

## Module Guide

<b>Foundation (FHEQ Level 3) Computer Science (2 semester) Overview</b>	
<b>Semester One Modules</b>	
<b>SCI100 Interactive Learning Skills and Communication (ILSC)</b>	This module has been designed to be delivered in conjunction with Principles of ICT in order to benchmark and satisfy the progression criteria with regard to student communication and learning skills competency. Focus is put on the relevant transferable and portable skills of effective and professional communication. The course utilizes a number of practical activities to allow candidates to achieve these essential skills, students will be introduced to techniques and strategies to manage speech anxiety; enhance grammar and vocabulary, think critically under pressure; research, package and deliver logical and persuasive communication both orally and in a variety of written formats; summarise; and become an effective listener; understand cultural and gender differences; and work effectively in a team and as an individual.
<b>SCI101 Analytical Techniques 1</b>	This module has been designed to be delivered in conjunction with the standard International Foundation in the engineering, computing, technology and sciences to support the mathematical entry requirement of the science-based degree schemes of Swansea University. Students will obtain a good understanding of and ability to apply the requisite basic Analytical Techniques, knowledge and skills. A variety of subjects will be covered in this module including financial and quantitative reporting, Rational and irrational numbers, logarithms, Factorization, linear simultaneous equations and quadratic, cubic, polynomial and exponential functions.
<b>SCI116 Physics 2</b>	This module has been designed to be delivered in conjunction with the standard International Foundation programmes in the engineering and technology as well as computer science in order to support the fundamental knowledge base and intellectual skills. The lectures cover topics such as Wave motion, Electric charge, Quantization of charge, Magnets and the earth's magnetic field, Photon interactions and Bohr model.
<b>ICT003 Principles of ICT</b>	This Principles of ICT module attempts to deliver an accurate snapshot of the state of ICT as it exists currently, as well as to equip the student with a useful set of skills in the use of common productivity software and Internet based applications. The module introduces candidates to the interesting challenges that ICT presents today and covers many anchor points that may serve as a bridge to their interests and lifestyles. These bridges include the technology in their mobile telephones, computing equipment, home appliances, motor vehicles, shopping, movies and entertainment software. Students shall obtain a good understanding of and ability to apply common applications (Ms Word, Excel and Power Point) to document creation, data collation and presentation whilst students will also be made aware of the benefits of using web based applications for information presentation and will be expected to use IT to communicate information effectively in a variety of forms. Students will learn

	to identify important considerations involved in the choice and maintenance of a computer system.
<b>Semester Two Modules</b>	
<b>SCI103 Analytical Techniques 3</b>	This module has been designed to be delivered in conjunction with the standard Foundation in Engineering, Computer Science and Mathematics programmes. Students will obtain a good understanding of and ability to apply the requisite basic mathematical techniques, knowledge and skills. Lectures will be taught on a variety of topics including first order differential equations, determinants, Eigenvalues, vectors and Maclaurin's Theorem.
<b>SCI107 Fundamentals of Programming</b>	The aim of this module is for students to understand and foster an appreciation of software development, programming concepts and terminology, the evolution of programming languages moving from machine code through to object oriented programming, how to compartmentalise, read, trace, and understand simple code write, test, and debug code to solve a simple problem. Topics taught in weekly lectures shall include algorithms and programmes, outputs and calculations, inputs and strings, loops, arrays and files.
<b>SCI124 Mobile Communications and the Internet</b>	<p>This module introduces candidates to technology behind communication though the internet and mobile devices. It aims to provide students with a stimulating study of the core technologies that support secure mobile, wireless computer networking and communication systems. This module takes into account that we will be dealing with students from a wide range of cultures and experience with computers and it will thus have a focus on:</p> <ul style="list-style-type: none"> <li>• The principles and technologies that underpin mobile communication systems, applications and devices;</li> <li>• The design and development of communications systems; and</li> <li>• The fundamental concepts, principles and theories of the technologies that underpin computer networking.</li> </ul> <p>Students will also develop elementary skills in two key languages of the Internet HTML and Java.</p>
<b>SCI120 Environmental Awareness</b>	This module has been designed to be delivered in conjunction with the standard International Foundation programmes in engineering and technology as well as computer science in order to support the fundamental knowledge base and intellectual skills. students shall obtain a good understanding of and ability to apply the requisite knowledge and skills with regard to the biogeochemical context, engineering and ICT design influences in response to certain environmental issues as well as sustainable development in the UK and internationally. Lectures will be conducted on a variety of topics including the biogeochemical cycle, global systems and their current circulations, pollutants, climate change: mitigation or adaptation, sustainability in engineering and environmental management.

## Foundation (FHEQ Level 3) Computer Science (Entry Point A of 3 semester) Overview

Semester One Modules	
<b>SCI100 Interactive Learning Skills and Communication (ILSC)</b>	<p>This module has been designed to be delivered in conjunction with Principles of ICT in order to benchmark and satisfy the progression criteria with regard to student communication and learning skills competency. Focus is put on the relevant transferable and portable skills of effective and professional communication.</p> <p>The course utilizes a number of practical activities to allow candidates to achieve these essential skills, students will be introduced to techniques and strategies to manage speech anxiety; enhance grammar and vocabulary, think critically under pressure; research, package and deliver logical and persuasive communication both orally and in a variety of written formats; summarise; and become an effective listener; understand cultural and gender differences; and work effectively in a team and as an individual.</p>
<b>ICT003 Principles of ICT</b>	<p>This Principles of ICT module attempts to deliver an accurate snapshot of the state of ICT as it exists currently, as well as to equip the student with a useful set of skills in the use of common productivity software and Internet based applications. The module introduces candidates to the interesting challenges that ICT presents today and covers many anchor points that may serve as a bridge to their interests and lifestyles. These bridges include the technology in their mobile telephones, computing equipment, home appliances, motor vehicles, shopping, movies and entertainment software. Students shall obtain a good understanding of and ability to apply common applications (Ms Word, Excel and Power Point) to document creation, data collation and presentation whilst students will also be made aware of the benefits of using web based applications for information presentation and will be expected to use IT to communicate information effectively in a variety of forms. Students will learn to identify important considerations involved in the choice and maintenance of a computer system.</p>
<b>ESP1 English Portfolio 1</b>	<p>The module has been designed to enable students to reach a linguistic level appropriate for academic study on their chosen degree scheme. The aim of English Skills Portfolio is to enable students to develop their English Language level within an academic context, and to equip students with the linguistic and academic skills necessary to perform confidently within their chosen discipline, whilst simultaneously encouraging them to become effective independent learners.</p>

Semester Two Modules	
<b>SCI101 Analytical Techniques 1</b>	This module has been designed to be delivered in conjunction with the standard International Foundation in the engineering, computing, technology and sciences to support the mathematical entry requirement of the science-based degree schemes of Swansea University. Students will obtain a good understanding of and ability to apply the requisite basic Analytical Techniques, knowledge and skills. A variety of subjects will be covered in this module including financial and quantitative reporting, Rational and irrational numbers, logarithms, Factorization, linear simultaneous equations and quadratic, cubic, polynomial and exponential functions.
<b>SCI116 Physics 2</b>	This module has been designed to be delivered in conjunction with the standard International Foundation programmes in the engineering and technology as well as computer science in order to support the fundamental knowledge base and intellectual skills. The lectures cover topics such as Wave motion, Electric charge, Quantization of charge, Magnets and the earth's magnetic field, Photon interactions and Bohr model.
<b>SCI120 Environmental Awareness</b>	This module has been designed to be delivered in conjunction with the standard International Foundation programmes in engineering and technology as well as computer science in order to support the fundamental knowledge base and intellectual skills. students shall obtain a good understanding of and ability to apply the requisite knowledge and skills with regard to the biogeochemical context, engineering and ICT design influences in response to certain environmental issues as well as sustainable development in the UK and internationally. Lectures will be conducted on a variety of topics including the biogeochemical cycle, global systems and their current circulations, pollutants, climate change: mitigation or adaptation, sustainability in engineering and environmental management.
<b>ESP2 English Portfolio</b>	The module has been designed to enable students to reach a linguistic level appropriate for academic study on their chosen degree scheme. The aim of English Skills Portfolio is to enable students to develop their English Language level within an academic context, and to equip students with the linguistic and academic skills necessary to perform confidently within their chosen discipline, whilst simultaneously encouraging them to become effective independent learners.

Semester Three Modules	
<b>SCI124 Mobile Communications and the Internet</b>	<p>This module introduces candidates to technology behind communication through the internet and mobile devices. It aims to provide students with a stimulating study of the core technologies that support secure mobile, wireless computer networking and communication systems. This module takes into account that we will be dealing with students from a wide range of cultures and experience with computers and it will thus have a focus on:</p> <ul style="list-style-type: none"> <li>• The principles and technologies that underpin mobile communication systems, applications and devices;</li> <li>• The design and development of communications systems; and</li> <li>• The fundamental concepts, principles and theories of the technologies that underpin computer networking.</li> </ul> <p>Students will also develop elementary skills in two key languages of the Internet HTML and Java.</p>
<b>SCI107 Fundamentals of Programming</b>	<p>The aim of this module is for students to understand and foster an appreciation of software development, programming concepts and terminology, the evolution of programming languages moving from machine code through to object oriented programming, how to compartmentalise, read, trace, and understand simple code write, test, and debug code to solve a simple problem. Topics taught in weekly lectures shall include algorithms and programmes, outputs and calculations, inputs and strings, loops, arrays and files.</p>
<b>SCI103 Analytical Techniques 3</b>	<p>This module has been designed to be delivered in conjunction with the standard Foundation in Engineering, Computer Science and Mathematics programmes. Students will obtain a good understanding of and ability to apply the requisite basic mathematical techniques, knowledge and skills. Lectures will be taught on a variety of topics including first order differential equations, determinants, Eigenvalues, vectors and Maclaurin's Theorem.</p>
<b>ESP3 English Portfolio 3</b>	<p>The module has been designed to enable students to reach a linguistic level appropriate for academic study on their chosen degree scheme. The aim of English Skills Portfolio is to enable students to develop their English Language level within an academic context, and to equip students with the linguistic and academic skills necessary to perform confidently within their chosen discipline, whilst simultaneously encouraging them to become effective independent learners.</p>

## Foundation (FHEQ Level 3) Computer Science (Entry Point B of 3 semester) Overview

Semester One Modules	
<b>SCI100 Interactive Learning Skills and Communication (ILSC)</b>	<p>This module has been designed to be delivered in conjunction with Principles of ICT in order to benchmark and satisfy the progression criteria with regard to student communication and learning skills competency. Focus is put on the relevant transferable and portable skills of effective and professional communication.</p> <p>The course utilizes a number of practical activities to allow candidates to achieve these essential skills, students will be introduced to techniques and strategies to manage speech anxiety; enhance grammar and vocabulary, think critically under pressure; research, package and deliver logical and persuasive communication both orally and in a variety of written formats; summarise; and become an effective listener; understand cultural and gender differences; and work effectively in a team and as an individual.</p>
<b>SCI101 Analytical Techniques 1</b>	<p>This module has been designed to be delivered in conjunction with the standard International Foundation in the engineering, computing, technology and sciences to support the mathematical entry requirement of the science-based degree schemes of Swansea University. Students will obtain a good understanding of and ability to apply the requisite basic Analytical Techniques, knowledge and skills. A variety of subjects will be covered in this module including financial and quantitative reporting, Rational and irrational numbers, logarithms, Factorization, linear simultaneous equations and quadratic, cubic, polynomial and exponential functions.</p>
<b>SCI116 Physics 2</b>	<p>This module has been designed to be delivered in conjunction with the standard International Foundation programmes in the engineering and technology as well as computer science in order to support the fundamental knowledge base and intellectual skills. The lectures cover topics such as Wave motion, Electric charge, Quantization of charge, Magnets and the earth's magnetic field, Photon interactions and Bohr model.</p>

Semester Two Modules	
<b>SCI124 Mobile Communications and the Internet</b>	<p>This module introduces candidates to technology behind communication through the internet and mobile devices. It aims to provide students with a stimulating study of the core technologies that support secure mobile, wireless computer networking and communication systems. This module takes into account that we will be dealing with students from a wide range of cultures and experience with computers and it will thus have a focus on:</p> <ul style="list-style-type: none"> <li>• The principles and technologies that underpin mobile communication systems, applications and devices;</li> <li>• The design and development of communications systems; and</li> <li>• The fundamental concepts, principles and theories of the technologies that underpin computer networking.</li> </ul> <p>Students will also develop elementary skills in two key languages of the Internet HTML and Java.</p>
<b>SCI107 Fundamentals of Programming</b>	<p>The aim of this module is for students to understand and foster an appreciation of software development, programming concepts and terminology, the evolution of programming languages moving from machine code through to object oriented programming, how to compartmentalise, read, trace, and understand simple code write, test, and debug code to solve a simple problem. Topics taught in weekly lectures shall include algorithms and programmes, outputs and calculations, inputs and strings, loops, arrays and files.</p>
<b>SCI103 Analytical Techniques 3</b>	<p>This module has been designed to be delivered in conjunction with the standard Foundation in Engineering, Computer Science and Mathematics programmes. Students will obtain a good understanding of and ability to apply the requisite basic mathematical techniques, knowledge and skills. Lectures will be taught on a variety of topics including first order differential equations, determinants, Eigenvalues, vectors and Maclaurin's Theorem.</p>
<b>SCI120 Environmental Awareness</b>	<p>This module has been designed to be delivered in conjunction with the standard International Foundation programmes in engineering and technology as well as computer science in order to support the fundamental knowledge base and intellectual skills. students shall obtain a good understanding of and ability to apply the requisite knowledge and skills with regard to the biogeochemical context, engineering and ICT design influences in response to certain environmental issues as well as sustainable development in the UK and internationally. Lectures will be conducted on a variety of topics including the biogeochemical cycle, global systems and their current circulations, pollutants, climate change: mitigation or adaptation, sustainability in engineering and environmental management.</p>
<b>ESP3 English Portfolio 3</b>	<p>The module has been designed to enable students to reach a linguistic level appropriate for academic study on their chosen degree scheme. The aim of English Skills Portfolio is to enable students to develop their English Language</p>

	level within an academic context, and to equip students with the linguistic and academic skills necessary to perform confidently within their chosen discipline, whilst simultaneously encouraging them to become effective independent learners.
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## Foundation (FHEQ Level 3) Computer Science (November Entry) Overview

Semester One Modules	
<b>SCI100 Interactive Learning Skills and Communication (ILSC)</b>	<p>This module has been designed to be delivered in conjunction with Principles of ICT in order to benchmark and satisfy the progression criteria with regard to student communication and learning skills competency. Focus is put on the relevant transferable and portable skills of effective and professional communication.</p> <p>The course utilizes a number of practical activities to allow candidates to achieve these essential skills, students will be introduced to techniques and strategies to manage speech anxiety; enhance grammar and vocabulary, think critically under pressure; research, package and deliver logical and persuasive communication both orally and in a variety of written formats; summarise; and become an effective listener; understand cultural and gender differences; and work effectively in a team and as an individual.</p>
<b>ICT003 Principles of ICT</b>	<p>This Principles of ICT module attempts to deliver an accurate snapshot of the state of ICT as it exists currently, as well as to equip the student with a useful set of skills in the use of common productivity software and Internet based applications. The module introduces candidates to the interesting challenges that ICT presents today and covers many anchor points that may serve as a bridge to their interests and lifestyles. These bridges include the technology in their mobile telephones, computing equipment, home appliances, motor vehicles, shopping, movies and entertainment software. Students shall obtain a good understanding of and ability to apply common applications (Ms Word, Excel and Power Point) to document creation, data collation and presentation whilst students will also be made aware of the benefits of using web based applications for information presentation and will be expected to use IT to communicate information effectively in a variety of forms. Students will learn to identify important considerations involved in the choice and maintenance of a computer system.</p>



Semester Two Modules	
<b>SCI101 Analytical Techniques 1</b>	<p>This module has been designed to be delivered in conjunction with the standard International Foundation in the engineering, computing, technology and sciences to support the mathematical entry requirement of the science-based degree schemes of Swansea University. Students will obtain a good understanding of and ability to apply the requisite basic Analytical Techniques, knowledge and skills. A variety of subjects will be covered in this module including financial and quantitative reporting, Rational and irrational numbers, logarithms, Factorization, linear simultaneous equations and quadratic, cubic, polynomial and exponential functions.</p>
<b>SCI107 Fundamentals of Programming</b>	<p>The aim of this module is for students to understand and foster an appreciation of software development, programming concepts and terminology, the evolution of programming languages moving from machine code through to object oriented programming, how to compartmentalise, read, trace, and understand simple code write, test, and debug code to solve a simple problem. Topics taught in weekly lectures shall include algorithms and programmes, outputs and calculations, inputs and strings, loops, arrays and files.</p>
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Semester Two Modules	
<b>SCI103 Analytical Techniques 3</b>	This module has been designed to be delivered in conjunction with the standard Foundation in Engineering, Computer Science and Mathematics programmes. Students will obtain a good understanding of and ability to apply the requisite basic mathematical techniques, knowledge and skills. Lectures will be taught on a variety of topics including first order differential equations, determinants, Eigenvalues, vectors and Maclaurin's Theorem.
<b>SCI120 Environmental Awareness</b>	This module has been designed to be delivered in conjunction with the standard International Foundation programmes in engineering and technology as well as computer science in order to support the fundamental knowledge base and intellectual skills. students shall obtain a good understanding of and ability to apply the requisite knowledge and skills with regard to the biogeochemical context, engineering and ICT design influences in response to certain environmental issues as well as sustainable development in the UK and internationally. Lectures will be conducted on a variety of topics including the biogeochemical cycle, global systems and their current circulations, pollutants, climate change: mitigation or adaptation, sustainability in engineering and environmental management.
<b>SCI116 Physics 2</b>	This module has been designed to be delivered in conjunction with the standard International Foundation programmes in the engineering and technology as well as computer science in order to support the fundamental knowledge base and intellectual skills. The lectures cover topics such as Wave motion, Electric charge, Quantization of charge, Magnets and the earth's magnetic field, Photon interactions and Bohr model.