### 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/](http://www.cs.ukc.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 Title**  **BSc Computing**  **BSc Computing (Consultancy)**  **BSc Computing with a year in industry**  **BSc Computing (Consultancy) with a year in industry**  **One year ‘top up’ leading to BSc Computing** |

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| 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: | British Computer Society (BCS):  **Full** Chartered IT Professional (CITP) | |
| 7. Final Award | BSc (Hons)Alternative exit awards: BSc, Diploma, Certificate.  Also available as a one year ‘top up’ leading to BSc Computing under an articulation agreement with Mid Kent College. | |
| 8. Programmes and  9. UCAS Codes | G503  G508 | Computing  Computing (Consultancy) |
| G505  G509 | Computing with a year in industry  Computing (Consultancy) 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  Business and Management 2015 | |
| 13. Date of production/revision | March 2017/June 2017/August 2017 | |
| 14. Intended Start Date of Delivery of this Programme | 2017 entry | |

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| 15. Educational Aims of the Programme  The programme aims to: |
| To provide a programme which will attract and meet the needs of those contemplating a career involving a significant element of information technology and those motivated primarily by intellectual interests in applied computing  To provide a sound knowledge and systematic understanding of the principles of applied computing  To provide generally applicable skills that will be of lasting value in a constantly changing field.  To offer a range of modules covering the foundations of information technology.  To offer a range of options to enable students to study selected areas of information technology in depth.  To provide teaching which is informed by current research and scholarship and which requires students to engage with aspects of work at the frontiers of knowledge.  To develop general critical, analytical and problem-solving skills that can be applied in a wide range of different applied computing settings. |
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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**) and Business and Management(**BA-SB***)* |

**A. Knowledge and Understanding of:**

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

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

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

4. Practice: 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).

10. Organisations, their environment and their management, including many or all of the following: the management of people, operations management, finance, marketing and organisational strategy. ( **BA-SB**3.4-3.6)

*Outcomes specific to:*

*BSc Computing (Consultancy)*

26. Computer consultancy organisations, including project planning and management, costing, marketing and strategic business development.

*Outcomes specific to:*

*Year in Industry programmes:*

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

Note: LOs numbered A5, A7-A9, A11, A12, A14-A25 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 in most modules by supervised classes and laboratory work. Self-directed learning is facilitated by study guides and web-based material.

### *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:**

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: Recognize 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) 9. Critically evaluate arguments and evidence ( **BA-SB**3.9(iii)).

10. Analyse and draw reasoned conclusions concerning structured and, to a more limited extent, unstructured problems ( **BA-SB**3.9(ii)).

Note: The LO numbered B8 is intentionally unused and relates 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*

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 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:**

1. Design and implementation: specify, design and implement 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.

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. 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:*

*BSc Computing (Consultancy)*

22**.** Communicate effectively, orally and in writing about business issues within a Computer Consultancy context.

Note: LOs numbered C8-C21 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, 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:**

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

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

3. Information Technology: effective information-retrieval skills (including the use of browsers, search engines and catalogues). Effective use of general IT facilities.

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

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 have the opportunity to work within teams and make presentations of their work to both their peers and academic staff.

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| For more information on the skills provided by the 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 Computing programmes are studied over three years full-time.  The Computing with a Year in Industry programmes are studied over four years full-time, with the industry year between the second and final years. The three taught years of the programme are each 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, and are advised to take, but need not take, recommended modules. In each taught year, all students must take modules amounting to 120 credits, making up their choices from the list of optional modules. Required modules must be passed before a student progresses to the next year of the programme. For the four-year programme, the Year in Industry is counted as 120 credits.    Under an articulation agreement with Mid Kent College, students gaining a Mid Kent College Foundation Degree in IT have direct entry to stage three of this programme via a one-year top variant of the final year. Students gaining a Mid Kent College HND in IT can apply for and will be considered as candidates for entry to this one-year top up.  Programmes are divided into three stages (four when a year in industry is included). Each taught 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. 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.  Study is undertaken at three ascending levels: level 4, level 5 and level 6. To be eligible for the award of an honours degree, students normally have to obtain 360 credits (480 for the Year in Industry programme), at least 210 of which must be at level 5 or above, and at least 90 of which must be at level 6 or above. Where students join the programme at stage 3, to be eligible for the award of an honours degree, students have to obtain 135 credits, at least 90 of which must be at level 6 or above and the remainder at level 5.  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.  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 a fallback award only.  For the purposes of Honours classification, the weightings of the stages are:  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%  The structure of the joint programmes and the modules that make them up, their levels, credits and the terms in which they are taught, are shown below.  Details of programme structure and requirements are subject to change without notice.  Details of each module can be found at [http://www.cs.kent.ac.uk/teaching/](http://www.cs.ukc.ac.uk/teaching/) |

**BSc Computing**

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| **Code** | **Title** | **Level** | **Credits** | **Term(s)** |
| **Stage 1** | | | | |
| **Compulsory Modules** | | | | |
| CO320 | Introduction to object oriented programming. \* | 4 | 15 | 1 |
| CO322 | Foundations of computing I | 4 | 15 | 1 |
| CO324 | Computer Systems | 4 | 15 | 1 |
| CO328 | Human computer interaction | 4 | 15 | 1 |
| CO323 | Databases and the web. | 4 | 15 | 2 |
| CO329 | Computer applications | 4 | 15 | 2 |
| CO334 | People and computing | 4 | 15 | 2 |
| CO520 | Further object-oriented programming | 5 | 15 | 2 |
| **Stage 2** | | | | |
| **Compulsory Modules** | | | | |
| CO551 | Data Structures and Algorithms | 5 | 15 | 1 |
| CO539 | Web development | 5 | 15 | 1 |
| CO552 | Agile Development & Software Security A | 5 | 15 | 1 |
| CO548 | Software Engineering Process | 5 | 15 | 1 |
| CO553 | Agile Development & Software Security B | 5 | 15 | 2 |
| CO655 | Software Project | 6 | 15 | 2 |
| CO532 | Database Systems | 5 | 15 | 2 |
| CO544 | Networking | 5 | 15 | 2 |
| **Stage S (4-year programmes only)** | | | | |
| **Compulsory Modules** | | | | |
| CO792 | Industrial Placement Experience \* | 5 | 90 | all year |
| CO793 | Industrial Placement Report \* | 5 | 30 | all year |

**BSc Computing**

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| **Stage 3** | | | | | |
| **Compulsory Modules, one or both of the following projects:** | | | | | |
| CO600 | Project \* | 6 | 30 | 1&2 |
| CO650 | IT Consultancy Project \* | 6 | 30 | 1&2 |
| **Optional Modules (indicative)** | | | | |
| CO634 | Computer Security and Cryptography | 6 | 15 | 1 |
| CO639 | Electronic-Commerce | 6 | 15 | 2 |
| CO644 | Semantic Web | 6 | 15 | 2 |
| CO645 | IT Consultancy Practice 2 | 6 | 15 | 1 or 2 |
| CO649 | Data Mining | 6 | 15 | 2 |
| CO656 | Computational Intelligence in Business, Economics & Finance | 6 | 15 | 1 |
| CO659 | Computational Creativity | 6 | 15 | 2 |
| CO662 | Signal Analysis for Computing | 6 | 15 | 2 |
| CO816 | eHealth | 7 | 15 | 1 |
| CB729 | Enterprise and Entrepreneurship § | 5 | 15 | 2 |
| CB742 | Creating your own Enterprise § | 6 | 15 | 1 |
|  | Other Computing options as available |  |  |  |

**§ Computing students cannot choose both CB729 and CB742**

**BSc Computing (consultancy)**

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| **Code** | **Title** | **Level** | **Credits** | **Term(s)** |
| **Stage 1** | | | | |
| **Compulsory Modules** | | | | |
| CO320 | Introduction to object oriented programming. \* | 4 | 15 | 1 |
| CO322 | Foundations of computing I | 4 | 15 | 1 |
| CO324 | Computer Systems | 4 | 15 | 1 |
| CO328 | Human computer interaction | 4 | 15 | 1 |
| CO323 | Databases and the web. | 4 | 15 | 2 |
| CO329 | Computer applications | 4 | 15 | 2 |
| CO334 | People and computing | 4 | 15 | 2 |
| CO520 | Further object-oriented programming | 5 | 15 | 2 |
| **Stage 2** | | | | |
| **Compulsory Modules** | | | | |
| CO551 | Data Structures and Algorithms | 5 | 15 | 1 |
| CO539 | Web development | 5 | 15 | 1 |
| CO552 | Agile Development & Software Security A | 5 | 15 | 1 |
| CO548 | Software Engineering Process | 5 | 15 | 1 |
| CO553 | Agile Development & Software Security B | 5 | 15 | 2 |
| CO655 | Software Project | 6 | 15 | 2 |
| CO532 | Database Systems | 5 | 15 | 2 |
| CB371 | Marketing Principles | 4 | 15 | 2 |
| **Stage S (4-year programmes only)** | | | | |
| **Compulsory Modules** | | | | |
| CO792 | Industrial Placement Experience \* | 5 | 90 | all year |
| CO793 | Industrial Placement Report \* | 5 | 30 | all year |
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**BSc Computing (consultancy)**

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| **Stage 3** | | | | |
| **Compulsory Modules** | | | | |
| CO650 | IT Consultancy Project \* | 6 | 30 | 1&2 |
| CO544 | Networking | 5 | 15 | 2 |
| **Optional Modules (indicative)** | | | | |
| CO600 | Project \* | 6 | 30 | 1&2 |
| CO634 | Computer Security and Cryptography | 6 | 15 | 1 |
| CO639 | Electronic-Commerce | 6 | 15 | 2 |
| CO644 | Semantic Web | 6 | 15 | 2 |
| CO649 | Data Mining | 6 | 15 | 2 |
| CO656 | Computational Intelligence in Business, Economics & Finance | 6 | 15 | 1 |
| CO659 | Computational Creativity | 6 | 15 | 2 |
| CO662 | Signal Analysis for Computing | 6 | 15 | 2 |
| CO816 | eHealth | 7 | 15 | 1 |
| CB729 | Enterprise and Entrepreneurship § | 5 | 15 | 2 |
| CB742 | Creating your own Enterprise § | 6 | 15 | 1 |
|  | Other Computing options as available |  |  |  |

**§ Computing (consultancy) students cannot choose both CB729 and CB742**

**BSc Computing stage 3 direct entry as a one-year top up to a Mid Kent College Foundation Degree or HND in IT.**

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| **Code** | | **Title** | **Level** | **Credits** | **Term(s)** |
| **Stage 3 for entry from HND and FD** | | | | | |
| **Compulsory Modules** | | | | | |
| CO542 | Foundations of Information Technology and Computing \* | | 5 | 15 | pre-term |
| CO600 | Project \* | | 6 | 30 | 1&2 |
| CO544 | Networking | | 5 | 15 | 2 |
| CO547 | Systems Engineering 1 | | 5 | 15 | 1 |
| Option Modules (indicative) 60 credits at level 6 or above: | | | | | |
| CO634 | Computer Security and Cryptography | | 6 | 15 | 1 |
| CO639 | Electronic-Commerce | | 6 | 15 | 2 |
| CO644 | Semantic Web | | 6 | 15 | 2 |
| CO645 | IT Consultancy Practice 2 | | 6 | 15 | 2 |
| CO649 | Data Mining | | 6 | 15 | 2 |
| CO656 | Computational Intelligence in Business, Economics & Finance | | 6 | 15 | 1 |
| CO659 | Computational Creativity | | 6 | 15 | 2 |
| CO662 | Signal Analysis for Computing | | 6 | 15 | 2 |
| CO816 | eHealth | | 7 | 15 | 1 |
|  | Other CO options, as available | | 6 | 15 |  |

Note: the above top-up programme has a total of 135 credits.

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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*   * On-line Student Data System * An extensive Computing Laboratory website containing * information on all Computing modules including where appropriate   module specification  details of any classes  module assessment  course material  anonymous question pages   * past examination papers * staff/student liaison information including   details of student representatives  minutes of meetings   * Administrative support via the Course Administration Office * Placement Co-ordinator and Industrial Liaison staff provide support for the Year in Industry |

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| 20.Entry Profile |
| 20.1 Entry Route  For fuller information, please refer to the University prospectus |
| Candidates for the programmes:  *BSc (Hons) Computing*  *BSc (Hons) Computing (Consultancy)*  *BSc (Hons) Computing with a year in industry*  *BSc (Hons) Computing (Consultancy) with a year in industry*  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 appropriate sections of the University prospectus for full details.  Note: for students 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 20th 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 Mathematics, and at least two subjects at A level. See Curriculum 2000 for details of our minimum requirements for the new AS level tariff.   A levels and AS levels:   * 300 points (21 units) including 18 units at GCE A level * International Baccalaureate: 27 points   BTEC National Certificates/Diplomas   * Diploma: Distinction, Distinction, Merit * Certificate: counts as double A level (e.g. DD is 240 points) * BTEC QCF Extended Diploma: DDM overall   Candidates for:  *The one year top up leading to: BSc (Hons) Computing*   * + Must have as a minimum a Foundation Degree or an HND in IT from Mid Kent College. |
| 20.2 What does this programme have to offer? |
| * High quality teaching 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 range of skills that are highly sought after by employers and which open up a wide range of careers to graduates * Programming, modelling and design skills you can use throughout your career * Strong links with industry that are maintained by 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 * Departmental staff acting as external examiners at other institutions * Double marking and/or moderation of examinations and some assessed coursework * Industrial links * Evaluation of graduate destination statistics * Departmental Director of Education * Active staff development programme * Continuous monitoring of student progress and attendance * 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 computing students at Medway and for Applied Computing students on both campuses * Anonymous question web pages for some individual modules * Student programme evaluations * Informal meetings and social contact with students (including student role in recruitment activities) |
| 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 that they may use to develop any of their interests, including those of learning and teaching. * Staff training of various kinds including appraiser training, interview training, meeting skills, etc. * Participation in staff development week * Annual appraisal of staff * 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 * Professional accreditation: British Computer Society. * 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 rating. |

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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. * School and Faculty plan * University Plan/Learning and Teaching Strategy * Staff research activities |

August 2017

Learning Outcomes Matrix for Computing Programmes

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Computing | A1 | A2 | A3 | A4 | A6 | A10 | A13 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | B9 | B10 | C1 | C2 | C3 | C4 | C5 | C6 | C7 | D1 | D2 | D3 | D4 | D5 | D6 | D7 | D8 |
| **Required** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CO320 |  | X |  | X |  |  |  | X |  |  |  |  | X | X |  |  | X | X |  | X |  |  |  |  |  | X |  | X |  |  |  |
| CO322 |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |  |  | X | X |  |  |  |
| CO324 | X | X | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X | X |  |  |  |  | X |
| CO334 | X | X | X |  |  | X |  |  | X |  |  |  | X |  | X |  |  |  |  |  |  | X |  | X | X | X |  | X | X | X | X |
| CO323 |  | X | X | X |  |  |  | X |  |  | X |  | X |  |  |  | X | X | X | X |  |  |  |  |  | X |  | X |  |  |  |
| CO328 |  |  | X | X |  |  |  | X |  | X |  |  | X |  |  |  | X | X | X | X |  |  |  | X |  | X |  | X |  |  |  |
| CO329 |  | X |  | X | X |  |  | X | X | X | X | X |  | X | X |  | X |  | X | X |  |  | X |  |  | X | X | X |  |  |  |
| CO520 |  | X |  | X | X |  |  | X |  |  |  | X | X | X |  |  | X | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CO551 |  | 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 |  |  |  |
| CO552 |  | X |  | X |  |  |  | X |  |  |  |  | X |  | X |  |  |  |  | X |  | X | X | X |  |  |  |  | X |  |  |
| CO553 |  | X |  | X | X |  |  |  |  |  | X | X |  |  | X |  |  |  | X |  | X |  | X |  |  |  |  |  |  | X |  |
| CO548 |  | X | X | X |  | X |  | X | X | X | X | 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 |  | X |  |  |  |
| CO544 | X | X | X |  |  |  |  |  |  |  |  | X |  |  |  |  | X | X | X |  |  |  | X |  | X | X |  | X |  |  |  |
| CO655 |  | X | X | X |  | X |  | X | X | X | X | X | X | X | X | X | X | X |  | X | X |  | X |  | X | X |  | X |  |  |  |
| **Year in industry** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CO792 |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X | X | X | X | X | X |  |  |
| CO793 |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X | X | X | X | X | X |  |  |
| **One of** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CO600 | O | X | O | X | X | X | O | O | X | X | X | X | X | X |  | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | O |
| 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 |  |
| **Options** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CO634 | X | X | X |  |  |  |  |  |  | X | X | X | X |  |  |  | X | X |  |  |  | X | X |  |  | X | X | X |  |  |  |
| CO639 |  | X | X |  |  | X |  | X | X | X | X | X | 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 |  |
| CO649 |  | X |  | X |  | X |  | X | X | X | X | X | X | X | X | X |  | X | X | X |  |  | X |  | X | X |  | X |  | X |  |
| CO656 |  | X |  | X |  |  |  | X | X | X |  | X |  | X |  |  | X | X | X |  |  |  |  |  | X | X |  | X |  |  |  |
| CO659 |  | X |  |  |  |  |  |  | X |  |  | X |  |  |  |  | X |  | X |  |  |  |  |  | X | X |  | X |  |  |  |
| CO662 | 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 |  |  |  |
| CB729 |  |  |  |  |  | X |  |  |  |  |  |  |  | X | X | X |  |  |  |  |  |  |  |  | X | X |  |  |  |  |  |
| CB742 |  |  |  |  |  | X |  |  |  |  |  |  |  | X | X | X |  |  |  |  |  |  |  |  | X | X |  |  | X |  |  |

Notes: LO: A13 is only required for the Year in Industry version of this degree program.

Modules CO792 and CO793 are only taken by students taking the year in industry version of this degree programme.

Learning Outcomes Matrix for Computing(consultancy) Programmes

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Computing(cons) | A1 | A2 | A3 | A4 | A6 | A10 | A13 | A26 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | B9 | B10 | C1 | C2 | C3 | C4 | C5 | C6 | C7 | C22 | D1 | D2 | D3 | D4 | D5 | D6 | D7 | D8 |
| **Required** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CO320 |  | X |  | X |  |  |  |  | X |  |  |  |  | X | X |  |  | X | X |  | X |  |  |  |  |  |  | X |  | X |  |  |  |
| CO322 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  | X | X |  |  |  |
| CO324 | X | X | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X | X |  |  |  |  | X |
| CO334 | X | X | X |  |  | X |  |  |  | X |  |  |  | X |  | X |  |  |  |  |  |  | X |  | X | X | X | X |  | X | X | X | X |
| CO323 |  | X | X | X |  |  |  |  | X |  |  | X |  | X |  |  |  | X | X | X | X |  |  |  |  |  |  | X |  | X |  |  |  |
| CO328 |  |  | X | X |  |  |  |  | X |  | X |  |  | X |  |  |  | X | X | X | X |  |  |  |  | X |  | X |  | X |  |  |  |
| CO329 |  | X |  | X | X |  |  |  | X | X | X | X | X |  | X | X |  | X |  | X | X |  |  | X |  |  |  | X | X | X |  |  |  |
| CO520 |  | X |  | X | X |  |  |  | X |  |  |  | X | X | X |  |  | X | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CO551 |  | 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 |  |  |  |
| CO552 |  | X |  | X |  |  |  |  | X |  |  |  |  | X |  | X |  |  |  |  | X |  | X | X |  | X |  |  |  |  | X |  |  |
| CO553 |  | X |  | X | X |  |  |  |  |  |  | X | X |  |  | X |  |  |  | X |  | X |  | X |  |  |  |  |  |  |  | X |  |
| CO548 |  | X | X | X |  | X |  |  | X | X | X | X | 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 |  | X |  |  |  |
| CO544 | X | X | X |  |  |  |  |  |  |  |  |  | X |  |  |  |  | X | X | X |  |  |  | X |  |  | X | X |  | X |  |  |  |
| CO655 |  | X | X | X |  | X |  |  | 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 | X | X |  |
| CB371 |  |  |  |  |  | X |  | X |  |  |  |  |  |  |  | X | X |  |  |  |  |  |  |  | X |  | X | X |  | X |  |  |  |
| **Year in industry** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CO792 |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X | X | X | X | X | X |  |  |
| CO793 |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X | X | X | X | X | X |  |  |
| **Options** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CO600 | O | X | O | X | X | X | O |  | O | X | X | X | X | X | X |  | X | X | X | X | X | X | X | X |  | X | X | X | X | X | X | X | O |
| CO634 | X | X | X |  |  |  |  |  |  |  | X | X | X | X |  |  |  | X | X |  |  |  | X | X |  |  |  | X | X | X |  |  |  |
| CO639 |  | X | X |  |  | X |  | X | X | X | X | X | X | X | X |  |  | X | X | X | X |  |  |  | X |  | X | X |  | X |  | X |  |
| CO644 |  | 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 | X |  | X |  | X |  |
| CO656 |  | X |  | X |  |  |  |  | X | X | X |  | X |  | X |  |  | X | X | X |  |  |  |  |  |  | X | X |  | X |  |  |  |
| CO659 |  | X |  |  |  |  |  |  |  | X |  |  | X |  |  |  |  | X |  | X |  |  |  |  |  |  | X | X |  | X |  |  |  |
| CO662 | 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 |  |  |  |
| CB729 |  |  |  |  |  | X |  | X |  |  |  |  |  |  | X | X | X |  |  |  |  |  |  |  |  |  | X | X |  |  |  |  |  |
| CB742 |  |  |  |  |  | X |  | X |  |  |  |  |  |  | X | X | X |  |  |  |  |  |  |  |  |  | X | X |  |  | X |  |  |

Notes: LO: A13 is only required for the Year in Industry version of this degree program.

Modules CO792 and CO793 are only taken by students taking the year in industry version of this degree programme.

Learning Outcomes Matrix for Computing (one-year top up) Programme

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Computing via FD/HND | A1 | A2 | A3 | A4 | A6 | A10 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | B9 | B10 | C1 | C2 | C3 | C4 | C5 | C6 | C7 | D1 | D2 | D3 | D4 | D5 | D6 | D7 | D8 |
| **Required** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CO542 | X | X | X | X |  |  | X | X |  |  | X | X |  | X |  | X | X | X | X |  |  | X |  | X | X | X |  |  |  | X |
| CO600 | O | X | O | X | X | X | O | X | X | X | X | X | X |  | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | O |
| CO544 | X | X | X |  |  |  |  |  |  |  | X |  |  |  |  | X | X | X |  |  |  | X |  | X | X |  | X |  |  |  |
| CO547 | X | X | X | X |  |  | X | X | X | X | X | X |  |  |  | X | X | X | X | X | X |  | X | X | X |  | X |  |  |  |
| **Options** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CO634 | X | X | X |  |  |  |  |  | X | X | X | X |  |  |  | X | X |  |  |  | X | X |  |  | X | X | X |  |  |  |
| CO639 |  | X | X |  |  | X | X | X | X | X | X | 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 |  |
| CO649 |  | X |  | X |  | X | X | X | X | X | X | X | X | X | X |  | X | X | X |  |  | X |  | X | X |  | X |  | X |  |
| CO656 |  | X |  | X |  |  | X | X | X |  | X |  | X |  |  | X | X | X |  |  |  |  |  | X | X |  | X |  |  |  |
| CO659 |  | X |  |  |  |  |  | X |  |  | X |  |  |  |  | X |  | X |  |  |  |  |  | X | X |  | X |  |  |  |
| CO662 | 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 |  |  |  |