language for Study 2 |
| FC5013T - Skills for Study 1 | |

| Term 2 | Term 3 |
|---|---|
| **Credit bearing** | |
| FC017 - Foundation Mathematics (12 credits) | |
| FC027 - Biochemistry of Life (12 credits) | |
| FC018 - Fundamentals of Science (12 credits) | FC024 - Scientific Principles and Enquiry or FC026 - Biological Science (12 credits) |
| FC203 - Language for Study 3 (8 credits) | |
| FC5023T - Skills for Study 2 (12 credits) | FC503 - Skills for Study 3 (12 credits) |

**3 Term Foundation Certificate (Enhancement)**

| Term 1 | Term 2 | Term 3 |
|---|---|---|
| **Non-credit bearing** | **Credit bearing** | |
| **Compulsory modules** | FC017 - Foundation Mathematics (12 credits) | |
| FCEN01 - Personal Development and Pre-Study Skills | FC027 - Biochemistry of Life (12 credits) | |
| FCEN03 – Introduction to British Society and Culture | FC018 - Fundamentals of Science (12 credits) | FC024 - Scientific Principles and Enquiry or FC026 - Biological Science (12 credits) |
| **Example optional modules (one of the below)** | FC203 - Language for Study 3 (8 credits) | |
| FCEN04 - Preparatory Mathematics | FC5012T - Skills for Study 1 (0 credits) (Weeks 1-4) | FC503 - Skills for Study 3 (12 credits) |
| FCEN05 – Preparatory Science | FC5022T - Skills for Study 2 (12 credits) (Weeks 5-10) | |
| FCEN02 - Basic Computing Skills | | |

**2 Term Foundation Certificate**

| Term 1 | Term 2 |
|---|---|
| **Credit bearing** | |
| FC017 - Foundation Mathematics (12 credits) | |
| FC027 - Biochemistry of Life (12 credits) | |
| FC018 - Fundamentals of Science (12 credits) | FC024 - Scientific Principles and Enquiry or FC026 - Biological Science (12 credits) |
| FC2022T - Language for Study 2 (0 credits) | FC203 - Language for Study 3 (8 credits) |
| FC5012T - Skills for Study 1 (0 credits) (Weeks 1-4) | FC503 - Skills for Study 3 (12 credits) |
| FC5022T - Skills for Study 2 (12 credits) (Weeks 5-10) | |

**Entry Requirements**

Entry onto the Foundation Certificate in Science and Engineering is dependent upon successful completion of a minimum of 11 years of education (12 years required for certain countries). Details of country-specific entry requirements are available from KIC Sales and Admissions.

For additional entry requirements relating to specific progression routes, see Appendix A

**Academic Regulations**

Approved variant to University Academic Regulations and Procedures.

**Additional relevant information**

Students on College programmes will be associate students of The University of the West of England, Bristol with access to the range of facilities and services, including IT and library facilities, of an undergraduate University student.

All students will receive a copy of a Foundation Certificate in Science and Engineering programme handbook and individual module guides for each module studied. The programme handbook provides information about the programme structure; assessment (including academic offences, plagiarism and assessment and examination dates); programme staff and student support; responsibilities of tutors and students and a series of appendices including the academic calendar, assessment rules and regulations, generic assignment marking criteria, complaints procedures and guidelines for tutorials.

Module handbooks provide detailed information about modules aims and learning outcomes; weekly content; assessment timetable, tasks and criteria and tutor contact details.

The University of the West of England, Bristol's International College will provide comprehensive and accessible student support services throughout the students' period of study. Each student will be allocated to a Learning Support Tutor for personal academic support. Students requiring additional English language, academic and/or pastoral support will be identified and targeted for additional support as required.

In addition to the Learning Support Tutors, a dedicated Head of Student Services manages student welfare and pastoral needs. The Head of Student Services deals with all welfare related areas from point of arrival onwards and coordinates activities such as accommodation, airport arrivals, orientation and social programmes. This is a senior position within the College, reflecting the importance placed by Kaplan International Colleges on the welfare support of students.

**Date of production/revision**: September 2012