

## ***BSc (Hons) Information Technology***

---

### Programme Specification



<b>1. Programme title</b>	BSc (Hons) Information Technology BSc (Hons) Information Technology with FY
<b>2. Awarding institution</b>	Middlesex University
<b>3. Teaching institution</b>	HEN, DBI, MLT and MRU
<b>4. Details of accreditation by professional/statutory/regulatory body</b>	
<b>5. Final qualification</b>	BSc Honours, BSc, DipHE and CertHE
<b>6. Year of validation</b>	2018/19
<b>Year of amendment</b>	2019/20
<b>7. Language of study</b>	English
<b>8. Mode of study</b>	Full Time/Part Time/Thick Sandwich

#### **9. Criteria for admission to the programme**

Entry requirements are in accordance with the University regulations. We accept students from a range of backgrounds. Most students educated in the UK will have studied A-levels, AVCEs or an accredited Access Course. To enter a degree programme you would be expected to have achieved a specified number of UCAS tariff points, agreed annually and made available via the University Admissions web site or on application.

All candidates should normally possess at least grade C in GCSE maths and English Language, or equivalent. Mature applicants with relevant work experience are also welcome to apply.

International students who have not been taught in English must show evidence of proven ability in English such as TOEFL grade 550 or IELTS grade 6.0. The University provides pre-sessional English language courses throughout the year for candidates who do not meet the English requirements. For further information, visit the learning resources website at: <https://unihub.mdx.ac.uk/student-life/your-voice/your-middlesex-your-impact/library-and-learning-resources>

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

## 10. Aims of the programme

The programme aims to provide you with an understanding of how IT systems can be used to support the activities of a wide range of organisations. You will learn how a modern enterprise works and how to use a wide range of technologies to support its operation. The content is structured in ways that map explicitly on to modern technology, and includes systems design, application development in a modern industrial strength programming language, network functionality and management and web-application development including both server and client-side programming.

## 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 relating to a range of programming and development paradigms.
2. The use of scientific principles in the creation, use and support of information systems for the solution of practical problems.
3. The legal, social, ethical and professional issues involved in the exploitation of computer technology and in the adoption of appropriate professional and ethical and legal practices.
4. Various strategies and application development plans, policies and processes for the accounting, budgeting and, where applicable, charging of IT resources and services.
5. Strategies for effective use of information technology to include databases and web technology and, taking account of the complex interrelations between hardware, software and people.
6. Information security issues in relation to the design, development and use of information systems.

### Teaching/learning methods

Students gain knowledge and understanding through practical work that allows the exposure and exploration of underpinning theory and concepts. Guided reading and online content support students in developing their understanding of the subject area. An emphasis on formative feedback and tasks is built into all the first year modules and may include participation in online activities, in order to practice and explore the topics covered in classes more fully.

In the first year outcomes are assessed at an introductory level.

### Assessment methods

Students' knowledge and understanding is assessed by a range of activities that include both formative (developed to provide feedback on learning) and summative (graded) tasks. A wide range of assessment methods are used.

Tasks may involve traditional approaches such as case studies, essays, presentations and logbooks, time constrained tests and exams, and some less traditional approaches such as blogging and video stories

### B. Skills

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

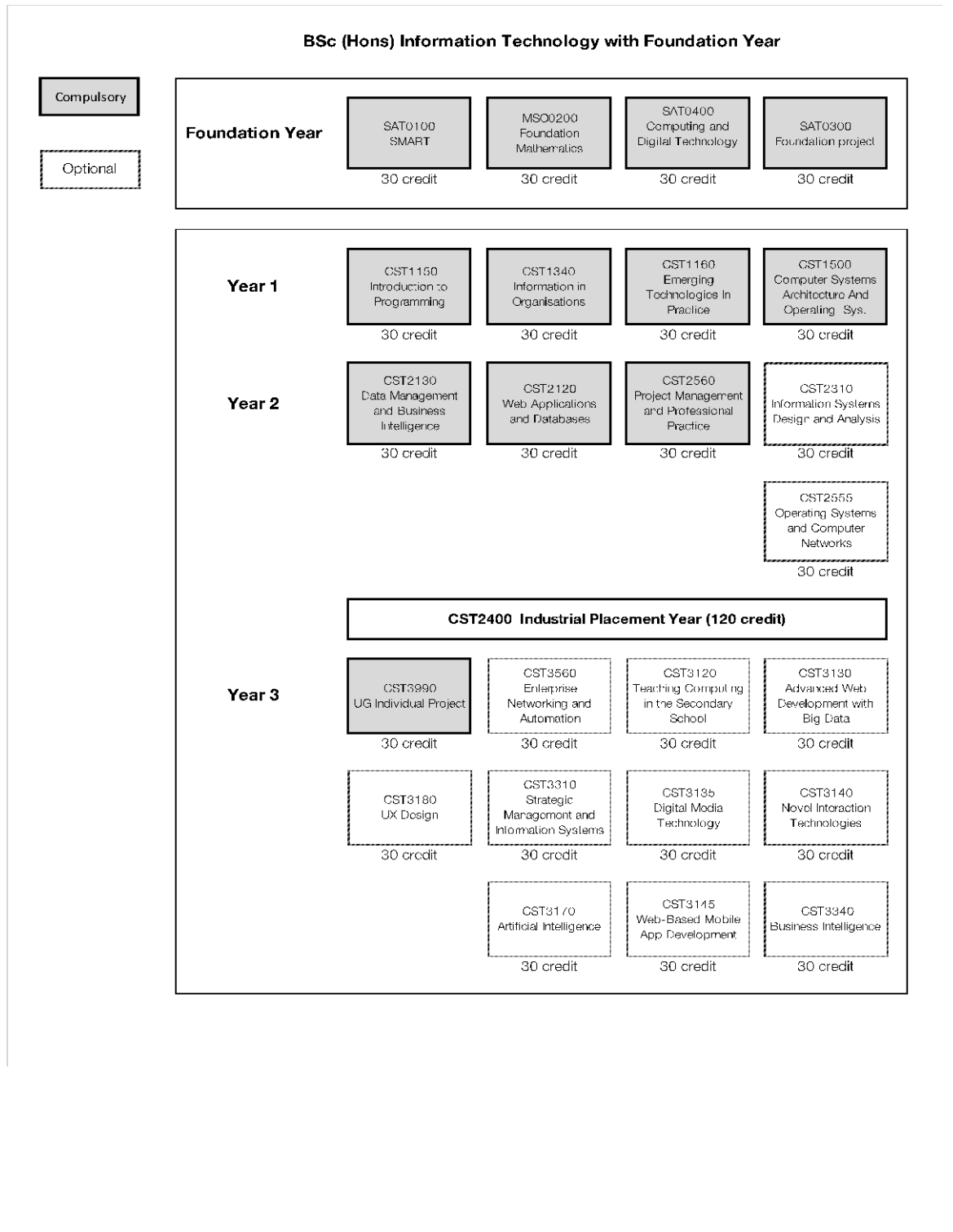
### Teaching/learning methods

Students gain practical skills through laboratory work and a range of exercises undertaken in lectures, seminars and

<ol style="list-style-type: none"> <li>1. Demonstrate analytical thinking skills with powers of practical problem solving and the ability to see the wider picture.</li> <li>2. Specify, design and construct effective implementation strategies for computer-based systems consistent with range of business wide needs including those found in industry.</li> <li>3. Specify user/system interfaces and translate logical designs into physical designs taking account of target environment, performance requirements and existing systems.</li> <li>4. Identify and manage resources necessary for all stages – analysis, planning, estimation, execution and improvement - of individual systems development to ensure technical, financial and quality targets are met.</li> <li>5. Demonstrate practical competencies in application development, use and operation of various tools and facilities.</li> <li>6. Recognise any risk and safety aspects that may be involved in the operation of computing equipment within a given context.</li> </ol>	<p>workshops. On-line tasks may need to be completed outside of the task to ensure that sufficient practice takes place to reinforce the taught lessons.</p> <p><b>Assessment methods</b>  Students' practical skills are assessed by a wide range of activities which would include, report writing and logbooks, software and hardware development, quizzes and tests, the production of reports and examinations. Some work may require presentations and vivas.</p>
---	---

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

### 12. 1 Overall structure of the programme



## 12.2 Levels and modules

Starting in academic year 2010/11 the University is changing the way it references modules to state the level of study in which these are delivered. This is to comply with the national Framework for Higher Education Qualifications. This implementation will be a gradual process whilst records are updated. Therefore, the old coding is bracketed below.

Level 3 (0)		
COMPULSORY	OPTIONAL	PROGRESSION REQUIREMENTS
<p>Students must take all of the following:</p> <p><b>SAT0100</b> SMART  <b>SAT0300</b> Foundation Project  <b>SAT0400</b> Computing and Digital Technology  <b>MSO0200</b> Foundation Mathematics</p>		<p>Students are normally expected to achieve 120 credits at level 3 to progress to level 4</p>
Level 4 (1)		
COMPULSORY	OPTIONAL	PROGRESSION REQUIREMENTS
<p>Students must take all of the following:</p> <p><b>CST1500</b> Computer Systems Architecture and Operating Systems  <b>CST1150</b> Introduction to Programming  <b>CST1160</b> Emerging Technologies in Practice  <b>CST1340</b> Information in Organisations</p>		<p>Students are normally expected to achieve 120 credits at level 4 to progress to level 5</p>

Level 5 (2)		
COMPULSORY	OPTIONAL	PROGRESSION REQUIREMENTS
<p>Students must take all of the following:</p> <p><b>CST2130</b> Data Management and Business Intelligence</p> <p><b>CST2120</b> Web Applications and Databases</p> <p><b>CST2560</b> Project Management and Professional Practice</p>	<p>Students must choose 1 module from the following:</p> <p><b>CST2310</b> Information Systems Design and Analysis</p> <p><b>CST2555</b> Operating Systems and Computer Networks</p> <p>The following is optional placement module:</p> <p><b>CST2400</b> Industrial Placement (one year)</p>	<p>Students are normally expected to achieve 240 credits at levels 4 &amp; 5 to progress to level 6.</p>
Level 6 (3)		
COMPULSORY	OPTIONAL	PROGRESSION REQUIREMENTS
<p>Students must take all of the following:</p> <p><b>CST3990</b> UG Individual Project</p>	<p>Students must also choose 3 modules from the following:</p> <p><b>CST3560</b> Enterprise Networking and Automation</p> <p><b>CST3120</b> Teaching Computing in the Secondary School</p> <p><b>CST3130</b> Advanced Web Development with Big Data</p> <p><b>CST3180</b> UX Design</p> <p><b>CST3310</b> Strategic Management and Information Systems</p> <p><b>CST3135</b> Digital Media Technology</p> <p><b>CST3140</b> Novel Interaction Technologies</p> <p><b>CST3340</b> Business Intelligence</p> <p><b>CST3145</b> Web-Based Mobile App Development</p> <p><b>CST3170</b> Artificial Intelligence</p>	

<b>12.3 Non-compensatable modules</b> (note statement in 12.2 regarding FHEQ levels)	
<b>Module level</b>	<b>Module code</b>
CST3990	UG Individual Project

<b>13. Curriculum map</b>
See attached.

<b>14. Information about assessment regulations</b>
<p>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 <a href="http://www.mdx.ac.uk/regulations/">http://www.mdx.ac.uk/regulations/</a>.</p> <p>Grades are awarded on the standard University scale of 1–20, with Grade 1 being the highest.</p> <p>For additional information on assessment and how learning outcomes are assessed please refer to the individual module narratives for this programme.</p>

<b>15. Placement opportunities, requirements and support</b>
<p>Students will be encouraged to apply for placements in Year 3 of the programme. This is not compulsory; however, they will be supported in terms of the searching for placements, generating CVs, interview technique. The Faculty of Science and Technology works with a number of employers to run specific information sessions describing the opportunities and application procedures.</p>

<b>16. Future careers (if applicable)</b>
<p>Students who graduate with a good honours degree in Information technology from Middlesex University will be well placed to follow a wide range of exciting IT-based careers including network management, systems design engineering, software development, web-application development and management and administration or to go on to further study.</p>

<b>17. Particular support for learning (if applicable)</b>
<p>Students will be supported throughout their programme of study in IT by academic experts in the appropriate fields. In addition, students will be supported by a Learning Resource Centre that works closely with academics in order to offer the most up-to-date resources. All of the modules on Information Technology are supported by a team of Graduate Teaching Assistants and Technical Tutors who work with academic colleagues to ensure that labs are resourced, materials are available, and feedback is provided.</p>

<b>18. JACS code (or other relevant coding system)</b>	G400
<b>19. Relevant QAA subject benchmark group(s)</b>	Computing

## 20. Reference points

The following reference points were used in designing this programme:

- QAA Computing subject benchmark statements, Computing (February, 2016) ([https://www.qaa.ac.uk/docs/qaa/subject-benchmark-statements/sbs-computing-16.pdf?sfvrsn=26e1f781\\_12](https://www.qaa.ac.uk/docs/qaa/subject-benchmark-statements/sbs-computing-16.pdf?sfvrsn=26e1f781_12))
- QAA Quality Code for Higher Education (February, 2015) (<https://www.qaa.ac.uk/quality-code/the-existing-uk-quality-code>)
- BCS The Chartered Institute for IT guidelines on course accreditation (May, 2018) (<https://www.bcs.org/category/7066>)
- Standard for Chartered IT Professional (<https://www.bcs.org/upload/pdf/chartered-it-professional-standard.pdf>)
- Skills Framework for the Information Age (SFIA) (<https://www.sfia-online.org/en>)
- Association for Computing Machinery (ACM) and Association for Information Systems (AIS) Global Competency Model for Graduate Degree Programs in Information Systems (May, 2017) (<https://www.acm.org/binaries/content/assets/education/msis2016.pdf>)
- Descriptors defining levels in the European Qualifications Framework (EQF) (<https://ec.europa.eu/ploteus/en/content/descriptors-page>)
- European e-Competence Framework (<http://www.ecompetences.eu>)
- Middlesex University Regulations (2018/19) (<https://www.mdx.ac.uk/about-us/policies/university-regulations>)
- Middlesex University Learning and Quality Enhancement Handbook (section 3) (<https://www.mdx.ac.uk/about-us/policies/academic-quality/handbook/lqe-handbook-section-3>)
- Middlesex University Policies (<https://www.mdx.ac.uk/about-us/policies>)
- Middlesex University Public Policy Statements (<https://www.mdx.ac.uk/about-us/policies/public-policy-statements>)

## 21. 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 s/he takes full advantage of the learning opportunities that are provided. More detailed information about the programme can be found in the student programme handbook and the University Regulations.



## 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 relating to a range of programming and development paradigms.
A2	The use of scientific principles in the creation, use and support of information systems for the solution of practical problems, founded on appropriate technological disciplines.
A3	The legal, social, ethical and professional issues involved in the exploitation of computer technology and in the adoption of appropriate professional and ethical and legal practices.
A4	Various strategies and application development plans, policies and processes for the accounting, budgeting and, where applicable, charging of IT resources and services.
A5	Strategies for effective use of information technology to include databases and web technology and, taking account of the complex interrelations between hardware, software and people.
A6	Information security issues in relation to the design, development and use of information systems.
Skills	
B1	Demonstrate analytical thinking skills with powers of practical problem solving and the ability to see the wider picture.
B2	Demonstrate practical competencies for specifying, designing and constructing effective implementation strategies for computer-based systems consistent with range of business wide needs including those found in industry.
B3	Demonstrate practical competencies for specifying user/system interfaces and translating logical designs into physical designs taking account of target environment, performance requirements and existing systems.
B4	Demonstrate practical competencies for identifying and managing resources necessary for all stages – analysis, planning, estimation, execution and improvement - of individual systems development to ensure technical, financial and quality targets are met.
B5	Demonstrate practical competencies in application development, use and operation of various tools and facilities.
B6	Demonstrate the ability to recognise any risk and safety aspects that may be involved in the operation of computing equipment within a given context.

Programme outcomes											
A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	B5	B6
Highest level achieved by all graduates											
6	6	6	6	6	6	6	6	6	6	6	6

Module Title	Module Code by Level	A1	A2	A3	A4	A5	A6	A7	B1	B2	B3	B4	B5	B6	B7	B8
		SMART	SAT0100	-	-	-	-	-	-		-	-	-	-	-	-
Foundation Mathematics	MSO0200	-	-	-	-	-	-		-	-	-	-	-	-		
Computing and Digital Technology	SAT0400	-	-	-	-	-	-		-	-	-	-	-	-		
Foundation project	SAT0300	-	-	-	-	-	-		-	-	-	-	-	-		
Computer Systems Architecture and Operating Systems	CST1500	✓			✓		✓		✓			✓		✓		
Introduction to Programming	CST1150	✓	✓						✓							
Emerging Technologies in Practice	CST1160		✓	✓						✓	✓			✓		
Information in Organisations	CST1340	✓	✓			✓			✓	✓			✓	✓		
Data Management and Business Intelligence	CST2130			✓	✓		✓		✓	✓		✓		✓		
Web Applications and Databases	CST2120	✓	✓			✓	✓			✓			✓	✓		
Project Management and Professional Practice	CST2560	✓	✓		✓				✓		✓	✓				
Information Systems Design and Analysis	CST2310	✓									✓		✓			
Operating Systems and Computer Networks	CST2555	✓	✓						✓			✓				
Industrial Placement (one year)	CST2400	✓			✓				✓			✓				
Enterprise Networking and Automation	CST3560	✓	✓				✓	✓	✓		✓		✓	✓		
Teaching Computing in the Secondary School	CST3120		✓	✓					✓	✓				✓		
Advanced Web Development with Big Data	CST3130	✓	✓			✓	✓	✓		✓	✓	✓	✓	✓		
UX Design	CST3180	✓		✓		✓			✓		✓		✓	✓		

Strategic Management and Information Systems	CST3310				✓	✓			✓			✓		✓		
Digital Media Technology	CST3135	✓	✓		✓				✓			✓	✓	✓		
Novel Interaction Technologies	CST3140	✓	✓	✓		✓			✓		✓		✓	✓		
Business Intelligence	CST3340	✓	✓		✓				✓		✓	✓	✓	✓		
Web-Based Mobile App Development	CST3145	✓	✓			✓	✓	✓		✓	✓	✓	✓	✓		
Artificial Intelligence	CST3170	✓	✓						✓	✓			✓			
UG Individual Project	CST3990	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓		