



BSc (Hons) Information Technology

Programme Specification

1. Programme title	BSc (Hons) Information Technology; BSc(Hons) Information Technology with Foundation Year
2. Awarding institution	Middlesex University
3a Teaching institution	Middlesex University: Hendon (HEN) Middlesex University: Dubai (DBI) Middlesex University: Mauritius (MRU) Australian College of Business & Technology (ACBT), Sri Lanka
3b Language of study	English
4a Valid intake dates	Sept Jan (ACBT and DBI) April (MRU)
4b Mode of study	Full-time or Part-time TKSW (HEN)
4c Delivery method	<input checked="" type="checkbox"/> On-campus/Blended <input type="checkbox"/> Distance Education
5. Professional / Statutory / Regulatory body	N/A
6. Apprenticeship Standard	N/A
7. Final qualification(s) available	BSc (Hons) Information Technology BSc Information Technology DipHE Information Technology CertHE Information Technology
8. Academic year effective from	2024/25

9. Criteria for admission to the programme

Students should have the equivalent of 112–128 UCAS points including GCSE Grade 4/C in English and Mathematics to gain entry to level 4. Please refer to the programme specification for the Foundation Year for criteria for admission to [the BSc Computer Science with Foundation Year](#) programme.

Middlesex University has a flexible and personalised approach to admissions and we accept applications from students with a wide range of qualifications and a combination of qualifications. Please check our general entry requirements page (available at <https://www.mdx.ac.uk/study-with-us/undergraduate/entry-requirements-for-undergraduates>) to see how these points can be achieved from our acceptable level 3 qualifications and the combinations, which are welcomed by Middlesex University, including GCSE requirements.

If the student has achieved a qualification such as a foundation degree or HND, or has gained credit at another university, the student may be able to enter the programme in year two (level 5) or three (level 6). For further information please visit our Transfer students page (available at <https://www.mdx.ac.uk/study-with-us/undergraduate/how-to-apply-for-undergraduate-courses>). For direct entry to levels 5 and 6 students are required to pass the equivalent of 120 credits specified in the programme at levels 4 and 5, respectively. Applicants will be expected to demonstrate the programme learning outcomes have been met at these levels.

Applications from mature candidates without formal qualifications are welcomed, provided they can demonstrate appropriate levels of relevant ability and experience. Recognition of Prior Learning (RPL) is permitted. Mature applicants with relevant work experience are welcome to apply for direct entry at levels 3, 4 and 5. These applicants are required to submit a portfolio of work experience to show evidence of achieving relevant learning outcomes, and these will vary depending on both the programme and level the student is applying for. Evidence should comprise the applicant's own work and may include documents they have written, procedures they have designed, proposals they have drafted, electronic resources, photographs, video etc. or information gathered from others about them, such as statements from employers, certificates of in-house courses completed.

Individual applicants may wish to claim certain number of credits against their learning that may have taken place outside education or through training that is not assessed as part of an education system. Typically, these applicants would possess knowledge and skills that may have been acquired at the workplace through practice but may not be supported by formal qualifications. Applicants may also hold academic, vocational or professional qualifications that may be aligned to certain modules of the programme at an appropriate level. Typically, such qualifications are supported by evidence in the form of certification. Each of these cases is considered individually with the scope to assess whether applicants should be allowed in the programme with specific credit that would count towards the end qualification, to an appropriate point of the programme. As each case is treated individually, applicants should seek support from the programme team towards their application with Recognition of Prior Experiential Learning or Recognition of Prior Certificated Learning.

International students who have not been taught in the English medium must show evidence of proven ability in English such as IELTS grade 6.0 (with a minimum of 5.5 in all sections).

For students studying the programme at ACBT only, a Sri Lanka GCE 'O' level English, grade C or above or a Sri Lanka 'A' level English, grade A-C will be accepted as meeting the English language entry requirements. The University provides pre-sessional English

language courses throughout the year for candidates who do not meet the English requirements. University policies supporting students with disabilities apply, as described in the University Regulations. For further information, visit the learning resources web site at: <http://unihub.mdx.ac.uk/support>.

University policies supporting students with disabilities apply, as described in the University Regulations, 'Information for students with disabilities'.

Further guidance may be obtained from the Programme Leader or Director of Programme.

10. Aims of the programme

Our programme is designed for students who are passionate about information technology and want to pursue a rewarding career in this dynamic and diverse sector and aims to provide students with an understanding of how IT systems can be used to support the activities of a wide range of organisations.

The programme aims to:

- Equip students with an understanding of the functioning of modern enterprises and the utilisation of diverse technologies to support their operations.
- Provide a curriculum informed by current research and global issues, such as sustainable development and internationalization, to offer holistic IT knowledge and perspectives.
- Foster an inclusive practice-led learning environment where students are supported by the program team at every step.
- Offer a variety of pathways, including User Experience, Data Science, Web Development, and Full-Stack Development, aligned with industry trends and demands.
- Cultivate essential skills such as independent learning, critical thinking, teamwork, and both technical and soft skills, enabling students to adapt and excel in various IT-related roles.
- Outline the opportunities and benefits, both short-term and long-term, personal, professional, and career-focused, that students can expect to gain from participating in the program.
- Foster the development of essential skills including independent learning, critical thinking, teamwork, as well as technical and soft skills, enabling students to thrive and adapt in various IT-related roles.

11. Programme outcomes*

A. Knowledge and understanding

On completion of this programme the successful student will have knowledge and understanding of:

1. Essential facts, concepts, principles, and theories in the creation, use and support of information systems and development of IT paradigms.
2. Methodologies and tasks within a professional, legal, and ethical framework - including proficient handling of data, ensuring security, promoting equality, diversity,

and inclusion (EDI), as well as incorporating sustainable practices in the undertaken work.

3. Strategies for the effective use of information technology and tools including databases and web technology and taking account of the complex interrelations between hardware, software and people.
4. Problem identification and analysis of appropriate design, development, testing and integration or deployment of a complex information system and any associated artefacts.

Teaching/learning methods

Students gain knowledge and understanding through:

- Interactive Concept Discussion Sessions (ICDS) illustrating theories, concepts and principles through case studies, examples, and scenarios.
- Brief video recordings covering key concepts.
- Supervised practical, laboratory work.
- Guided individual and group research.
- Open-ended practical assignments
- Project work
- Online collaborative environments
- Supervised laboratories and practical exercises
- Critical thinking and problem-solving activities
- Individual and group coursework assignments
- Student presentations
- Technical reports
- Reflective reports

Assessment methods

Students' knowledge and understanding is assessed by:

- Student Observable Behaviours (SOBs)
- Reflective and technical reports
- Individual and group presentations
- Online quizzes
- Individual and group coursework assignments
- Lab exercises
- Lab tests
- Coding and commenting
- Modelling of systems
- Assessing case studies
- Appropriate use of case tools for analysis and design

Feedback is given in different ways - written, online, and verbal. Assessment designs aim to simulate real work scenarios in industry wherever possible.

B. Skills

On completion of this programme the successful student will be able to:

1. Apply analytical thinking skills with powers of practical problem solving and the ability to anticipate the wider picture.
2. Plan, design and construct effective implementation strategies for computer-based systems consistent with range of business wide needs including those found in industry.
3. Create user/system interfaces and translate logical designs into physical designs taking account of target environment, performance requirements and existing systems.
4. Choose and manage resources necessary for all stages – analysis, planning, estimation, execution and improvement - of individual systems development to ensure technical and quality targets are met.
5. Examine the environmental, legal, and ethical aspects of digital technology solutions in contemporary societal and business settings, considering impact and consequences for ensuring to design IT systems taking into account also such relevant aspects.
6. Communicate data, ideas plans, and solutions that resonate with diverse audiences including specialists and non-specialists such as technical and business audiences through effective written and spoken communication, as well as suitable presentation methods.
7. Demonstrate the ability to work in a proactive and effective manner, including as a member of a team, making good use of tools and techniques to successfully communicate, manage tasks and plan projects with minimum guidance.

Teaching/learning methods

Students learn skills through:

- Supervised practical work.
- Critical thinking and problem-solving activities.
- Practical application of concepts, principles and models to specific case studies and scenario.
- Supervised seminars.
- Use of Case tools for analysis and design.
- Individual and group coursework assignments.
- Individual and group presentations.
- Supervised tutorials and seminars.
- Individual and group project work
- Formative and summative assessment, and feedback on assignments.
- Online collaborative tools.
- Coding and commenting.
- Workshop and seminars conducted by Library and Learning Support staff.

Assessment methods

Students' knowledge and understanding is assessed by presenting portfolios of their work. Some elements will be responses to briefs, others assessments include:

- Student Observable Behaviours (SOBs)
- Coursework and project work
- Practical laboratory tests
- Online quizzes

- Assessing Case Studies
- Group and individual assignments.
- Technical and Reflective reports.
- Use of Case tools for analysis and design
- Individual and group presentations
- Lab and Seminar Activities
- Project milestones
- Coding and commenting.

12. Programme structure (levels, modules, credits and progression requirements)

12. 1 Overall structure of the programme

Full Time

Year 1 / Level 4

Semester 1

- CST1510 Programming for Data Communication and Networks
- CST1340 Information in Organisations

Semester 2

- CST1500 Computer Systems Architectures and Operating Systems
- CST1160 Emerging Technologies in Practice (Dubai campus)
- CST1133 Foundations of Computing (all other sites)

Year 2 / Level 5

Semester 1

- CST2120 Web Applications and Databases
- CST2133 Data Science and Machine Learning

Semester 2

- CST2310 Information Systems Analysis and Design
- CST2560 Project Management and Professional Practice

CST3500* Supervised Industrial Placement (Optional all year module)

Year 3 / Level 6

Semester 1

- CST3144 Full Stack Development
- CST3170 Artificial Intelligence
- CST3180 UX Design
- CST3310 Strategic Information Systems (Enterprise Project Management)
- CST3340 Business Intelligence

Semester 2

- CST3990 UG Individual Project
- CST3350 Technological Innovation Management and Entrepreneurship
- CST3520 Defensive Security
- CST3550 Blockchain Engineering and Analytics

Part Time

Year 1 / Level 4

Semester 1

- CST1510 Programming for Data Communication and Networks

Semester 2

- CST1340 Information in Organisations

Year 2 / Level 4

Semester 1

- CST1500 Computer Systems Architectures and Operating Systems

Semester 2

- CST1160 Emerging Technologies in Practice (Dubai campus)
- CST1133 Foundations of Computing (all other sites)

Year 3 / Level 5

Semester 1

- CST2133 Data Science and Machine Learning

Semester 2

- CST2310 Information Systems Analysis and Design

Year 4 / Level 5

Semester 1

- CST2120 Web Applications and Databases

Semester 2

- CST2560 Project Management and Professional Practice

Year 5 / Level 6

Semester 1

- CST3144: Full Stack Development

Semester 2

- CST3350 Technological Innovation Management and Entrepreneurship
- CST3520 Defensive Security
- CST3550 Blockchain Engineering and Analytics

Year 6 / Level 6

Semester 1

- CST3170 Artificial Intelligence
- CST3180 UX Design
- CST3310 Strategic Information Systems (Enterprise Project Management)
- CST3340 Business Intelligence

Semester 2

- CST3990 UG Individual Project

Students starting in January and April may experience a different order of the running of modules.

(*) Not available to students studying the programme at ACBT, Mauritius and Dubai

12.2 Levels and modules

Please refer to the programme specification for the Foundation Year for the modules to be taken during the foundation year of the [BSc \(Hons\) Information Technology with Foundation Year](#) programme.

12.2 Levels and modules

Level 4

Compulsory

Students must take all of the following:

- CST1340 Information in Organisations
- CST1500 Computer Systems Architectures and Operating Systems
- CST1510 Programming for Data Communication and Networks

***Optional**

Students must also take one module from the following:

- CST1160 Emerging Technologies in Practice (Dubai campus)

- CST1133 Foundations of Computing (all other sites)

Progression requirements

Students must pass at least 90 credits to progress to Level 5.

To achieve Honours, failed credit will need to be repeated.

Level 5

Compulsory

Students must take all of the following:

- CST2120 Web Applications and Databases
- CST2133 Data Science and Machine Learning
- CST2310 Information Systems Analysis and Design
- CST2560 Project Management and Professional Practice

***Optional**

The following is optional placement module:

- CST3500 Supervised Industrial Placement

Progression requirements

Students must have passed at least 210 credits to progress to Level 6. *To achieve Honours, failed credit will need to be repeated.*

Level 6

Compulsory

Students must take all of the following:

- CST3990 UG Individual Project
- CST3144 Full Stack Development

***Optional**

Students must also choose 2 modules from the following:

- CST3170 Artificial Intelligence
- CST3180 UX Design
- CST3310 Strategic Information Systems (Enterprise Project Management)
- CST3340 Business Intelligence
- CST3350 Technological Innovation Management and Entrepreneurship
- CST3520 Defensive Security
- CST3550 Blockchain Engineering and Analytics

*Optional modules will only run if at least 15 students have registered.

**Not available to students studying the programme at ACBT

12.3 Non-compensatable modules (note statement in 12.2 regarding FHEQ levels)

Module level – Level 6

Module Code – CST3990 UG Individual Project

13. Information about assessment regulations

Information on the University's formal assessment regulations, including details of how award classifications are determined, can be found in the University Regulations available online at <https://www.mdx.ac.uk/about-us/policies>

14. Placement opportunities, requirements and support

All Undergraduate students have the opportunity to undertake an Industrial Placement. Industrial Placements are highly encouraged by the Faculty and the University. Placements give students valuable experience, which enhances their future career prospects. Students who undertake a placement year normally achieve better results in their final year. Please note the following:

- The placement provides a year's experience as an appropriately paid graduate trainee.
- Industrial placement is conditional on the successful completion of all modules at Levels 4 and 5. Students need 240 credits before they are able to embark on an industrial placement.
- Obtaining a placement is co-ordinated through the Employability and Campus Career Office, and by a dedicated team of placement officers for the Faculty of Science and Technology.
- For undergraduate programmes, students wishing to undertake a placement position must register for the placement module.
- Each placement will be assigned to an industrial tutor who will visit the student during their placement.
- On graduation the degree will be qualified with the term "having followed an approved sandwich programme".
- Students who complete the Supervised Industrial Placement module on TKS mode will receive an additional qualification referred to as a Diploma of Industrial Studies.

Note: The placement option is not available to direct-entry students in their final year nor to students at DBI, MRU or ACBT.

15. Future careers

All programmes in the Faculty of Science and Technology – their curricula and learning outcomes – have been designed with an emphasis on currency and relevance to future employment. Professional development and employability skills are embedded into teaching, learning and assessment at all levels of the programme.

The majority of graduates are employed in IT posts relevant to the subject area. Many other students pursue further postgraduate study or research.

Employer links with the Faculty are encouraged in the following ways:

- By inviting practitioners from industry as guest speakers.
- Through links with companies where students are employed as part of their Industrial placement.
- Through links with alumni, both in the UK and overseas.

Graduates typically pursue career paths in roles such as systems design engineering, network management, software development, web-application development, management and administration, or opt for continuing their studies.

16. Particular support for learning

The Faculty's Teaching and Learning Strategy is aligned with that of the University as a whole in seeking to develop learner autonomy and resource-based learning. In particular, support of the students' learning experience, the following is provided:

- All new students go through an induction programme, and some have early diagnostic numeric and literacy testing before starting their programme.
- The Learning Enhancement Team provides workshops and one to one support for those students needing additional support in academic writing, presentation skills and numeracy. Such seminars, and workshops are embedded into specific modules across all levels of the programme.
- Students are allocated a personal email account, and secure networked computer storage for student's University-related files and documents.
- Soft copies of all module handbooks are provided on the university's Virtual Learning Environment (VLE). Extensive web-based learning materials are provided to support learning in all modules.
- Extensive library facilities are available on and off campus, with e-resources accessible through the VLE. Virtual learning is provided via the MyLearning pages. Seminars and workshops by Library and Learning Support staff are embedded into specific modules across all levels of the programme.
- Students can access advice and support on a wide range of issues from the online support services, and specific advice and support from the Faculty's Progression and Support Team.
- As part of our holistic support framework, our program provides academic advising designed to support students throughout their academic endeavours. In the later stages of their studies, for example, we offer targeted support for final year projects and research in a range of disciplines to ensure that students receive individualised support to succeed academically.
- High-quality specialist laboratories, equipped with industry standard software and hardware, are provided for formal teaching as well as student self-study.

- Research activities of academic staff feed into the teaching programme, which can provide individual students with ad-hoc opportunities to work with academics on some aspects of their research.

Middlesex University encourages and supports students with disabilities. Some practical aspects of Faculty of Science and Technology programmes may present challenges to students with particular disabilities. Students are encouraged to visit our campuses at any time to evaluate facilities and talk in confidence about their needs. If we know the individual needs of students, we will be able to provide support for them more easily. For further information contact the Support Service.

17. HECos code(s) - 100372

18. Relevant QAA subject benchmark(s) - Computing (March, 2022)

19. Reference points

The following reference points were used in designing this programme:

- QAA Computing subject benchmark statements, Computing (March, 2022) (<https://www.qaa.ac.uk/quality-code/subject-benchmark-statements/computing>)
 - QAA Quality Code for Higher Education (May, 2018) (<https://www.qaa.ac.uk/quality-code>)
 - British Computer Society (BCS) guidelines on course accreditation (April, 2022) (<https://www.bcs.org/media/1209/accreditation-guidelines.pdf>)
 - Certifications for IT Professionals (<https://www.bcs.org/qualifications-and-certifications/certifications-for-professionals/>)
 - Skills Framework for the Information Age (SFIA) (<https://sfia-online.org/en>)
 - Association for Computing Machinery (ACM) and Association for Information Systems (AIS) Curriculum Guidelines for Undergraduate Degree Programmes in Information Systems (2010) (<https://www.acm.org/binaries/content/assets/education/curricula-recommendations/is-2010-acm-final.pdf>)
 - Association for Computing Machinery (ACM) overview report on Computing Curricula, (December, 2020) (<https://www.acm.org/education/curricula-recommendations>)
 - Association for Computing Machinery (ACM) and Association for Information Systems (AIS) Global Competency Model for Graduate Degree Programmes in Information Systems (May, 2017) (<https://www.acm.org/binaries/content/assets/education/msis2016.pdf>)
 - Descriptors defining levels in the European Qualifications Framework (EQF) that is now known as Europass (<https://europa.eu/europass/en>)
 - European e-Competence Framework that is now known as IT Professionalism Europe (<https://itprofessionalism.org/>)
 - DigiCompEdu Framework (https://joint-research-centre.ec.europa.eu/digcompedu/digcompedu-framework_en)
 - Middlesex University Regulations (<https://www.mdx.ac.uk/about-us/policies>)
 - Middlesex University Learning and Quality Enhancement Handbook (section 3) (<https://www.mdx.ac.uk/about-us/policies/academic-quality/handbook>)
 - Middlesex University Policies (<https://www.mdx.ac.uk/about-us/policies>)
- Middlesex University 2031 Learning Framework

20. Other information

Please note programme specifications provide a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve if they take full advantage of the learning opportunities that are provided. More detailed information about the programme can be found in the rest of the programme handbook and the university regulations. Other partners (e.g., Dubai) could provide further details and different offerings as separated documents.

Curriculum map for BSc (Hons) Information Technology

This section shows the highest level at which programme outcomes are to be achieved by all graduates, and maps programme learning outcomes against the modules in which they are assessed.

Programme learning outcomes.

Knowledge and understanding:

A1	Essential facts, concepts, principles, and theories in the creation, use and support of information systems and development of IT paradigms.
A2	Methodologies and tasks within a professional, legal, and ethical framework - including proficient handling of data, ensuring security, promoting equality, diversity, and inclusion (EDI), as well as incorporating sustainable practices in the undertaken work.
A3	Strategies for the effective use of information technology and tools including databases and web technology and taking account of the complex interrelations between hardware, software and people.
A4	Problem identification and analysis of appropriate design, development, testing and integration or deployment of a complex information system and any associated artefacts.

Skills:

B1	Apply analytical thinking skills with powers of practical problem solving and the ability to anticipate the wider picture.
B2	Plan, design and construct effective implementation strategies for computer-based systems consistent with range of business wide needs including those found in industry.
B3	Create user/system interfaces and translate logical designs into physical designs taking account of target environment, performance requirements and existing systems.
B4	Choose and manage resources necessary for all stages – analysis, planning, estimation, execution and improvement - of individual systems development to ensure technical and quality targets are met.
B5	Examine the environmental, legal, and ethical aspects of digital technology solutions in contemporary societal and business settings, considering impact and consequences for ensuring to design IT systems taking into account also such relevant aspects.
B6	Communicate data, ideas plans, and solutions that resonate with diverse audiences including specialists and non-specialists such as technical and business audiences through effective written and spoken communication, as well as suitable presentation methods.
B7	Demonstrate the ability to work in a proactive and effective manner, including as a member of a team, making good use of tools and techniques to successfully communicate, manage tasks and plan projects with minimum guidance.

Programme Outcomes:

A1	A2	A3	A4	B1	B2	B3	B4	B5	B6	B7
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Highest level achieved by all graduates

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Module Title	Module Code by Level	A1	A2	A3	A4	B1	B2	B3	B4	B5	B6	B7
Computer Systems Architecture and Operating Systems	CST1500	✓		✓		✓				✓		
Programming for Data Communication and Networks	CST1510	✓			✓		✓		✓			
Foundations of Computing	CST1133			✓	✓			✓	✓			
Emerging Technologies in Practice (offered only in Dubai instead of CST1133)	CST1160	✓		✓	✓	✓		✓		✓		✓
Information in Organisations	CST1340		✓				✓			✓	✓	
Data Science and Machine Learning	CST2133		✓	✓		✓					✓	✓
Web Applications and Databases	CST2120			✓	✓	✓		✓				
Project Management and Professional Practice	CST2560	✓		✓	✓				✓		✓	✓
Information Systems Analysis and Design	CST2310		✓	✓		✓				✓	✓	
Supervised Industrial Placement (one year)	CST3500	✓			✓	✓			✓			
UG Individual Project	CST3990	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Full Stack Development	CST3144			✓	✓		✓	✓	✓			
Artificial Intelligence	CST3170	✓		✓	✓	✓	✓					✓
UX Design	CST3180	✓		✓	✓		✓	✓		✓	✓	✓
Strategic Information Systems (Enterprise Project) Management	CST3310	✓	✓				✓				✓	✓
Business Intelligence	CST3340		✓	✓		✓	✓		✓	✓	✓	✓
Technological Innovation Management & Entrepreneurship	CST3350	✓		✓	✓	✓	✓			✓	✓	✓
Defensive Security	CST3520		✓		✓		✓					
Blockchain Engineering and Analytics	CST3550	✓	✓							✓	✓	✓