

Course Aim and Title	BSc (Hons) Digital and Technology Solutions
Intermediate Awards Available	N/A
Teaching Institution(s)	University of East London
Alternative Teaching Institutions (for local arrangements see final section of this specification)	N/A
UEL Academic School	Architecture, Computing and Engineering
UCAS Code	N/A
Professional Body Accreditation	Institute of Apprenticeships and Technical Education
Relevant QAA Benchmark Statements	Computing Feb 2016
Additional Versions of this Course	None
Date Specification Last Updated	March 2019

Course Aims and Learning Outcomes

This course is designed to give you the opportunity to:

- develop technology enabled solutions for both internal and external customers, in a range of areas including software, business and systems analysis, cyber security, data analysis and network infrastructure.
- implement technology solutions that enable organisations and businesses to develop new products and services and to increase productivity using digital technologies.
- develop a wide range of skills and competencies in one of the following areas; software engineering, IT consultancy, business analysis, data analysis, cyber security analysis and network engineering.

What you will learn:

Knowledge

- The exploitation by business of technology solutions to gain competitive advantage
- Contemporary techniques for designing, developing, testing, correcting, deploying and documenting software systems
- The role of data management systems in managing organisational data and information.
- Organisational theory and change management
- The various roles, functions and activities related to technology solutions within an organisation
- Delivery of technology solutions projects which are consistent with business needs.

Thinking skills

- The application of analytical and critical thinking skills to technology solutions development

- The application of structured problem solving techniques to complex systems and situations

Subject-Based Practical skills

- The analysis of a business domain in order to identify the role of information systems
- The design, implementation, testing and debugging of software to meet requirements
- The implementation of database solutions using an industry standard database management system (DBMS)
- The identification, analysis and evaluation of security threats and hazards to planned and installed information systems or services
- The application of industry standard processes, methods, techniques and tools to execute projects
- The planning, design and management of computer networks with an overall focus on services and capabilities

Skills for life and work (general skills)

- Oral and written communication skills
- Effective team working
- Personal development planning and life-long learning
- Effective research using literature and other media

Learning and Teaching

Knowledge is developed through

- Lectures, tutorials and practical sessions
- Directed, guided and general reading
- Knowledge-based activities with feedback
- Online discussions and activities
- Primary and secondary research using a variety of learning resources

Thinking skills are developed through

- Reflective activities based upon feedback
- Online discussions and activities
- Successful completion of set assessment tasks
- Self-appraisal and self-evaluation
- Critical evaluation of concepts, assumptions, arguments and data

Practical skills are developed through

- The analysis of cyber security attacks and risks
- Use of specialised IT applications such as software development tools and environments, data analysis and penetration testing tools
- The application of information security management techniques and methodologies

Skills for life and work (general skills) are developed through

- Planning activities supported by staff feedback
- Project work
- Working in groups, negotiating responsibilities and by respecting the views of others
- Work experience gained during placements

- Managing time effectively so that deadlines are met

Assessment

Assessment of all modules will be based upon competences. Within each module, there are a number of competences which map onto the skills, technical knowledge, attributes and behaviours specified by the Digital and Technology Solutions Professional apprenticeship standard. To pass a module, you will need to demonstrate all of the competences associated with the module. This approach guarantees that, once your degree is complete, you will have acquired all the competences specified by the standard. It will also serve as preparation for the Synoptic Project, during which you will be required to integrate and demonstrate the full range of skills and knowledge associated with your specialism.

A significant proportion of the competencies will be assessed via coursework which can take a variety of forms including presentations, reports and coding exercises. Wherever possible, coursework has been designed in such a way as to allow you to complete some or all of it within your working environment. A number of modules use examinations as a means of testing competencies. These examinations can also take a variety of forms including multiple choice and short answer questions. In all cases, you will be given opportunities to prepare for your assessments and, post-assessment, you will receive detailed feedback, identifying your strengths and areas in which the standard of your work could be improved.

Knowledge is assessed by

- Coursework
- Examinations, both unseen and based on previously supplied case studies
- Presentations and demonstrations

Thinking skills are assessed by

- Coursework
- Examinations
- Assessment tasks requiring critical evaluation
- Self-appraisal of performance
- The use of case studies and scenarios requiring the application of problem solving skills

Practical skills are assessed by

- Practical reports
- Portfolio completion
- Assessment tasks requiring the use of general and specialised IT applications

Skills for life and work (general skills) are assessed by

- Project work
- Group work
- Presentations and report writing

Project work

Towards the end of the course, you will undertake a major project, providing you with the opportunity to apply a wide range of skills and knowledge gained during the course. The project will be work-based and will involve the solution of a problem that is relevant to your employer. The exact nature of the problem will depend upon your specialism. For example, Software Engineers might design and develop a significant piece of software to achieve defined business objectives, for a defined user group or customer group, to meet business needs and involving the application of appropriate levels of security. A network engineer might plan and configure a network to meet a defined specification, to satisfy security requirements, using one or more of the defined tools and to meet specified criteria and performance levels

Reasonable adjustments will be made to assessment tasks in the case of students with disabilities and/or particular learning needs so that they are able to participate fully and fairly in the assessment process.

Work or Study Placements

An essential part of all apprenticeship degrees such as the BSc (Hons) Digital and Technology Solutions is learning on the job. Typically you will spend 80% of your time working and the remaining 20% studying at UEL but this course is delivered in such a way that enables students to directly apply and develop the skills and knowledge gained on-campus in their working environment. Learning on the job is however a two-way process and hence the experiences gained in the work place can be related to the academic content of the degree, producing a synergistic approach to learning.

Course Structure

All courses are credit-rated to help you to understand the amount and level of study that is needed.

One credit is equal to 10 hours of directed study time (this includes everything you do e.g. lectures, seminars and private study).

Credits are assigned to one of 5 levels:

- 3 Equivalent in standard to GCE 'A' level and is intended to prepare students for year one of an undergraduate degree course.
- 4 Equivalent in standard to the first year of a full-time undergraduate degree course.
- 5 Equivalent in standard to the second year of a full-time undergraduate degree course.
- 6 Equivalent in standard to the third year of a full-time undergraduate degree course.
- 7 Equivalent in standard to a Masters degree.

Courses are made up of modules that are credit weighted.

The structure of this course is indicated in the table below:

Level	Module Code	Module Title	Credit Weighting	Core/Option	Available by Distance Learning? Y/N
4	CD4000	Information Systems Modelling & Design	20	Core	N
4	CD4001	Software Development	20	Core	N
4	CD4002	Computer Systems and Networks	20	Core	N
4	CD4003	Web Technologies	20	Core	N
4	CD4004	Maths for Computing	20	Core	N
4	CD4109	Professional Practice 1 (Mental Wealth)	20	Core	N
5	CD5101	Database Systems	20	Core	N
5	CD5102	Cyber Security	20	Core	N
5	CD5120	Advanced Programming	20	Core	N
5	CD5122	Data Communication and networks	20	Core	N
5	CD5109	Professional Practice 2 (Mental Wealth)	20	Core	N
5	CD5106	Applications Development	20	Core (SE)	N
5	CD5107	Business Change	20	Core (IT)	N
5	CD5108	Business Intelligence analysis	20	Core (BA)	N

5	CD5109	Business Continuity Planning	20	Core (CS)	N
5	CD5105	Data Analysis and Data Mining	20	Core (DA)	N
5	CD5123	Systems Administration	20	Core (NE)	N
6	CD6103	Synoptic Project (Mental Wealth)	60	Core	N
6	CD6112	Project Management	20	Core	N
6	CD6111	Enterprise Architecture and Cloud Computing	20	Core	N
6	CD6101	Software Engineering	20	Core (SE)	N
6	CD6102	Consulting and Training	20	Core (IT)	N
6	CD6125	Advanced Topics in Business Computing	20	Core (BA)	N
6	CD6105	Security Controls and Processes	20	Core (CS)	N
6	CD6113	Big Data Infrastructure & Manipulation	20	Core (DA)	N
6	CD6126	Advanced Topics in Networks	20	Core (NE)	N

Additional detail about the course structure:

SE = Software Engineer specialism only
IT = IT Consultant specialism only
BA = Business Analyst specialism only
CS = Cyber Security Analyst specialism only
DA = Data Analyst specialism only
NE = Network Engineer specialism only

A core module is a module which a student must pass (i.e. been awarded credit) in order to achieve the relevant named award. An optional module is a module selected from a range of modules available on the course but which is not a requirement for the named award.

The overall credit-rating of this course is 360 credits. If for some reason you are unable to achieve these credits you may be entitled to an intermediate award. The level of the award will depend upon the amount of credit you have accumulated. You can read the University Student Policies and Regulations on the UEL website for further details.

Course Specific Regulations

None

Typical Duration

The expected duration of this course is 4-6 years part-time. This course is not available in full-time mode. The course can be offered in accelerated format in consultation with employer.

A student cannot normally continue study on a course after 4 years of study in full time mode unless exceptional circumstances apply and extenuation has been granted. The limit for completion of a course in part time mode is 7 years from first enrolment.

Further Information

More information about this course is available from:

- The UEL web site (www.uel.ac.uk)
- The course handbook
- Module study guides
- The UEL Manual of General Regulations (available on the UEL website)
- The UEL Quality Manual (available on the UEL website)
- The School of Architecture, Computing and Engineering's web pages

All UEL courses are subject to thorough course approval procedures before they commence. We also constantly monitor, review and enhance our courses by listening to student and employer views and the views of external examiners and advisors.

Additional costs:

There are no additional costs associated with the study of this course. All the software and hardware required by students to study this course is available on campus, free of charge. In addition, the School of Architecture, Computing and Engineering has negotiated agreements with a number of software vendors which permit the installation of software on computers owned by students at no cost to the students.

Alternative Locations of Delivery

None