UNIVERSITY OF KENT

**Programme Specification**

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| **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 he/she passes the programme.More detailed information on the learning outcomes, content and teaching, learning and assessment methods of each module can be found by following the links from http://www.cs.kent.ac.uk/teaching/The accuracy of the information contained in this specification is reviewed by the University and may be checked by the Quality Assurance Agency for Higher Education. |

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| **Degree and Programme Titles****BSc Computer Science for Health****BSc Computer Science for Health with a Year in Industry** |
| **1. Awarding Institution/Body** | University of Kent |
| **2. Teaching Institution** | University of Kent |
| **3. School responsible for management of the programme** | School of Computing |
| **4. Teaching Site** | Medway Campus |
| **5. Mode of Delivery** | Full time |
| **6. Programme accredited by:** |  |
| **7. Final Award** | BSc (Hons)Alternative exit awards: BSc, Diploma, Certificate |
| **8. Programmes****9. and UCAS Codes**  | **UCAS Code** | **Programme** |
| Note: UCAS codes to be allocated following programme approval 🡪 |  | Computer Science for HealthComputer Science for Health with a Year in Industry |
| **10. Credits/ECTS Value** | 360 (180 ECTS) for 3 year programmes; 480 (240 ECTS) for the 4 year programmes that include a year in industry. |
| **11. Study Level** | Level 6 |
| **12. Relevant QAA subject benchmarking group(s)** | Computing 2016 |
| **13. Date of production/revision** | May 17/June 17 |
| **14. Intended Start Date of Delivery of this Programme** | 2017 entry |

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| **15. Educational Aims of the Programme** |
| This Computer Science programme aims to:1. Provide a programme that will attract and meet the needs of both those contemplating a career in computing and those motivated primarily by an interest in Computer Science and its application to Health.
2. Be compatible with widening participation in higher education by offering a wide variety of entry routes.
3. Provide sound knowledge and systematic understanding of the principles of Computer Science.
4. Familiarise students with the rapidly evolving landscape of technologies and applications of Computer Science to areas that include modern medicine, health and sport, data mining, data handling and health data analytics.
5. Provide a fundamental computing skillset that will be of lasting value in a field that is constantly changing, and will act as a firm foundation for future learning.
6. Offer a range of options to enable students to match their interests and study some of the many aspects of health-related computing in greater depth.
7. Provide teaching which is informed by current research and scholarship in the field, which requires students to engage with aspects of work at the forefront of current research and development.
8. Develop general critical, analytical and problem solving skills that can be applied as best practice in context of their specialisation.
9. Prepare students for a successful and productive career as computer scientists and software engineers working to advance the application of computing in Health.

The year in industry additionally aim to:* Provide relevant work experience.
* Provide an opportunity to develop knowledge understanding and skills of relevance to Computer Science within an industrial or commercial organisation, preferably also of relevance to their specialisation.
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| **16. Programme Outcomes**The programme provides opportunities for students to develop and demonstrate knowledge and understanding, qualities, skills and other attributes in the following areas. The programme outcomes have references to the subject benchmarking statements for Computing *(****CO-SB****)* |

**A. Knowledge and Understanding of:**

*All programmes:*

1. Hardware: the major functional components of a computer system CO-SB3.3(iii).

2. Software: programming languages and practise; tools and packages; computer applications; structuring of data and information CO-SB3.3(iii).

3. Communication and interaction: basic computer communication network concepts; communication between computers and people; the control and operation of computers CO‑SB3.3(iii).

4. Practise: problem identification and analysis; design development, testing and evaluation. CO-SB3.3(iii).

6. An understanding of the scientific method and its applications to problem solving in this area. CO‑SB3.3(ii).

*Outcomes specific to:*

*Year in Industry programmes*

13. Aspects of the core subject areas from the perspective of a commercial or industrial organisation.

*Outcomes specific to CS for Health:*

16. Domain specific knowledge in Health: Understand the landscape of modern medicine, health and sport, and the potential for applications of Computer Science in these contexts.

17. Computer applications with emphasis on software for modern medicine, health and sport; structuring of data and information for Health applications.

18. Communication between computers and health service users and practitioners; the control and operation of computers and mobile platforms for Health.

Note: LOs numbered A5, A7-A12 and A14-A15 are intentionally unused and relate to other current or former degree programmes belonging to the school.

**Teaching/learning and assessment methods and strategies used to enable outcomes to be achieved and demonstrated**

*Teaching/Learning*

Acquisition is through lectures, supported where appropriate by classes and/or laboratory work. Self-directed learning is facilitated by directed reading, study guides and web-based material.

Core aspects of computing are covered in Stage 1 when there is an emphasis on supporting students via supervised classes and laboratory sessions. These core components are built on in Stage 2 with more emphasis on self-directed study via directed reading and research. In Stage 3 the project provides an opportunity for independent and/or group work under supervision from academic staff.

*Assessment*

Assessment is through a combination of unseen written examinations, assessed coursework and both individual and group project work. Coursework consists of both written reports and practical assignments.

**Skills and Other Attributes**

**B. Intellectual Skills:**

*All programmes:*

1. Modelling: knowledge and understanding in the modelling and design of computer-based systems in a way that demonstrates comprehension of the trade-off involved in design choices. CO‑SB3.3(iv).

2. Reflection and communication: present succinctly to a range of audiences rational and reasoned arguments. CO‑SB3.5(iv).

3. Requirements: Identify and analyse criteria and specifications appropriate to specific problems and plan strategies for their solution. CO‑SB3.3(v).

4. Criteria evaluation and testing: Analyse the extent to which a computer-based system meets the criteria defined for its current use and future development. CO‑SB3.3(vi).

5. Methods and tools: Deploy appropriate theory, practices, and tools for the specification, design, implementation, and evaluation of computer-based systems. CO‑SB3.3(vii).

6. Professional responsibility: Recognise and be guided by the professional, economic, social, environmental, moral and ethical issues involved in the sustainable exploitation of computer technology. CO‑SB3.3(viii).

7. Computational thinking: demonstrate a basic analytical ability and its relevance to everyday life. CO‑SB3.3(i).

*Outcomes specific to:*

*Year in Industry programmes*

8. Apply some of the intellectual skills specified for the programme from the perspective of a commercial or industrial organisation.

**Teaching/learning and assessment methods and strategies used to enable outcomes to be achieved and demonstrated**

**Teaching/Learning**

Intellectual skills are developed through the teaching and learning programme outlined below. Students develop critical reflection by verbal and written discussion of key themes introduced in the core modules. Project work contributes to the development of these skills by providing the opportunity to consider larger practical and theoretical problems.

**Assessment**

Assessment is through a combination of unseen written examinations, assessed coursework and both individual and group project work. Coursework consists of both written reports and practical assignments.

**C. Subject-specific Skills:**

*All programmes:*

1. Design and implementation: Specify, design, and implement reliable secure and usable computer-based systems. CO-SB3.4(i).

2. Evaluation: Evaluate systems in terms of general quality attributes and possible trade-offs presented within the given problem. CO‑SB3.4(ii).

3. Information management: Apply the principles of effective information management, information organisation, and information-retrieval skills to information of various kinds, including text, images, sound, and video.

4. Tools: Deploy effectively the tools used for the construction and documentation of software, with particular emphasis on understanding the whole process involved in using computers to solve practical problems. Operation: Operate computing equipment and software systems effectively. CO‑SB3.4(v) .

5. The ability to plan and manage projects to deliver computing systems within the constraints of requirements, timescale and budget. CO-SB3.4(iii).

6. The ability to recognise any risks and safety aspects that may be involved in the deployment of computing systems within a given context. CO‑SB3.4(iv).

7. The ability to critically evaluate and analyse complex problems, argument and evidence, including those with incomplete information, and devise appropriate computing solutions, within the constraints of a budget. CO-SB3.4(vi).

*Outcomes specific to:*

*Year in Industry programmes*

13. Apply some of the subject-specific skills specified for the programme from the perspective of a commercial or industrial organisation.

*Outcomes specific to CS for Health:*

15. Understand, design, and evaluate software for Health, including fixed and mobile software for social, medical and lifestyle interaction with humans.

16. Create new software and applications for Health, showing an understanding and appreciation for the risks and benefits of software applications in such a human-centric field.

Note: LOs numbered C8-C12 and C14 are intentionally unused and relate to other current or former degree programmes belonging to the school.

**Teaching/learning and assessment methods and strategies used to enable outcomes to be achieved and demonstrated**

**Teaching/Learning**

Acquisition of computing specific skills is through lectures, classes and directed study. From the start of the programme of study, students receive guidance and gain practical experience via supervised practical classes and directed study. As the programme progresses, these skills are further encouraged by the introduction of larger scale problems and project work.

**Assessment**

Assessment is through a combination of unseen written examinations, assessed coursework and both individual and group project work. Coursework consists of both written reports and practical assignments.

**D. Transferable Skills:**

*All programmes:*

1. Teamwork: Be able to work effectively as a member of a development team. CO‑SB3.5(v).

2. Interaction reflection and Communication: Make succinct presentations to a range of audiences about technical problems and their solutions. CO‑SB3.5(iv).

3. Information Technology: Effective use of general IT facilities; information retrieval skills

4. Intellectual skills: critical thinking; making a case; numeracy and literacy; information literacy. The ability to construct well-argued and grammatically correct documents. The ability to locate and retrieve relevant ideas, and ensure these are correctly and accurately referenced and attributed. CO‑SB3.5(ii).

5. Self-management: Managing one’s own learning and development, including time management and organisational skills CO‑SB3.5(iii).

6. Professional Development: Appreciating the need for continuing professional development in recognition of the need for lifelong learning CO‑SB3.5(i).

7. Contextual awareness: the ability to understand and meet the needs of individuals, business and the community, and to understand how workplaces and organisations are governed. CO-SB3.5(vi).

8. Sustainability: recognising factors in environmental and societal contexts relating to the opportunities and challenges created by computing systems across a range of human activities. CO-SB3.5(vii).

**Teaching/learning and assessment methods and strategies used to enable outcomes to be achieved and demonstrated**

**Teaching/Learning**

General IT facilities are used throughout the programme for the preparation of written work. Browsers, search engines and catalogues are used for research and self-study material. All students work within teams during their studies and provide presentations of their work to both their peers and academic staff.

**Assessment**

Assessment is through a combination of unseen written examinations, assessed coursework and both individual and group project work. Coursework consists of both written reports and practical assignments.

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| For more information on the skills provided by individual modules and on the specific learning outcomes associated with the Certificate, Diploma and non-honours degree awards, see the module mapping |

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| **17. Programme Structures and Requirements, Levels, Modules, Credits and Awards** |
| The Computer Science programmes are normally studied over three years full-time with an additional industrial placement year for the “Year in Industry” variant. Direct entry to Stage 2 is available to students with appropriate prior learning.Study is undertaken at three levels (one for each year of study). Each year of the programme is arranged in 2 x 12-week terms and a final 6-week term, 30 weeks in total. The programme is divided into study blocks called modules. Most modules have a credit value of 15 or 30 credits. Each 15-credit module represents approximately 150 hours of student learning, endeavour and assessment.All students take required modules. All students must take in every stage, modules amounting to 120 credits, making up their choices from the list of optional modules. Required modules must be passed before students progress to the next stage of the programme. The programme is divided into three stages for Computer Science programmes and four stages for the “Year in Industry” programmes. Each stage comprising 120 credits represents an academic year of study and students must achieve specified requirements before being permitted to proceed to the next stage. Classification of degrees is based on the overall average of marks obtained after the first stage, taking into account weightings for examinable modules and the following stage weightings:Three stage programmes (including direct stage 2 entry):Stage 2 40%  Stage 3 60%  Year in Industry programmes: Stage 2 35%  Stage S (Placement Year) 10%  Stage 3 55%  In the Stage 3 students undertake a compulsory 30-credit project and may select up to six 15-credit modules depending on the programme from a selection of optional modules. The optional modules are primarily research led and consequently the list of modules will vary according to emerging research interests and the availability of individual academics.The structure of the programme and the modules that make it up, their levels, credits and the terms in which they are taught, are shown below. Details of each module can be found at http://www.cs.kent.ac.uk/teaching/At its discretion, the University allows for narrow failure in a small proportion of modules to be compensated by good performance in other modules or, in cases of documented illness or other mitigating circumstances, condoned. Failure in certain modules, however, may not be compensated or condoned, as indicated by the symbol \* below. Students successfully completing Stage 1 of the programme and meeting credit framework requirements who do not successfully complete Stage 2 will be eligible for the award of the Certificate. Students successfully completing Stage 1 and Stage 2 of the programme and meeting credit framework requirements who do not successfully complete Stage 3 will be eligible for the award of the Diploma..The programme is studied over three years full time.  It is divided into three stages each comprising 120 credits and students must successfully complete each stage before being permitted to proceed to the next stage. A degree without honours will be awarded where students achieve 300 credits with at least 150 credits at level 5 or above including at least 60 credits at level 6 or above. Students may not progress to the non-honours degree programme; the non-honours degree programme will be awarded as an alternative exit award only.Some opportunity is available to allow wild modules to be taken subject to reasonable timetabling constraints.Details of programme structure and requirements are subject to change without notice. |

## Modules by term and stage

In the tables below:
 • indicates compulsory module

o indicates optional module

each • or o indicates 15 credits

**Standard entry to stage 1**

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| **Stage 1** | **Term** | **Level** | **Credits** | **CS for Health** |
| Required Modules |  |  |  |  |
| CO320 Introduction to object oriented programming | 1 | 4 | 15 | • |
| CO322 Foundations of computing I | 1 | 4 | 15 | • |
| CO328 Human computer interaction  | 1 | 4 | 15 | • |
| SS346 Introduction to Human Physiology | 1 | 4 | 15 | • |
| CO334 People and computing  | 2 | 5 | 15 | • |
| CO323 Databases and the web  | 2 | 4 | 15 | • |
| CO-HCC Healthcare Computing | 2 | 4 | 15 | • |
| CO520 Further Object-Oriented Programming | 2 | 5 | 15 | • |

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| **Stage 2** | **Term** | **Level** | **Credits** | **CS for Health** |
| Required Modules |  |  |  |  |
| CO324 Computer Systems | 1 | 4 | 15 | • |
| CO539 Web development | 1 | 5 | 15 | • |
| CO551 Data Structures and Algorithms  | 1 | 5 | 15 | • |
| CO-AIS Agile Information Systems Analysis | 1 & 2 | 5 | 30 | •• |
| CO-TFC Theory and foundations of computer science | 2 | 5 | 15 | • |
| CO532 Database systems  | 2 | 5 | 15 | • |
| CO-CTH Computer Science Topics in Health | 2 | 5 | 15 | • |

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| **Stage S (4 year programmes only)** | **Term** | **Level** | **Credits** | **CS for Health** |
| Required Modules |  |  |  |  |
| CO792 Industrial Placement Experience \* | - | 5 | 90 | • |
| CO793 Industrial Placement Report \* | - | 5 | 30 | • |

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| **Stage 3** | **Term** | **Level** | **credits** | **CS for Health** |
| Required Modules |  |  |  |  |
| CO600 Group Project or CO620 Research Project\* | 1&2 | 6 | 30 | pp |
| CO816 eHealth | 2 | 6 | 15 | • |
| CO662 Signal Analysis for Computing | 1 | 6 | 15 | • |
| WL830 Evidence-based Practice | 1 | 5 | 15 | • |
| Optional modules (indicative) |  |  |  |  |
| CO636 Cognitive Neural Networks | 1 | 6 | 15 | o |
| CO544 Networking | 2 | 5 | 15 | o |
| CO649 Data Mining | 1 | 6 | 15 | o |
| CO659 Computational Creativity | 2 | 6 | 15 | o |
| CB729 Enterprise and Entrepreneurship | 2 | 6 | 15 | o |
| CB742 Creating your Own Enterprise | 1 | 6 | 15 | o |
| CO634 Computer Security and Cryptography | 1 | 6 | 15 | o |
| CO644 Semantic Web | 2 | 6 | 15 | o |
| CO650 KITC Project \* | 1&2 | 6 | 30 | pp |
| CO645 IT Consultancy Practice 2 | 1 / 2 | 6 | 15 | o |
| CO656 Computational Intelligence in Business, Economics and Finance | 2 | 6 | 15 | o |
| SS527 Exercise for special populations | 2 | 6 | 15 | o |
| SA553 Health Policy in Britain | 1&2 | 6 | 30 | o |

Notes:

pp: students are required to take one of the projects indicated

oa students may choose no more than one of these options

ob students may choose no more than one of these options

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| **18 Work-Based Learning**Disability Statement: Where disabled students are due to undertake a work placement as part of this programme of study, a representative of the University will meet with the work placement provider in advance to ensure the provision of anticipatory and reasonable adjustments in line with legal requirements. |
| Where relevant to the programme of study, provide details of any work-based learning element, inclusive of employer details, delivery, assessment and support for students: |
| * Industrial placement consists of Modules CO792 (90 credits) and CO793 (30 credits)
* The onus is on student to secure placement, with assistance from the School
* The School Industrial Placement Office oversees the placements and one of the placement officers will typically visit the students during their placement.
* If for any reason the industrial placement cannot be undertaken the student can transfer to the three-year version of their programme.
* The placement is assessment via CO792 (which is pass/fail) by way of a portfolio and log book plus a performance evaluation by the industrial supervisor. The assessment is also assessed via CO793 by way of a placement report.
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| **19. Support for Students and their Learning** |
| * School and University induction programme
* Programme/module handbooks
* Library services <http://www.kent.ac.uk/library/>
* Student Support <http://www.kent.ac.uk/studentsupport/>
* Student Wellbeing [www.kent.ac.uk/studentwellbeing/](http://www.kent.ac.uk/studentwellbeing/)
* Centre for English and World Languages <http://www.kent.ac.uk/cewl/index.html>
* Student Learning Advisory Service <http://www.kent.ac.uk/uelt/about/slas.html>
* PASS system <https://www.kent.ac.uk/teaching/qa/codes/taught/annexg.html>
* Academic Adviser system <https://www.kent.ac.uk/teaching/advisers/index.html>
* Kent Union [www.kentunion.co.uk/](http://www.kentunion.co.uk/)
* Careers and Employability Services [www.kent.ac.uk/ces/](http://www.kent.ac.uk/ces/)
* Counselling Service [www.kent.ac.uk/counselling/](http://www.kent.ac.uk/counselling/)
* Information Services (computing and library services) [www.kent.ac.uk/is/](http://www.kent.ac.uk/is/)
* Undergraduate student representation at School, Faculty and Institutional levels
* International Recruitment Office <https://www.kent.ac.uk/internationalstudent/>; International Partnerships Office <https://www.kent.ac.uk/global/partnerships/>
* Medical Centre <https://www.kent.ac.uk/studentwellbeing/medicalcentre.html>

*School-specific information about the support available** Introductory talks at the start of each teaching term of Stages 2 and 3
* An extensive Computing Laboratory website containing
* information on all Computer Science modules including where appropriate
* Module Learning Outcomes
* module specification
* details of any classes
* module assessment
* study material
* anonymous question pages
* past examination papers
* staff/student liaison information including
* details of student representatives
* minutes of meetings
* Administrative support via the Administration Office
* Industrial placement support via an Industrial Placement co-ordinator and visits by academic staff
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| **20. Entry Profile** |
| **20.1 Entry Route**For fuller information, please refer to the University prospectus |
| Applicants must be able to satisfy the general admission requirements of the University and the subject-specific requirements of the Computing Laboratory. Please refer to the General Requirements and Computer Science sections in the University prospectus for full details.Note: for applicants who are not native speakers of English the standard IELTS requirements will apply.**General Minimum requirements:*** You must be at least 17 years old by 20 September in the year you begin your programme. There is no upper age limit to studying.
* Five GCSE passes, including English Language or Use of English, and at least two subjects at A level. See Curriculum 2000 for details of our minimum requirements for the new AS levels tariff.

**A levels and AS levels:*** 340 points over 21 units, of which 18 at A level.
* GCSE Mathematics grade C required

**International Baccalaureate:*** 33points

**BTEC National Certificates/Diplomas:*** Diploma: DDD overall
* Certificate: counts as double A level (e.g. DD is 240 points)
* BTEC QCF Extended Diploma: DDD overall
* Direct entry to stage 2: typically distinction at HND level

**Mature Students*** For mature applicants without “traditional” qualifications we ask for proof of any recent study or of an ability to complete a degree successfully.
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| **20.2 What does this programme have to offer?** |
| * High quality teaching based that was rated “Excellent” after a visit by independent assessors from the Higher Education Funding Council
* Teaching that is informed by research activity, using research-led teaching whenever possible
* The development of a broad range of skills that are highly sought after by employers and which open up a wide range of careers to graduates, within Computing and other professional fields.
* Programming, modelling and design skills you can use throughout a career in Computing
* Coverage of software engineering principles which underlie large scale programme construction
* Strong links with Industry that are maintained through an ‘Industrial Panel’ and which result in industrial placements and joint research projects.
* An optional year in industry that provides valuable experience
 |
| **20.3 Personal Profile** |
| Desirable qualities include:* an enthusiasm about computing and related subjects
* a willingness to accept new ideas and be flexible in your thinking
* a willingness to work with others
* good oral and written communication skills
* an interest in developing a career in a computing related area
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| **21.** **Methods for Evaluating and Enhancing the Quality and Standards of Teaching and Learning** |
| **21.1 Mechanisms for review and evaluation of teaching, learning, assessment, the curriculum and outcome standards** |
| * Student module evaluations
* Annual programme and module monitoring reports <http://www.kent.ac.uk/teaching/qa/codes/taught/annexe.html>
* External Examiners system <http://www.kent.ac.uk/teaching/qa/codes/taught/annexk.html>
* Periodic programme review <http://www.kent.ac.uk/teaching/qa/codes/taught/annexf.html>
* Annual staff appraisal
* Peer observation
* Quality Assurance Framework <http://www.kent.ac.uk/teaching/qa/codes/index.html>
* QAA Higher Education Review <http://www.qaa.ac.uk/InstitutionReports/types-of-review/higher-education-review/Pages/default.aspx>

*School-specific information:* * Student representation on key committees
* External accreditation of programmes
* Active staff development programme
* Continuous monitoring of student progress and attendance
* School staff acting as external examiners at other institutions
* Double marking and/or moderation of examinations and some assessed work
* Industrial links
* Evaluation of graduate destination statistics
* School Director of Education
* Module teams
* Programme Teams
 |
| **21.2 Committees with responsibility for monitoring and evaluating quality and standards** |
| * Staff-Student Liaison Committee
* School Education Committee
* Faculty Education Committee
* Faculty Board
* Education Board
* Board of Examiners
 |
| **21.3 Mechanisms for gaining student feedback on the quality of teaching and their learning experience** |
| * Student module evaluations
* Staff-Student Liaison Committee
* Student rep system (School, Faculty and Institutional level)
* Annual NSS

*School-specific mechanisms used to obtain student feedback** University Internal Student Surveys
* Discussions with Academic Adviser
* Discussions with senior tutor
* Newsgroups for each year of Computer Science
* Anonymous question pages for individual modules
* Student programme evaluations
* Informal meetings and social contact with students (including student role in recruitment activities)
* Student representation on School committees
* Student representation on faculty committees
* Student representation on university committees
 |
| **21.4** **Staff Development priorities include:** |
| * PGCHE requirements
* HEA (associate) fellowship membership
* Annual appraisals
* Institutional Level Staff Development Programme
* Academic Practice Provision (PGCHE, other development opportunities)
* Professional body membership and requirements
* Programme team meetings
* Research seminars
* Conferences
* Study leave

*School-specific staff development opportunities** Staff members have an individual allocation of funds which they may use to develop any of their interests, including those of teaching and learning
* Staff training of various kinds including appraiser training, interview training, meeting skills etc.
* Participation in staff development week
* Research group support for research-led teaching
* Annual away-days that cover a number of staff-related issues
* Module team meetings
* Regular formal and informal collaboration in programme development
* Attendance at relevant industry/business conferences/seminars
* Minimum expected qualifications for appointments to lecturing posts
* Minimum expected research record for appointments to lecturing posts
* Membership of relevant professional/academic bodies
* Widening participation
* Health and safety
* Participation on learning and teaching innovatory projects
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| 22.**Indicators of Quality and Standards** |
| * Results of periodic programme review March 2012
* QAA Higher Education Review 2015
* Annual External Examiner reports
* Annual programme and module monitoring reports

*School-specific Indicators** Degree results and graduate recruitment statistics
* Independent review of the quality of educational provision in the Computing Laboratory by the Higher Education Funding Council subject review process achieving an excellent grading.
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| 22.1 The following reference points were used in creating these specifications: |
| * QAA UK Quality Code for Higher Education
* QAA benchmark statement for Computing ( 2016)
* Requirements of the British Computer Society. Computer Science, and Computer Science with Artificial Intelligence programmes fully meet the educational requirements for CITP registration and partially meet those for CEng registration. Computer Science and Management Science, and Business Computing programmes partially meet the educational requirements for CITP registration.
* School and Faculty plan
* University Plan/Learning and Teaching Strategy
* Staff research activities

*School-specific reference points** Requirements of the IET
* Association of Computing Machinery, CS2013: Computer Science Curricula 2013.
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June 2017

Learning Outcomes Matrix CS for Health Programmes

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| CS-EH | A1 | A2 | A3 | A4 | A6 | A13 | A16 | A17 | A18 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | B8 | C1 | C2 | C3 | C4 | C5 | C6 | C7 | C13 | C15 | C16 | D1 | D2 | D3 | D4 | D5 | D6 | D7 | D8 |
| **Required** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CO320 |  | X |  | X |  |  |  |  |  | X |  |  |  |  | X | X |  | X | X |  | X |  |  |  |  |  |  |  |  | X |  | X |  |  |  |
| CO322 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X | X |  |  |  |
| CO323 |  | X |  | X |  |  |  |  |  | X |  |  | X |  | X |  |  | X | X | X | X |  |  |  |  |  |  |  |  | X |  | X |  |  |  |
| CO324 | X | X | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X | X |  |  |  |  | X |
| CO328 |  |  | X | X |  |  |  |  |  | X |  | X |  |  | X |  |  | X | X | X | X |  |  |  |  |  |  | X |  | X |  | X |  |  |  |
| CO334 | X | X | X |  |  |  |  |  |  |  | X |  |  |  | X |  |  |  |  |  |  |  | X |  |  |  |  | X | X | X |  | X | X | X | X |
| CO-HCC | X | X | X |  |  |  | X | X |  |  | X | X |  | X |  |  |  |  | X | X |  |  | X | X |  | X |  | X | X | X | X | X |  | X | X |
| CO-AIS |  | X |  | X | X |  |  |  |  |  |  |  | X |  | X |  |  |  |  | X | X | X |  | X |  |  |  |  |  |  |  |  | X | X |  |
| CO-CTH | X | X | X |  |  |  | X | X | X |  | X |  |  | X | X | X |  |  | X | X |  |  | X |  |  | X | X |  |  | X | X |  | X | X |  |
| CO551 |  | X |  | X |  |  |  |  |  | X |  | X |  | X |  |  |  | X | X |  |  |  |  | X |  |  |  |  |  | X | X | X |  |  |  |
| CO-TFC |  | X |  |  | X |  |  |  |  | X |  | X |  | X |  | X |  | X | X |  | X |  |  | X |  |  |  |  |  | X | X |  |  |  |  |
| CO539 |  | X | X | X |  |  |  |  |  | X |  | X | X | X |  |  |  | X | X | X | X |  | X |  |  |  |  |  |  | X |  | X |  |  |  |
| CO532 |  | X |  | X |  |  |  |  |  | X | X | X |  |  |  |  |  | X | X | X |  |  |  |  |  |  |  |  | X | X |  | X |  |  |  |
| CO520 |  | X |  | X | X |  |  |  |  | X |  |  |  | X | X | X |  | X | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SS346 |  |  |  |  | X |  | X |  |  | X | X |  | X | X | X |  |  |  | X |  | X |  | X |  |  | X |  |  |  |  | X | X | X | X |  |
| CO816 |  |  |  | X |  |  | X | X | X | X | X | X |  | X | X | X |  | X | X | X |  |  |  |  |  | X | X |  | X | X |  | X |  |  |  |
| CO662 | X | X | X |  |  |  | X |  |  |  | X |  |  | X |  |  |  |  |  | X | X |  |  |  |  |  | X |  | X | X |  | X |  |  |  |
| WL830 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **One of** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CO600 | O | X | O | X | X | O |  |  |  | O | X | X | X | X | X | O | O | X | X | X | X | X | O | X | O |  |  | X | X | X | O | X | X | X |  |
| CO620 | O | X | O | X | X | O |  |  |  | O | X | X | X | X | O | O | O | X | X | X | X | X | O | X | O |  |  |  | X | X | O | X | O | X |  |
| **Year in industry** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CO792 |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  | X |  |  | X | X | X | X | X | X |  |  |
| CO793 |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  | X |  |  | X | X | X | X | X | X |  |  |
| **Options** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CB729 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |  |  | X | X |  |  |  |  |  |
| CB742 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |  |  | X | X |  |  | X |  |  |
| CO544 | X | X | X |  |  |  |  |  |  |  |  |  |  | X |  |  |  | X | X | X |  |  |  | X |  |  |  |  | X | X |  | X |  |  |  |
| CO634 | X | X | X |  |  |  |  |  |  |  |  | X | X | X | X |  |  | X | X |  |  |  | X | X |  |  |  |  |  | X | X | X |  |  |  |
| CO636 |  | X |  | X |  |  |  |  |  | X | X |  |  |  |  |  |  | X |  |  |  |  |  | X |  |  |  | X | X | X |  | X |  |  |  |
| CO644 |  | X |  |  |  |  |  |  |  |  |  | X |  | X | X |  |  |  | X | X |  |  |  |  |  |  |  |  | X | X |  | X |  |  | X |
| CO645 | X | X | X | X |  |  |  |  |  | X | X | X | X | X | X |  | X |  | X | X | X | X |  | X |  |  |  | X | X | X | X | X | X | X |  |
| CO649 |  | X |  | X |  |  |  |  |  | X | X | X | X | X | X | X |  |  | X | X | X |  |  | X |  |  |  |  | X | X |  | X |  | X |  |
| CO650 | X | X | X | X |  |  |  |  |  | X | X | X | X | X | X |  | X | X | X | X | X | X | X | X |  |  |  | X | X | X | X | X | X | X |  |
| CO659 |  | X |  |  |  |  |  |  |  |  | X |  |  | X |  |  |  | X |  | X |  |  |  |  |  |  |  |  | X | X |  | X |  |  |  |
| CO656 |  | X |  | X |  |  |  |  |  | X | X | X |  | X |  | X |  | X | X | X |  |  |  |  |  |  |  |  | X | X |  | X |  |  |  |
| SS527 |  |  |  |  |  |  | X |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SA553 |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Notes:

* Learning outcomes for non-CO modules are indicative, as specifications for such modules have not necessarily been written directly in terms of the learning outcomes for CO programmes.
* Where learning outcomes are marked as O for project modules then these are dependent on the chosen project topic.
* LOs: A13, B8 and C13 only relate to the Year in Industry version of this degree programme.
* Modules CO792 and CO793 are only taken by students taking the year in industry version of this degree programme.