

## Programme specification

*(Notes on how to complete this template are provide in Annexe 3)*

### 1. Overview/ factual information

<b>Programme/award title(s)</b>	BSc (Hons) Computer Science
<b>Teaching Institution</b>	Anatolia American University – ULE (AAU)
<b>Awarding Institution</b>	The Open University (OU)
<b>Date of first OU validation</b>	2025
<b>Date of latest OU (re)validation</b>	
<b>Next revalidation</b>	2026-27
<b>Credit points for the award</b>	480
<b>UCAS Code</b>	n/a
<b>HECoS Code</b>	n/a
<b>LDCS Code (FE Colleges)</b>	n/a
<b>Programme start date and cycle of starts if appropriate.</b>	2025
<b>Underpinning QAA subject benchmark(s)</b>	<a href="https://www.qaa.ac.uk/docs/qaa/subject-benchmark-statements/subject-benchmark-statement-computing.pdf?sfvrsn=ef2c881_10">https://www.qaa.ac.uk/docs/qaa/subject-benchmark-statements/subject-benchmark-statement-computing.pdf?sfvrsn=ef2c881_10</a>
<b>Other external and internal reference points used to inform programme outcomes. For apprenticeships, the standard or framework against which it will be delivered.</b>	<p><a href="https://www.bcs.org/media/1209/accreditation-guidelines.pdf">https://www.bcs.org/media/1209/accreditation-guidelines.pdf</a></p> <p><a href="https://www.open.ac.uk/modules/computing-it/degrees">https://www.open.ac.uk/modules/computing-it/degrees</a></p> <p><i>Review of selective Computer Science programs in Greece and the U.K. was undertaken by the School's faculty were consulted in the design of the program. In addition, BCS programme</i></p>

	<i>guidelines were reviewed by the program leads for general guidelines and future direction of the program.</i>
<b>Professional/statutory recognition</b>	N/A
<b>For apprenticeships fully or partially integrated Assessment.</b>	N/A
<b>Mode(s) of Study (PT, FT, DL, Mix of DL &amp; Face-to-Face) Apprenticeship</b>	FT, PT, Face-to-Face
<b>Duration of the programme for each mode of study</b>	FT - 4 years, PT – 10 years max
<b>Dual accreditation (if applicable)</b>	
<b>Date of production/revision of this specification</b>	Spring 2025

**Please note: This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if s/he takes full advantage of the learning opportunities that are provided.**

**More detailed information on the learning outcomes, content, and teaching, learning and assessment methods of each module can be found in student module guide(s) and the student’s handbook.**

**The accuracy of the information contained in this document is reviewed by the University and may be verified by the Quality Assurance Agency for Higher Education.**

## 2.1 Educational aims and objectives

The BSc in Computer Science programme targets students that are interested primarily in Computing, as well as students or professionals that are interested to specialize in certain areas in computing. Modules in the School of Science and Technology are designed to broaden students’ perspectives on the role of computing mathematics, statistics and science in the modern world, while equipping them with both computer literacy and quantitative skills. A broad range of computing modules is offered, the majority of which has a strong laboratory component with emphasis on application.

The programme does not concentrate only on the latest technologies, which will at some point become outdated, but also to provide students with excellent critical skills and systematic thinking that will allow them to become lifelong learners and succeed in a wide variety of technical and managerial positions. AAU and the School of Science and Technology is

committed to ensure that the graduates of the Computer Science Programme are well prepared for graduate studies, academic research as well as multifaceted careers in the ICT sector.

### **Programme goals and competencies**

The Programme aims to:

- Equip students with knowledge, skills and inspiration for a career at the forefront of innovation or further studies and research in computer science
- Provide QAA standards level education in Computer Science, appropriate for either a career in industry or graduate studies. Such education will cover a wide range of knowledge and understanding in all relevant areas of a rigorous curriculum and foster problem-solving skills and information literacy
- Develop cognitive skills needed by the computer scientist: the ability to model systems, the power of abstraction, the ability to communicate technical arguments
- Provide the ability to critically evaluate computer systems, their performance and their specifications and demonstrate a high-level of professional competence across a range of technical, legal and ethical areas.
- Instill professional and entrepreneurial attitudes in students and develop a range of transferable skills that would enable them to advance and exploit the knowledge and technical expertise in pursuing their further career.
- Demonstrate the applicability of knowledge and skills in various contexts in which computer systems are developed, either when working alone or effectively participating as members of international teams

### **Programme Learning Outcomes (PLOs)**

A total of four (4) distinct categories of learning outcomes have been identified, as follows:

- A. Knowledge and Understanding
- B. Cognitive Skills
- C. Practical and Professional Skills
- D. Key/Transferable Skills

Different learning outcomes are identified per Level, both in context and in numbers as well. The numbering convention is the same for all Levels (as requested by the OU template), yet the actual context of each PLO differs, so as to reflect the skills and abilities of each level (Bloom's taxonomy framework has been taken into consideration). Specific details on the PLOs per Level are presented on Section 3 – Programme structure and learning outcomes.

## 2.2 Relationship to other programmes and awards

(Where the award is part of a hierarchy of awards/programmes, this section describes the articulation between them, opportunities for progression upon completion of the programme, and arrangements for bridging modules or induction)

Degree candidates majoring in Computer Science at AAU take Introduction to Macroeconomics, a module offered by the School of Business. Many of the Computer Science modules, offered by the School of Science and Technology, are also taken by Majors in Business Computing, also offered by the School of Science and Technology.

2.3 For Foundation Degrees, please list where the 60 credit work-related learning takes place. For apprenticeships an articulation of how the work based learning and academic content are organized with the award.

N/A

2.4 List of all exit awards

- BSc Ordinary Computer Science: 300 credits (120 at Level 4, 120 at Level 5, 60 at Level 6)
- Diploma of Higher Education in Computer Science: 240 credits (120 at Level 4, 120 at Level 5)
- Certificate of Higher Education in Computer Science: 120 credits at Level 4

### 3. Programme structure and learning outcomes

#### ***Enhancement modules***

These modules ensure that students receive a well-rounded, skills-based education and may also include modules that enhance knowledge and skills in their subject area. Employers look for candidates who can analyze information, collaborate and adapt. The Enhancement modules equip students with highly desirable skills that maximize their learning experience and enhance both personal and professional growth, preparing them to navigate an ever-changing world. As part of their co-curricular studies, students, students are expected to master foundational skills that:

#### **Develop Critical Skills**

The Enhancement module build essential skills like critical thinking, communication, problem-solving, and analytical reasoning.

#### **Encourage Interdisciplinary Thinking**

By taking modules in sciences, humanities, and social sciences, students learn how different fields connect, making them more adaptable and innovative thinkers.

#### **Boost Career Readiness**

Employers look for well-rounded candidates who can analyze information, collaborate, and adapt—skills reinforced through general education modules.

#### **Promote Lifelong Learning**

These modules expose students to new subjects they might not have explored otherwise, helping them become more curious and engaged learners.

#### **Enhancement modules**

- a. Eight (8) credit-bearing enhancement modules
  - Politics 101: Contemporary Politics

- History 120: The Modern World
  - English 102: Composition II
  - Computer Science 192: Object-Oriented Programming with Python
  - English 204: Business/Professional Communication
  - Mathematics 101: Elements of Finite Mathematics
  - Philosophy 101: Introduction to Philosophy and Critical Reasoning
  - Psychology 101: Introduction to Psychology
- a. Eight (8) non-credit-bearing enhancement modules, including 4 free electives.
- This list includes (but is not limited to) the following modules:
- English 101 Composition I
  - Nutrition 130 Fundamentals of Human Nutrition
  - Art 130 Introduction to Photography, from the analog to digital era
  - Computer Science 180 Discrete Structures

<b><u>Programme Structure – Enhancement modules</u></b>					
<b>Compulsory modules</b>	<b>Credit points</b>	<b>Optional modules</b>	<b>Credit points</b>	<b>Is module compensatable?</b>	<b>Semester runs in</b>
<b>MATH 101</b> – Elements of Finite Mathematics	15			N/A	Varies by students cohort entrance (Fall or Spring)
<b>PHIL 101</b> - Introduction to Philosophy and Critical Reasoning	15				
<b>ENG 102</b> - Composition II	15				
<b>CSC 192</b> – Object Oriented Programming with Python	15				
<b>POL 101</b> - Contemporary Politics	15				
<b>ENG 204</b> - Business/Professional Communication	15				
<b>PSY 101</b> - Introduction to Psychology	15				
<b>HIS 120</b> - Contemporary Politics	15				

<b><u>Learning Outcomes</u></b>	
<b>3A. Knowledge and understanding</b>	
<b>Learning outcomes:</b>	<b>Learning and teaching strategy/ assessment methods</b>
<p>Upon completion of the level, students will demonstrate:</p> <p>A1. An awareness of foundational concepts, key theories, and terminology in relevant subject areas (including mathematics, digital technologies, humanities, and social sciences).</p> <p>A2. An understanding of how people think, learn and behave, and how societies organize and govern themselves.</p>	<p>Guided teaching environment (Lectures &amp; labs) is the principal method of delivery for the concepts, principles and skills involved in the outcomes. Students are also directed to reading from textbooks, academic papers and other relevant material.</p> <p>Understanding is reinforced by means of exercise classes, discussion groups, laboratories, assignments and project work.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• printed and online teaching texts</li> <li>• directed readings from textbooks and papers</li> <li>• Specialised software tools.</li> </ul> <p><b>Support of learning:</b></p> <p>Learning is supported outside the classroom with the use of the learning management system Moodle, instructor office hours, sample answers to assessment and extra lectures as seen appropriate by the instructor.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• self-assessment questions and exercises, included in the teaching texts</li> <li>• programming tasks, computer-based investigations and open-ended project work</li> </ul>

<b><u>Learning Outcomes</u></b>	
<b>3A. Knowledge and understanding</b>	
	<ul style="list-style-type: none"> <li>• feedback and guidance from an instructor; tutorials, revisions and in-class activities</li> <li>• e-mail and individual instructor-learner conferences</li> <li>• Study and project guides.</li> </ul> <p><b>Assessment of learning:</b></p> <p>An assessment of the understanding of underlying concepts and principles forms part of the overall assessment of final exams/projects submitted/taken.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• Instructor-Marked summative formal examinations</li> <li>• Instructor-Marked summative projects</li> <li>• Instructor-Marked summative presentations</li> <li>• Instructor-Marked formative assignments/assessment</li> <li>• Instructor-Marked formative projects</li> </ul>

<b>3B. Cognitive skills</b>	
<b>Learning outcomes:</b>	<b>Learning and teaching strategy/ assessment methods</b>
<p>Upon completion of the level, students will be able to:</p> <p>B1. Interpret information, data and arguments critically, drawing on both quantitative and qualitative reasoning.</p> <p>B2. Evaluate different perspectives, theories, or solutions and make informed judgements</p>	<p>Guided teaching environment (Lectures &amp; labs) is the principal method of delivery for the concepts, principles and skills involved in the outcomes. Students are also directed to reading from textbooks, academic papers and other relevant material.</p> <p>Understanding is reinforced by means of exercise classes, discussion groups, laboratories, assignments and project work.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• printed and online teaching texts</li> <li>• directed readings from textbooks and papers</li> <li>• Specialised software tools.</li> </ul> <p><b>Support of learning:</b></p> <p>Learning is supported outside the classroom with the use of the learning management system Moodle, instructor office hours, sample answers to assessment and extra lectures as seen appropriate by the instructor.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• self-assessment questions and exercises, included in the teaching texts</li> <li>• programming tasks, computer-based investigations and open-ended project work</li> </ul>

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<b>3C. Practical and professional skills</b>	
<b>Learning outcomes:</b>	<b>Learning and teaching strategy/ assessment methods</b>
<p>Upon completion of the level, students will demonstrate:</p> <p>C1. skills to assess and use a basic set of digital tools (e.g., word processing, spreadsheets, research databases) for academic, research, or professional projects.</p> <p>C2. skills to follow discipline-specific procedures (e.g., mathematical modeling, experimental methods, information retrieval) and apply them in practical contexts.</p> <p>C3. an ability to produce well-organized, professional-quality communications (written, oral, visual)..</p>	<p>Guided teaching environment (Lectures &amp; labs) is the principal method of delivery for the concepts, principles and skills involved in the outcomes. Students are also directed to reading from textbooks, academic papers and other relevant material.</p> <p>Understanding is reinforced by means of exercise classes, discussion groups, laboratories, assignments and project work.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• printed and online teaching texts</li> <li>• directed readings from textbooks and papers</li> <li>• Specialised software tools.</li> </ul> <p><b>Support of learning:</b></p> <p>Learning is supported outside the classroom with the use of the learning management system Moodle, instructor office hours, sample answers to assessment and extra lectures as seen appropriate by the instructor.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• self-assessment questions and exercises, included in the teaching texts</li> <li>• programming tasks, computer-based investigations and open-ended project work</li> </ul>

3C. Practical and professional skills	
	<ul style="list-style-type: none"> <li>• feedback and guidance from an instructor; tutorials, revisions and in-class activities</li> <li>• e-mail and individual instructor-learner conferences</li> <li>• Study and project guides.</li> </ul> <p><b>Assessment of learning:</b></p> <p>An assessment of the understanding of underlying concepts and principles forms part of the overall assessment of final exams/projects submitted/taken.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• Instructor-Marked summative formal examinations</li> <li>• Instructor-Marked summative projects</li> <li>• Instructor-Marked summative presentations</li> <li>• Instructor-Marked formative assignments/assessment</li> <li>• Instructor-Marked formative projects</li> </ul>

<b>3D. Key/transferable skills</b>	
<b>Learning outcomes:</b>	<b>Learning and teaching strategy/ assessment methods</b>
<p>Upon completion of the level, students will be able to:</p> <p>D1. Plan and review study plans while collaborating effectively in diverse teams, showing adaptability and interpersonal communication.</p> <p>D2. Comprehend and communicate ideas clearly in both writing and speaking, tailoring language for academic, professional, and interdisciplinary audiences.</p> <p>D3. Demonstrate an understanding of the role of professional bodies and lifelong learning strategies, self-reflection, and adaptability to new challenges.</p>	<p>Guided teaching environment (Lectures &amp; labs) is the principal method of delivery for the concepts, principles and skills involved in the outcomes. Students are also directed to reading from textbooks, academic papers and other relevant material.</p> <p>Understanding is reinforced by means of exercise classes, discussion groups, laboratories, assignments and project work.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• printed and online teaching texts</li> <li>• directed readings from textbooks and papers</li> <li>• Specialized software tools.</li> </ul> <p><b>Support of learning:</b></p> <p>Learning is supported outside the classroom with the use of the learning management system Moodle, instructor office hours, sample answers to assessment and extra lectures as seen appropriate by the instructor.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• self-assessment questions and exercises, included in the teaching texts</li> <li>• programming tasks, computer-based investigations and open-ended project work</li> </ul>

3D. Key/transerable skills	
	<ul style="list-style-type: none"> <li>• feedback and guidance from an instructor; tutorials, revisions and in-class activities</li> <li>• e-mail and individual instructor-learner conferences</li> <li>• Study and project guides.</li> </ul> <p><b>Assessment of learning:</b></p> <p>An assessment of the understanding of underlying concepts and principles forms part of the overall assessment of final exams/projects submitted/taken.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• Instructor-Marked summative formal examinations</li> <li>• Instructor-Marked summative projects</li> <li>• Instructor-Marked summative presentations</li> <li>• Instructor-Marked formative assignments/assessment</li> <li>• Instructor-Marked formative projects</li> </ul>

### 3. Programme structure and learning outcomes

*(The structure for any part-time delivery should be presented separately in this section.)*

#### Programme Structure - LEVEL 4

Compulsory modules	Credit points	Optional modules	Credit points	Is module compensatable?	Semester runs in
CSC 105 - Structured Programming	15			N/A	Varies by students cohort entrance (Fall or Spring)
CSC 106 - Object Oriented Programming	15				
CSC 205 - Business Data Management	15				
CSC 215 - Data Structures	15				
CSC 230 - Systems Programming	15				
MATH 120 - Calculus I	15				
STAT 210 - Introduction to Statistics with R	15				
ECON 101 - Introductory Macroeconomics	15				

Intended learning outcomes at **Level 4** are listed below:

<b><u>Learning Outcomes – LEVEL 4</u></b>	
<b>3A. Knowledge and understanding</b>	
<b>Learning outcomes:</b>	<b>Learning and teaching strategy/ assessment methods</b>
<p>On completion of this level you will be able to:</p> <p>A1. <b>understand</b> a computer science related scientific method and its applications to problem-solving in a specific area</p> <p>A2. <b>identify</b> and <b>describe</b> some essential facts</p> <p>A3. <b>describe</b> and <b>explain</b> principles and theories relating to subject areas of computer science</p> <p>A4. <b>identify</b> knowledge and <b>name</b> computer applications as appropriate to the module of study</p>	<p>Guided teaching environment (Lectures &amp; labs) is the principal method of delivery for the concepts, principles and skills involved in the outcomes. Students are also directed to reading from textbooks, academic papers and other relevant material.</p> <p>Understanding is reinforced by means of exercise classes, discussion groups, laboratories, assignments and project work.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• printed and online teaching texts</li> <li>• directed readings from textbooks and papers</li> <li>• Specialized software tools.</li> </ul> <p><b>Support of learning:</b></p> <p>Learning is supported outside the classroom with the use of the learning management system Moodle, instructor office hours, sample answers to assessment and extra lectures as seen appropriate by the instructor.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• self-assessment questions and exercises, included in the teaching texts</li> <li>• programming tasks, computer-based investigations and open-ended project work</li> </ul>

<b><u>Learning Outcomes – LEVEL 4</u></b>	
<b>3A. Knowledge and understanding</b>	
	<ul style="list-style-type: none"> <li>• feedback and guidance from an instructor; tutorials, revisions and in-class activities</li> <li>• e-mail and individual instructor-learner conferences</li> <li>• Study and project guides.</li> </ul> <p><b>Assessment of learning:</b></p> <p>An assessment of the understanding of underlying concepts and principles forms part of the overall assessment of final exams/projects submitted/taken.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• Instructor-Marked summative formal examinations</li> <li>• Instructor-Marked summative projects</li> <li>• Instructor-Marked summative presentations</li> <li>• Instructor-Marked formative assignments/assessment</li> <li>• Instructor-Marked formative projects</li> </ul>

3B. Cognitive skills	
Learning outcomes:	Learning and teaching strategy/ assessment methods
<p>On completion of this level you will be able to:</p> <p>B1. <b>recognise</b> critical thinking, including its relevance to everyday life</p> <p>B2. <b>identify</b> such knowledge and understanding in the modelling and design of computer-based systems</p> <p>B3. <b>outline</b> the criteria and specifications appropriate to specific problems</p> <p>B4. <b>review</b> the criteria met by a computer system, as they are defined for its current use and future development</p> <p>B5. <b>name</b> and <b>discuss</b> a set of rational and reasoned arguments, addressing a given problem or opportunity in a target audience.</p> <p>B6. <b>give</b> simple <b>examples</b> of economic, professional, social, environmental, moral and ethical issues in the sustainable exploitation of computer technology</p>	<p>Guided teaching environment (Lectures &amp; labs) is the principal method of delivery for the concepts, principles and skills involved in the outcomes. Students are also directed to reading from textbooks, academic papers and other relevant material.</p> <p>Understanding is reinforced by means of exercise classes, discussion groups, laboratories, assignments and project work.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• printed and online teaching texts</li> <li>• directed readings from textbooks and papers</li> <li>• Specialized software tools.</li> </ul> <p><b>Support of learning:</b></p> <p>Learning is supported outside the classroom with the use of the learning management system Moodle, instructor office hours, sample answers to assessment and extra lectures as seen appropriate by the instructor.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• self-assessment questions and exercises, included in the teaching texts</li> <li>• programming tasks, computer-based investigations and open-ended project work</li> </ul>

3B. Cognitive skills	
	<ul style="list-style-type: none"> <li>• feedback and guidance from an instructor; tutorials, revisions and in-class activities</li> <li>• e-mail and individual instructor-learner conferences</li> <li>• Study and project guides.</li> </ul> <p><b>Assessment of learning:</b></p> <p>An assessment of the understanding of underlying concepts and principles forms part of the overall assessment of final exams/projects submitted/taken.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• Instructor-Marked summative formal examinations</li> <li>• Instructor-Marked summative projects</li> <li>• Instructor-Marked summative presentations</li> <li>• Instructor-Marked formative assignments/assessment</li> <li>• Instructor-Marked formative projects</li> </ul>

3C. Practical and professional skills	
Learning outcomes:	Learning and teaching strategy/ assessment methods
<p>On completion of this level you will be able to:</p> <p>C1. <b>Recognise</b> and <b>describe</b> the high-level architecture of computer-based systems</p> <p>C2. <b>Identify</b> the quality attributes and possible trade-offs a system in the context of a given problem</p> <p>C3. <b>Name</b> any risks or safety aspects during the deployment of a system or solution in the context of a given problem</p> <p>C4. <b>Compare</b> some of the essential tools per study area, used for the construction and documentation of an application.</p>	<p>Guided teaching environment (Lectures &amp; labs) is the principal method of delivery for the concepts, principles and skills involved in the outcomes. Students are also directed to reading from textbooks, academic papers and other relevant material.</p> <p>Understanding is reinforced by means of exercise classes, discussion groups, laboratories, assignments and project work.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• printed and online teaching texts</li> <li>• directed readings from textbooks and papers</li> <li>• Specialized software tools.</li> </ul> <p><b>Support of learning:</b></p> <p>Learning is supported outside the classroom with the use of the learning management system Moodle, instructor office hours, sample answers to assessment and extra lectures as seen appropriate by the instructor.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• self-assessment questions and exercises, included in the teaching texts</li> <li>• programming tasks, computer-based investigations and open-ended project work</li> </ul>

3C. Practical and professional skills	
	<ul style="list-style-type: none"> <li>• feedback and guidance from an instructor; tutorials, revisions and in-class activities</li> <li>• e-mail and individual instructor-learner conferences</li> <li>• Study and project guides.</li> </ul> <p><b>Assessment of learning:</b></p> <p>An assessment of the understanding of underlying concepts and principles forms part of the overall assessment of final exams/projects submitted/taken.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• Instructor-Marked summative formal examinations</li> <li>• Instructor-Marked summative projects</li> <li>• Instructor-Marked summative presentations</li> <li>• Instructor-Marked formative assignments/assessment</li> <li>• Instructor-Marked formative projects</li> </ul>

3D. Key/transferable skills	
Learning outcomes:	Learning and teaching strategy/ assessment methods
<p>On completion of this level you will be able to:</p> <ul style="list-style-type: none"> <li>D1. be enumerate and literate in <b>describing</b> cases which involve both quantitative as well as qualitative dimensions</li> <li>D2. Retrieve information from various sources (search engines, catalogues etc.)</li> <li>D3. <b>operate</b> general Information Technology facilities</li> <li>D4. <b>practice</b> on the effective goal setting and action planning</li> </ul>	<p>Guided teaching environment (Lectures &amp; labs) is the principal method of delivery for the concepts, principles and skills involved in the outcomes. Students are also directed to reading from textbooks, academic papers and other relevant material.</p> <p>Understanding is reinforced by means of exercise classes, discussion groups, laboratories, assignments and project work.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• printed and online teaching texts</li> <li>• directed readings from textbooks and papers</li> <li>• Specialized software tools.</li> </ul> <p><b>Support of learning:</b></p> <p>Learning is supported outside the classroom with the use of the learning management system Moodle, instructor office hours, sample answers to assessment and extra lectures as seen appropriate by the instructor.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• self-assessment questions and exercises, included in the teaching texts</li> <li>• programming tasks, computer-based investigations and open-ended project work</li> </ul>

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	<ul style="list-style-type: none"> <li>• feedback and guidance from an instructor; tutorials, revisions and in-class activities</li> <li>• e-mail and individual instructor-learner conferences</li> <li>• Study and project guides.</li> </ul> <p><b>Assessment of learning:</b></p> <p>An assessment of the understanding of underlying concepts and principles forms part of the overall assessment of final exams/projects submitted/taken.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• Instructor-Marked summative formal examinations</li> <li>• Instructor-Marked summative projects</li> <li>• Instructor-Marked summative presentations</li> <li>• Instructor-Marked formative assignments/assessment</li> <li>• Instructor-Marked formative projects</li> </ul>

**Exit Award: If the learning outcomes have been met, then the student is entitled to receive a Certificate of Higher Education in Computer Science 120 credits at Level 4**

**Or transfer to BSc (Hons) Computer Science (subject to validation)**

<b>Programme Structure - LEVEL 5</b>					
<b>Compulsory modules</b>	<b>Credit points</b>	<b>Optional modules</b>	<b>Credit points</b>	<b>Is module compensatable?</b>	<b>Semester runs in</b>
<b>CSC 206</b> - Web Development	15			N/A	Varies by students cohort entrance (Fall or Spring)
<b>CSC 300</b> - Mobile Application Development	15				
<b>CSC 306</b> - Advanced Web Development	15				
<b>CSC 310</b> - Hardware & Computer Architecture	15				
<b>CSC 312</b> - Database Management Systems	15				
<b>CSC 340</b> - Artificial Intelligence	15				
<b>CSC 450</b> - System Analysis & Design	15				
<b>MATH 220</b> - Discrete Mathematics	15				

<b><u>Learning Outcomes – LEVEL 5</u></b>	
<b>3A. Knowledge and understanding</b>	
<b>Learning outcomes:</b>	<b>Learning and teaching strategy/ assessment methods</b>
<p>On completion of this level you will be able to:</p> <p>A1. <b>practice</b> on a computer science related scientific method and apply it for problem-solving in a specific area</p> <p>A2. <b>identify</b> and <b>distinguish</b> over a wide range of essential facts and concepts of Computer Science</p> <p>A3. <b>experiment</b> and <b>test</b> principles and theories on intermediate level</p> <p>A4. <b>identify</b> and <b>name</b> computer applications as appropriate to the module of study</p> <p>A5. <b>analyse, test</b> and <b>experiment</b> with the appropriate theory, practices and tools for the specification, design, implementation and evaluation of computer-based systems</p>	<p>Guided teaching environment (Lectures &amp; labs) is the principal method of delivery for the concepts, principles and skills involved in the outcomes. Students are also directed to reading from textbooks, academic papers and other relevant material.</p> <p>Understanding is reinforced by means of exercise classes, discussion groups, laboratories, assignments and project work.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• printed and online teaching texts</li> <li>• directed readings from textbooks and papers</li> <li>• Specialized software tools.</li> </ul> <p><b>Support of learning:</b></p> <p>Learning is supported outside the classroom with the use of the learning management system Moodle, instructor office hours, sample answers to assessment and extra lectures as seen appropriate by the instructor.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• self-assessment questions and exercises, included in the teaching texts</li> </ul>

<b><u>Learning Outcomes – LEVEL 5</u></b>	
<b>3A. Knowledge and understanding</b>	
	<ul style="list-style-type: none"> <li>• programming tasks, computer-based investigations and open-ended project work</li> <li>• feedback and guidance from an instructor; tutorials, revisions and in-class activities</li> <li>• e-mail and individual instructor-learner conferences</li> <li>• Study and project guides.</li> </ul> <p><b>Assessment of learning:</b></p> <p>An assessment of the understanding of underlying concepts and principles forms part of the overall assessment of final exams/projects submitted/taken.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• Instructor-Marked summative formal examinations</li> <li>• Instructor-Marked summative projects</li> <li>• Instructor-Marked summative presentations</li> <li>• Instructor-Marked formative assignments/assessment</li> <li>• Instructor-Marked formative projects</li> </ul>

3B. Cognitive skills	
Learning outcomes:	Learning and teaching strategy/ assessment methods
<p>On completion of this level you will be able to:</p> <p>B1. <b>demonstrate</b> critical thinking, including its relevance to everyday life</p> <p>B2. <b>employ</b> and <b>apply</b> such knowledge and understanding in the modelling and design of computer-based systems</p> <p>B3. <b>predict</b> and <b>produce</b> a set of the criteria and specifications appropriate to specific problems</p> <p>B4. <b>formulate</b> and <b>revise</b> the criteria met by a computer system, as they are defined for its current use and future development</p> <p>B5. <b>Explain</b> and <b>illustrate</b> a set of rational and reasoned arguments, addressing a given problem or opportunity in a target audience.</p> <p>B6. <b>categorise</b> a number of economic, professional, social, environmental, moral and ethical issues in the sustainable exploitation of computer technology</p> <p>B7. <b>design</b> and <b>develop</b> the appropriate theory, practises and tools for the specification, design, implementation and evaluation of computer-based systems</p>	<p>Guided teaching environment (Lectures &amp; labs) is the principal method of delivery for the concepts, principles and skills involved in the outcomes. Students are also directed to reading from textbooks, academic papers and other relevant material.</p> <p>Understanding is reinforced by means of exercise classes, discussion groups, laboratories, assignments and project work.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• printed and online teaching texts</li> <li>• directed readings from textbooks and papers</li> <li>• Specialized software tools.</li> </ul> <p><b>Support of learning:</b></p> <p>Learning is supported outside the classroom with the use of the learning management system Moodle, instructor office hours, sample answers to assessment and extra lectures as seen appropriate by the instructor.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• self-assessment questions and exercises, included in the teaching texts</li> <li>• programming tasks, computer-based investigations and open-ended project work</li> </ul>

3B. Cognitive skills	
	<ul style="list-style-type: none"> <li>• feedback and guidance from an instructor; tutorials, revisions and in-class activities</li> <li>• e-mail and individual instructor-learner conferences</li> <li>• Study and project guides.</li> </ul> <p><b>Assessment of learning:</b></p> <p>An assessment of the understanding of underlying concepts and principles forms part of the overall assessment of final exams/projects submitted/taken.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• Instructor-Marked summative formal examinations</li> <li>• Instructor-Marked summative projects</li> <li>• Instructor-Marked summative presentations</li> <li>• Instructor-Marked formative assignments/assessment</li> <li>• Instructor-Marked formative projects</li> </ul>

3C. Practical and professional skills	
Learning outcomes:	Learning and teaching strategy/ assessment methods
<p>On completion of this level you will be able to:</p> <p>C1. <b>Construct</b> and <b>illustrate</b> the architecture of reliable, secure and usable computer-based systems</p> <p>C2. <b>analyse</b> and <b>examine</b> the quality attributes and possible trade-offs a system in the context of a given problem</p> <p>C3. <b>Inspect</b> and <b>test</b> any risks or safety aspects during the deployment of a system or solution in the context of a given problem</p> <p>C4. <b>Employ</b> some of the essential tools per study area, used for the construction and documentation of an application.</p> <p>C5. <b>Operate</b> under specific project requirements to produce deliverables that take into consideration project/system requirements and budget.</p> <p>C6. <b>Analyse</b> and <b>discover</b> the process involved in the development and deployment of a system for solving real-life problems</p>	<p>Guided teaching environment (Lectures &amp; labs) is the principal method of delivery for the concepts, principles and skills involved in the outcomes. Students are also directed to reading from textbooks, academic papers and other relevant material.</p> <p>Understanding is reinforced by means of exercise classes, discussion groups, laboratories, assignments and project work.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• printed and online teaching texts</li> <li>• directed readings from textbooks and papers</li> <li>• Specialized software tools.</li> </ul> <p><b>Support of learning:</b></p> <p>Learning is supported outside the classroom with the use of the learning management system Moodle, instructor office hours, sample answers to assessment and extra lectures as seen appropriate by the instructor.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• self-assessment questions and exercises, included in the teaching texts</li> <li>• programming tasks, computer-based investigations and open-ended project work</li> </ul>

3C. Practical and professional skills	
	<ul style="list-style-type: none"> <li>• feedback and guidance from an instructor; tutorials, revisions and in-class activities</li> <li>• e-mail and individual instructor-learner conferences</li> <li>• Study and project guides.</li> </ul> <p><b>Assessment of learning:</b></p> <p>An assessment of the understanding of underlying concepts and principles forms part of the overall assessment of final exams/projects submitted/taken.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• Instructor-Marked summative formal examinations</li> <li>• Instructor-Marked summative projects</li> <li>• Instructor-Marked summative presentations</li> <li>• Instructor-Marked formative assignments/assessment</li> <li>• Instructor-Marked formative projects</li> </ul>

3D. Key/transferable skills	
Learning outcomes:	Learning and teaching strategy/ assessment methods
<p>On completion of this level you will be able to:</p> <p>D1. be enumerate and literate in <b>describing</b> cases which involve both quantitative as well as qualitative dimensions</p> <p>D2. retrieve information from various sources (search engines, catalogues etc.)</p> <p>D3. <b>operate</b> general Information Technology facilities</p> <p>D4. <b>practise</b> on the effective goal setting and action planning</p> <p>D5. <b>Identify</b> problems that may arise and <b>devise</b> their solutions in the context of a computer science project</p> <p>D6. <b>Outline</b> and <b>generate</b> the best possible outcome while working along with a group of individuals</p>	<p>Guided teaching environment (Lectures &amp; labs) is the principal method of delivery for the concepts, principles and skills involved in the outcomes. Students are also directed to reading from textbooks, academic papers and other relevant material.</p> <p>Understanding is reinforced by means of exercise classes, discussion groups, laboratories, assignments and project work.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• printed and online teaching texts</li> <li>• directed readings from textbooks and papers</li> <li>• Specialized software tools.</li> </ul> <p><b>Support of learning:</b></p> <p>Learning is supported outside the classroom with the use of the learning management system Moodle, instructor office hours, sample answers to assessment and extra lectures as seen appropriate by the instructor.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• self-assessment questions and exercises, included in the teaching texts</li> <li>• programming tasks, computer-based investigations and open-ended project work</li> </ul>

<b>3D. Key/transerable skills</b>	
	<ul style="list-style-type: none"> <li>• feedback and guidance from an instructor; tutorials, revisions and in-class activities</li> <li>• e-mail and individual instructor-learner conferences</li> <li>• Study and project guides.</li> </ul> <p><b>Assessment of learning:</b></p> <p>An assessment of the understanding of underlying concepts and principles forms part of the overall assessment of final exams/projects submitted/taken.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• Instructor-Marked summative formal examinations</li> <li>• Instructor-Marked summative projects</li> <li>• Instructor-Marked summative presentations</li> <li>• Instructor-Marked formative assignments/assessment</li> <li>• Instructor-Marked formative projects</li> </ul>

**Exit Award: If the learning outcomes have been met, then the student is entitled to receive a Diploma of Higher Education in Computer Science 240 credits (120 at Level 4, 120 at Level 5)**

<b>Programme Structure - LEVEL 6</b>					
<b>Compulsory modules</b>	<b>Credit points</b>	<b>Optional modules</b>	<b>Credit points</b>	<b>Is module compensatable?</b>	<b>Semester runs in</b>
<b>CSC 321</b> - Operating Systems	15	<b>CSC 219</b> - Video Game Design	15	N/A	Varies by students cohort entrance (Fall or Spring)
<b>CSC 322</b> - Computer Networks I	15	<b>CSC 330</b> - Introduction to Mobile Robotics	15		
<b>CSC 325</b> - Distributed Applications	15	<b>CSC 333</b> - Computer Networks II	15		
<b>CSC 412</b> - Object Oriented Design Patterns	15	<b>CSC 422</b> - Advanced DBMS	15		
<b>CSC 421</b> - Computer Systems Security	15	<b>PRAC 300</b> - PRACTICUM	15		
<b>CSC 443</b> - Thesis I	15				
<b>CSC 444</b> - Thesis II	15				

Intended learning outcomes at **Level 6** are listed below:

<b>Learning Outcomes – LEVEL 6</b>	
<b>3A. Knowledge and understanding</b>	
<b>Learning outcomes:</b>	<b>Learning and teaching strategy/ assessment methods</b>
<p>A. <b>Knowledge and understanding</b> - On completion of this level you will be able to:</p> <p>A1. <b>reproduce</b> a computer science related scientific method and <b>extend</b> its applications to problem-solving in a specific area</p> <p>A2. <b>employ</b> and <b>practice</b> advanced facts</p> <p>A3. <b>model</b> and <b>test</b> principles and theories relating to subject areas of computer science</p> <p>A4. <b>analyse</b> knowledge and <b>revise</b> computer applications as appropriate to the module of study</p> <p>A5. <b>assess, interpret and evaluate</b> the appropriate theory, practices and tools for the specification, design, implementation and evaluation of computer-based systems</p>	<p>Guided teaching environment (Lectures &amp; labs) is the principal method of delivery for the concepts, principles and skills involved in the outcomes. Students are also directed to reading from textbooks, academic papers and other relevant material.</p> <p>Understanding is reinforced by means of exercise classes, discussion groups, laboratories, assignments and project work.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• printed and online teaching texts</li> <li>• directed readings from textbooks and papers</li> <li>• Specialised software tools.</li> </ul> <p><b>Support of learning:</b></p> <p>Learning is supported outside the classroom with the use of the learning management system Moodle, instructor office hours, sample answers to assessment and extra lectures as seen appropriate by the instructor.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• self-assessment questions and exercises, included in the teaching texts</li> <li>• programming tasks, computer-based investigations and open-ended project work</li> </ul>

<b><u>Learning Outcomes – LEVEL 6</u></b>	
<b>3A. Knowledge and understanding</b>	
	<ul style="list-style-type: none"> <li>• feedback and guidance from an instructor; tutorials, revisions and in-class activities</li> <li>• e-mail and individual instructor-learner conferences</li> <li>• Study and project guides.</li> </ul> <p><b>Assessment of learning:</b></p> <p>An assessment of the understanding of underlying concepts and principles forms part of the overall assessment of final exams/projects submitted/taken.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• Instructor-Marked summative formal examinations</li> <li>• Instructor-Marked summative projects</li> <li>• Instructor-Marked summative presentations</li> <li>• Instructor-Marked formative assignments/assessment</li> <li>• Instructor-Marked formative projects</li> </ul>

3B. Cognitive skills	
Learning outcomes:	Learning and teaching strategy/ assessment methods
<p><b>B. Cognitive skills</b> - On completion of this level you will be able to:</p> <p>B1. <b>demonstrate</b> critical thinking, including its relevance to everyday life</p> <p>B2. <b>combine</b> and <b>interpret</b> such knowledge and understanding in the modelling and design of computer-based systems</p> <p>B3. <b>devise</b> and <b>judge</b> a set of the criteria and specifications appropriate to specific problems</p> <p>B4. <b>measure</b> and <b>assess</b> the criteria met by a computer system, as they are defined for its current use and future development</p> <p>B5. <b>compare</b> and <b>conclude</b> to a set of rational and reasoned arguments, addressing a given problem or opportunity in a target audience.</p> <p>B6. <b>rate</b> a number of economic, professional, social, environmental, moral and ethical issues in the sustainable exploitation of computer technology</p> <p>B7. <b>propose</b> and <b>argue</b> on the appropriate theory, practises and tools for the specification, design, implementation and evaluation of computer-based systems</p>	<p>Guided teaching environment (Lectures &amp; labs) is the principal method of delivery for the concepts, principles and skills involved in the outcomes. Students are also directed to reading from textbooks, academic papers and other relevant material.</p> <p>Understanding is reinforced by means of exercise classes, discussion groups, laboratories, assignments and project work.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• printed and online teaching texts</li> <li>• directed readings from textbooks and papers</li> <li>• Specialized software tools.</li> </ul> <p><b>Support of learning:</b></p> <p>Learning is supported outside the classroom with the use of the learning management system Moodle, instructor office hours, sample answers to assessment and extra lectures as seen appropriate by the instructor.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• self-assessment questions and exercises, included in the teaching texts</li> <li>• programming tasks, computer-based investigations and open-ended project work</li> </ul>

3B. Cognitive skills	
	<ul style="list-style-type: none"> <li>• feedback and guidance from an instructor; tutorials, revisions and in-class activities</li> <li>• e-mail and individual instructor-learner conferences</li> <li>• Study and project guides.</li> </ul> <p><b>Assessment of learning:</b></p> <p>An assessment of the understanding of underlying concepts and principles forms part of the overall assessment of final exams/projects submitted/taken.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• Instructor-Marked summative formal examinations</li> <li>• Instructor-Marked summative projects</li> <li>• Instructor-Marked summative presentations</li> <li>• Instructor-Marked formative assignments/assessment</li> <li>• Instructor-Marked formative projects</li> </ul>

<b>3C. Practical and professional skills</b>	
<b>Learning outcomes:</b>	<b>Learning and teaching strategy/ assessment methods</b>
<p>On completion of this level you will be able to:</p> <p>C1. <b>Design</b> and <b>illustrate</b> the architecture of reliable, secure and usable computer-based systems</p> <p>C2. <b>Predict</b> and <b>justify</b> the quality attributes and possible trade-offs a system in the context of a given problem</p> <p>C3. <b>Estimate</b> and <b>evaluate</b> any risks or safety aspects during the deployment of a system or solution in the context of a given problem</p> <p>C4. <b>Develop</b> some of the essential tools per study area, used for the construction and documentation of an application.</p> <p>C5. <b>Operate</b> under specific project requirements to produce deliverables that take into consideration project/system requirements and budget.</p> <p>C6. <b>Assess</b> and <b>revise</b> the process involved in the development and deployment of a system for solving real-life problems</p>	<p>Guided teaching environment (Lectures &amp; labs) is the principal method of delivery for the concepts, principles and skills involved in the outcomes. Students are also directed to reading from textbooks, academic papers and other relevant material.</p> <p>Understanding is reinforced by means of exercise classes, discussion groups, laboratories, assignments and project work.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• printed and online teaching texts</li> <li>• directed readings from textbooks and papers</li> <li>• Specialized software tools.</li> </ul> <p><b>Support of learning:</b></p> <p>Learning is supported outside the classroom with the use of the learning management system Moodle, instructor office hours, sample answers to assessment and extra lectures as seen appropriate by the instructor.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• self-assessment questions and exercises, included in the teaching texts</li> <li>• programming tasks, computer-based investigations and open-ended project work</li> </ul>

3C. Practical and professional skills	
	<ul style="list-style-type: none"> <li>• feedback and guidance from an instructor; tutorials, revisions and in-class activities</li> <li>• e-mail and individual instructor-learner conferences</li> <li>• Study and project guides.</li> </ul> <p><b>Assessment of learning:</b></p> <p>An assessment of the understanding of underlying concepts and principles forms part of the overall assessment of final exams/projects submitted/taken.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• Instructor-Marked summative formal examinations</li> <li>• Instructor-Marked summative projects</li> <li>• Instructor-Marked summative presentations</li> <li>• Instructor-Marked formative assignments/assessment</li> <li>• Instructor-Marked formative projects</li> </ul>

3D. Key/transferable skills	
Learning outcomes:	Learning and teaching strategy/ assessment methods
<p>On completion of this level you will be able to:</p> <p>D1. be enumerate and literate in <b>describing</b> cases which involve both quantitative as well as qualitative dimensions</p> <p>D2. retrieve information from various sources (search engines, catalogues etc.)</p> <p>D3. <b>operate</b> general Information Technology facilities</p> <p>D4. <b>practise</b> on the effective goal setting and action planning</p> <p>D5. <b>Identify</b> problems that may arise and <b>devise</b> their solutions in the context of a computer science project</p> <p>D6. <b>Outline</b> and <b>generate</b> the best possible outcome while working along with a group of individuals</p>	<p>Guided teaching environment (Lectures &amp; labs) is the principal method of delivery for the concepts, principles and skills involved in the outcomes. Students are also directed to reading from textbooks, academic papers and other relevant material.</p> <p>Understanding is reinforced by means of exercise classes, discussion groups, laboratories, assignments and project work.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• printed and online teaching texts</li> <li>• directed readings from textbooks and papers</li> <li>• Specialized software tools.</li> </ul> <p><b>Support of learning:</b></p> <p>Learning is supported outside the classroom with the use of the learning management system Moodle, instructor office hours, sample answers to assessment and extra lectures as seen appropriate by the instructor.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• self-assessment questions and exercises, included in the teaching texts</li> <li>• programming tasks, computer-based investigations and open-ended project work</li> </ul>

3D. Key/transferable skills	
	<ul style="list-style-type: none"> <li>• feedback and guidance from an instructor; tutorials, revisions and in-class activities</li> <li>• e-mail and individual instructor-learner conferences</li> <li>• Study and project guides.</li> </ul> <p><b>Assessment of learning:</b></p> <p>An assessment of the understanding of underlying concepts and principles forms part of the overall assessment of final exams/projects submitted/taken.</p> <p>Tools to be used to achieve this will include some or all from the following:</p> <ul style="list-style-type: none"> <li>• Instructor-Marked summative formal examinations</li> <li>• Instructor-Marked summative projects</li> <li>• Instructor-Marked summative presentations</li> <li>• Instructor-Marked formative assignments/assessment</li> <li>• Instructor-Marked formative projects</li> </ul>

**Exit Award: If the learning outcomes have been met, then the student is entitled to receive a BSc Ordinary in Computer Science 300 credits (120 at Level 4, 120 at Level 5, 60 at Level 6) Or transfer to BSc (Hons) Political Science and International Relations (subject to validation)**  
**BSc (Hons) in Computer Science / 480 credits**

#### 4. Distinctive features of the programme structure

- **Where applicable, this section provides details on distinctive features such as:**
  - where in the structure above a professional/placement year fits in and how it may affect progression
  - any restrictions regarding the availability of elective modules
  - where in the programme structure students must make a choice of pathway/route
- **Additional considerations for apprenticeships:**
  - how the delivery of the academic award fits in with the wider apprenticeship
  - the integration of the 'on the job' and 'off the job' training
  - how the academic award fits within the assessment of the apprenticeship

The Computer Science programme offered by the AAU School of Science and Technology leads to the awarding of two degrees:

- A UK BSc (Hons) degree, validated by the UK Open University (OU)

Modules in the School are designed to broaden students' perspectives on the role of computing, mathematics, statistics and science in the modern world, while equipping them with both computer literacy and quantitative skills. A broad range of computing modules is offered, the majority having a strong laboratory component with emphasis on application.

#### AAU Degree Competitive Advantage Areas

An AAU graduate with the BSc (Hons) in Computer Science will have obtained a theoretical and practical adequacy in the field of IT application and design, as well as directly marketable skills through the ability to further obtain certifications in popular technologies (CCNA and ORACLE modules are offered and certification can be obtained directly from the companies upon completion of study and examination) under the following CS fields:

- Fundamentals of Computer Science
- Software Development and Programming
- Computer Systems and Networks
- Database Management Systems
- Artificial Intelligence and Machine Learning
- Research and Professional Activities

#### Special Features

The programme does not concentrate only on the latest technologies, which at some point will become outdated, but provides students with excellent critical skills and systematic thinking that will allow them to become lifelong learners and succeed in a wide variety of technical and managerial positions. Students are prepared for a successful career in the field of computing and its applications and/or additional study in computing at the graduate level.

#### Computing and Teaching Facilities

- Modern computer facilities available to the students.
- All the necessary software for programming, multimedia, web-development and instruction is available in the labs for you to use.

- Students have access to printing and scanning devices.
- Our classrooms are spacious and equipped with a PC and projector. All classrooms are connected to a high-speed campus network and are connected to the internet.
- Students have abundant personal and secure server storage area, accessible from campus and home and are provided with email and Moodle accounts.
- Wi-Fi is available around the campus for laptop and mobile internet access.
- Hardware and software technical support is available and is of first-rate level.

### **Campus**

It should finally be noted that the AAU graduate will have received their higher education at the AAU campus, a highly international environment with first rate services, facilities and resources afforded to its students.

### **5. Support for students and their learning.**

*(For apprenticeships this should include details of how student learning is supported in the work place)*

Academic Support Services include:

- Financial Aid
- An Academic Advising Programme through which each student is assigned an advisor upon entering his/her freshman year who will offer advice on the students' academic and career plans. Students are expected to meet with their advisors regularly throughout the term, and especially when they face academic problems or want to withdraw from a module. Students are expected to consult with their advisors prior to registration.
- Counselling services with a professional staff member, for students who feel they need them and ask for them, with full confidentiality.
- A Learning Hub, open to all students, to help with writing projects since many are not familiar with project-oriented education and are used to lecture-based classes. The Learning Hub also provides tutoring in Mathematics and Sciences.
- A Business Liaison and Career Services Office through which students are provided assistance towards their efforts in preparing graduate school applications and employment search, as well building bridges with the professional world. The office also develops programmes and workshops to help with the students' future career plans.
- An I.T. center which provides technical assistance and advice, as well as information technology instructional services.
- Extensive Library facilities and assistance.
- AAU students have the opportunity to study abroad for one summer or term during their time as a student through the International Programmes Office at AAU.

- AAU has a learning disability policy in practice and provides appropriate assistance and compensation to students that have certified needs.

Students are informed in detail of all services and facilities during their induction (Orientation Session), through meetings with their advisers as well as through accessing the Student Handbook and the AAU website.

## 6. Criteria for admission

*(For apprenticeships this should include details of how the criteria will be used with employers who will be recruiting apprentices.)*

- Greek or foreign citizens who hold a Greek General High School Diploma (GEL) or Vocational High School Diploma (EPAL) with an average score in the four (4) nationwide examination subjects equal to or higher than the minimum admission threshold. This threshold is determined by the lowest of the average scores of all candidates within each scientific field, multiplied by the coefficient zero point eight (0.8) for the year of their participation.
- Holders of equivalent secondary education diplomas (S.E.) from recognized foreign schools operating in Greece (level 4 of the National Qualifications Framework).
- Holders of international secondary education diplomas awarded by schools in Greece or abroad, foreign citizens who hold an equivalent secondary education diploma or an equivalent vocational education diploma that grants them the right to enter higher education institutions in the country where they studied.

During the application evaluation process, the following are considered:

- The grades from the last three years of high school or equivalent.
- A certificate of English language proficiency at a minimum CEFR B2 level, obtained within the last three years. For certificates older than three years, an interview with a faculty member from English department is required. The acceptable certificates are the following:
  - Test of English as a Foreign Language (TOEFL), overall score iBT score 80
  - First Certificate in English Cambridge University or Cambridge Assessment English or First Certificate in English, Cambridge Assessment English overall score 160-179.
  - International English Language Testing System (IELTS), University of Cambridge Local Examinations Syndicate (UCLES) or Cambridge Assessment English – The British Council – IDP Education Australia IELTS Australia score 5,5 - 6,5.
  - ECCE - Certificate of Competency in English, Michigan University (English Language Institute or Cambridge Michigan Language Assessments - CaMLA or Michigan Language Assessment.)

## 7. Language of study

English

## 8. Information about OU standard assessment regulations (including PSRB requirements)

Every assessment in every module has an associated threshold value (mark), which is set to 25 for all assessments. Students would need to achieve this minimum value (mark) in order to ensure that they have made a genuine attempt at each and every assessment.

In order to pass a module, the student has to:

1. Achieve a mark that is above threshold (25) in all assessments.
2. Have an overall weighted average in the module that is 40 or higher.

In the case that the student fails to accomplish one of the above, they will need to re-sit the failed component and the re-sit results will be capped at 40 as per the current regulations.

Based on this for a piece of assessment, the student can:

1. 'Pass' the assessment: score 40 or better
2. 'Make a genuine attempt' at the assessment: score between 25 and 39
3. 'Fail' the assessment: score 24 or less

Cases 1 & 3 follow the current rules – pass and re-sit respectively. In case 2, if the student has an overall module average of 40 or better, they are seen to have met the associated learning outcomes of the module collectively to pass the module and do not have to re-sit the assessment.

The above proposal does not apply to:

- The Thesis modules. In these modules, the student has to re-sit an assessment when the mark is below 40 as per the current regulations.
- The Enhancement Modules. In these modules, there is no re-sit provision. In case of a failing mark, the student will need to retake the module.

In general, marking and assessment procedures are explained in the module descriptors, the programme handbook and are also available on the AAU website (Student Handbook and Regulations). They are therefore easily understood by students. Homework, exams and term papers are marked with constructive and positive feedback and returned to students in due time.

All academic programmes offered at AAU have specifically-stated learning outcomes at both the degree and the module level.

All majors publicize their degree programme outcomes, while all module descriptors include clearly articulated module outcomes, with respect to both knowledge and skills.

At the module level student assessment measures include:

- module and homework assignments (formative assessment)
- examinations (summative assessments)
- quizzes (formative assessments)
- term and research papers (summative assessments)
- class reports (formative assessments)
- fieldwork observations (summative assessments)
- class oral presentations (summative assessments)
- class participations and discussion (formative assessments)
- case-study analysis e.g. business modules (summative assessments)

Student Assessment Strategies aim at:

- Creating an organic relationship between Assessment and curriculum design - assessment is a central feature of the process of programme design and curriculum development;
- Developing clear and consistent Assessment criteria;
- Putting in place an assessment feedback mechanism to students that is (a) timely; (b) balanced between formative and summative feedback, which promotes learning and achievement, and encourages improvement;
- Building a system that facilitates students learning and supports student progression;
- Enabling students through academic support to develop the academic skills that will enable them to progress and achieve on the programs of their choice;
- Creating a management of assessment that is efficient, especially regarding the amount and timings of assessment, staff and student workloads, and in the provision of time for reflection by students.

9. For apprenticeships in England End Point Assessment (EPA).

*(Summary of the approved assessment plan and how the academic award fits within this and the EPA)*

N/A

10. Methods for evaluating and improving the quality and standards of teaching and learning.

Standard evaluating methods are into place and overseen by the Coordinators, Chairs, and the Academic Dean, as needed: evaluating through student evaluation forms, grade averages, sit-in observation and ad hoc focus groups as well as interviews, formal or informal, with both students and faculty. All relevant information is passed on to individual instructors and teaching team so it can be used to improve teaching and learning strategies. Wherever necessary, the academic supervisors conduct individual or group faculty mentoring. The Module Reports provide opportunities for self-reflection on teaching strategy and assessment methods, thus adding to the methods available for evaluation. The departmental meetings, division meetings and

the academic council function as means to address issues for improving the quality and standards of teaching and learning.

An institution-wide policy on Academic Integrity is in place (included in the Student Handbook and all module descriptors) to safeguard quality and standards of learning

11. Changes made to the programme since last (re)validation

N/A

**Annex 1:** Curriculum map

**Annex 2:** Curriculum mapping against the apprenticeship standard or framework (delete if not required.)

### Annexe 1 - Curriculum map

This table indicates which study units assume responsibility for delivering (shaded) and assessing (✓) particular programme learning outcomes.

Level	Study module/unit	Programme outcomes																		
		A1	A2				B1	B2					C1	C2	C3		D1	D2	D3	
3	Politics 101	✓	✓				✓	✓					✓	✓	✓		✓	✓	✓	
	CS 192	✓											✓	✓	✓		✓	✓	✓	
	History 120	✓	✓				✓	✓					✓	✓	✓		✓	✓	✓	
	English 102	✓						✓						✓	✓		✓	✓	✓	
	English 204	✓	✓					✓						✓	✓		✓	✓		
	Math 101	✓	✓										✓	✓	✓		✓	✓	✓	
	Philosophy 101	✓	✓				✓	✓						✓	✓		✓	✓	✓	
	Psychology 101	✓	✓					✓						✓	✓		✓	✓	✓	
		Programme outcomes																		

Level	Study module/unit	A1 A2 A3 A4				B1 B2 B3 B4 B5 B6						C1 C2 C3 C4				D1 D2 D3 D4				
		A1	A2	A3	A4	B1	B2	B3	B4	B5	B6	C1	C2	C3	C4	D1	D2	D3	D4	
4	CSC 105 - Structured Programming	✓	✓	✓		✓	✓	✓		✓		✓	✓					✓	✓	
	CSC 106 - Object Oriented Programming	✓	✓	✓		✓	✓	✓		✓		✓	✓					✓	✓	✓
	CSC 205 - Business Data Management	✓	✓	✓	✓	✓				✓	✓		✓		✓	✓		✓	✓	
	CSC 215 - Data Structures	✓	✓	✓	✓		✓	✓		✓			✓		✓	✓	✓		✓	
	CSC 230 - Systems Programming	✓	✓	✓		✓	✓		✓		✓	✓	✓		✓	✓	✓		✓	
	MATH 120 - Calculus I	✓	✓					✓		✓			✓				✓		✓	
	STAT 210 - Statistics with R	✓	✓					✓					✓				✓		✓	
	ECON 101 - Introductory Macroeconomics	✓	✓			✓	✓			✓	✓				✓		✓		✓	

Level	Study module/unit	Programme outcomes																							
		A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	C5	C6	D1	D2	D3	D4	D5	D6
5	CSC 206 - Web Development	✓	✓			✓	✓			✓			✓	✓			✓					✓	✓		

	CSC 300 - Mobile Application Development	✓		✓		✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓
	CSC 306 - Advanced Web Development	✓	✓	✓		✓	✓		✓	✓			✓	✓		✓	✓		✓		✓		✓	✓	
	CSC 310 - Hardware & Computer Architecture	✓	✓			✓	✓	✓	✓			✓	✓	✓	✓		✓				✓	✓		✓	
	CSC 312 - Database Management Systems	✓		✓	✓	✓	✓	✓		✓			✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	
	CSC 340 - Artificial Intelligence	✓	✓			✓	✓	✓		✓	✓	✓	✓	✓	✓		✓			✓	✓	✓		✓	
	CSC 450 - System Analysis & Design	✓	✓	✓		✓	✓	✓		✓		✓	✓	✓				✓	✓	✓			✓	✓	
	MATH 220 - Discrete Mathematics	✓	✓	✓	✓						✓				✓					✓	✓				

Level	Study module/unit	Programme outcomes																							
		A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	C5	C6	D1	D2	D3	D4	D5	D6
6	CSC 219 – Video Game Design		✓	✓					✓		✓		✓	✓	✓			✓	✓	✓		✓		✓	✓
	CSC 321 - Operating Systems		✓			✓	✓		✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓			

CSC 322 - Computer Networks I	✓		✓		✓	✓	✓			✓		✓	✓		✓	✓		✓	✓	✓		✓	✓	
CSC 325 - Distributed Applications	✓	✓	✓	✓		✓	✓		✓			✓	✓	✓	✓	✓		✓	✓	✓		✓		
CSC 330 - Introduction to Mobile Robotics			✓	✓	✓	✓		✓		✓			✓			✓	✓		✓		✓		✓	✓
CSC 333 - Computer Networks II	✓	✓			✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓	
CSC 412 - Object Oriented Design Patterns			✓	✓		✓	✓		✓		✓	✓	✓		✓	✓	✓	✓	✓	✓			✓	✓
CSC 421 - Computer Systems Security			✓			✓	✓		✓		✓	✓	✓	✓		✓		✓	✓	✓			✓	✓
CSC 422 - Advanced DBMS	✓	✓			✓	✓		✓	✓			✓	✓	✓		✓		✓	✓			✓	✓	
PRAC 300 - Practicum			✓			✓				✓	✓					✓	✓	✓		✓	✓	✓	✓	✓
CSC 443 - Thesis I	✓			✓	✓		✓	✓	✓					✓	✓		✓	✓	✓		✓	✓		
CSC 444 - Thesis II	✓	✓	✓		✓	✓			✓	✓	✓	✓	✓			✓	✓	✓	✓		✓	✓	✓	

### Annexe 2: Notes on completing programme specification templates

- 1 - This programme specification should be mapped against the learning outcomes detailed in module specifications.
- 2 - The expectations regarding student achievement and attributes described by the learning outcome in [section 3](#) must be appropriate to the level of the award within the **QAA frameworks for HE qualifications**: <http://www.qaa.ac.uk/AssuringStandardsAndQuality/Pages/default.aspx>

- 3 – Learning outcomes must also reflect the detailed statements of graduate attributes set out in **QAA subject benchmark statements** that are relevant to the programme/award: <http://www.qaa.ac.uk/AssuringStandardsAndQuality/subject-guidance/Pages/Subject-benchmark-statements.aspx>
- 4 – In section 3, the learning and teaching methods deployed should enable the achievement of the full range of intended learning outcomes. Similarly, the choice of assessment methods in section 3 should enable students to demonstrate the achievement of related learning outcomes. Overall, assessment should cover the full range of learning outcomes.
- 5 - Where the programme contains validated **exit awards** (e.g. CertHE, DipHE, PGDip), learning outcomes must be clearly specified for each award.
- 6 - For programmes with distinctive study **routes or pathways** the specific rationale and learning outcomes for each route must be provided.
- 7 – Validated programmes delivered in **languages other than English** must have programme specifications both in English and the language of delivery.