

Course Specification

| | |
|------------------------|--------------|
| Published Date: | 05-Sep-2019 |
| Produced By: | Oliver Jones |
| Status: | Validated |

Core Information

| | | | |
|---|--|-----------|---------|
| Awarding Body / Institution: | University of Wolverhampton | | |
| School / Institute: | School of Mathematics and Computer Science | | |
| Course Code(s): | CS001H01UV | Full-time | 3 Years |
| | CS001H31UV | Part-time | 6 Years |
| Course Title: | BSc (Hons) Computer Science | | |
| Hierarchy of Awards: | Bachelor of Science with Honours Computer Science Bachelor of Science Computer Science Diploma of Higher Education Computer Science Certificate of Higher Education Computer Science University Statement of Credit University Statement of Credit | | |
| Language of Study: | English | | |
| Date of DAG approval: | 31/May/2017 | | |
| Last Review: | 2015/6 | | |
| Course Specification valid from: | 2009/0 | | |
| Course Specification valid to: | 2021/2 | | |

Academic Staff

| | |
|----------------------------|------------------|
| Course Leader: | Mr Jeffrey Ting |
| Head of Department: | Dr Kevan Buckley |

Course Information

| | |
|--------------------------|---|
| Location of Delivery: | University of Wolverhampton |
| Category of Partnership: | Not delivered in partnership |
| Teaching Institution: | University of Wolverhampton |
| Open / Closed Course: | This course is open to all suitably qualified candidates. |

Entry Requirements:

Entry requirements are subject to regular review. The entry requirements applicable to a particular academic year will be published on the University website (and externally as appropriate e.g. UCAS)

2017 Entry

- A Level minimum of BB or CDD.
- BTEC National Diploma grade MMP, BTEC National Certificate grade DM
- BTEC QCF Extended Diploma grade MMP, BTEC QCF Diploma grade DM
- Access to HE Diploma full award (Pass of 60 credits - of which a minimum of 45 credits must be at level 3 including 18 at Merit or Distinction).
- Applicants will normally be expected to hold GCSE English and Maths at grade C+/4 or equivalent
- If you've got other qualifications or relevant experience, please contact [The Gateway](#) for further advice before applying.
- International entry requirements and application guidance can be found [here](#)
- Successful completion of the foundation year of our [BSc \(Hons\) Science and Engineering with Foundation Year](#) guarantees entry on to this course
- Successful completion of the [International Foundation Year in Science and Engineering](#) guarantees entry on to this course

Other Requirements

Students must have studied a minimum of two years post GCSE level. However, it is expected that some applicants will be mature students with work experience, who wish to further their career development. These applicants will be processed through standard procedures, which may involve an interview as part of the process. Please see <http://wlv.ac.uk/mature> for further information.

Those who do not meet the entry requirements may be offered an alternative course.

Distinctive Features of the Course:

You will be taught by a professional team of lecturers who have significant research and industrial experience. Many of our staff are Fellows and Members of the Industry's professional body the British Computer Society.

You will learn about how cutting edge technology works and how to take advantage of it. You will get hands-on experience with latest developments like programming multicore processors, GPUs and the embedded microprocessor systems that enable mobile computing.

You will be offered the opportunity to undertake a placement year, where you gain invaluable experience in the workplace, before returning to complete your final year. Many students have found this to be a real asset when it comes to finding a job after graduation.

Educational Aims of the Course:

This course aims to produce software developers who can seamlessly make the transition from University to the international computer industry. This is achieved by providing a thorough grounding in the core

principles of computer science and integrating these with computer languages, tools, techniques and methodologies used by computer professionals worldwide.

Our Computer Science course offers you the flexibility to pursue areas of particular interest to you such as web, databases, and networking. Additionally, we will prepare you with the key skills needed to keep abreast of future developments.

Intakes:

September

Major Source of Funding:

HE FUNDING COUNCIL FOR ENGLAND (HEFCE)

Tuition Fees:

Tuition fees are reviewed on an annual basis. The fees applicable to a particular academic year will be published on the University website.

| Year | Status | Mode | Amount |
|-------------|---------------|----------------------|---------------|
| 2017/8 | H | Full Time / Sandwich | £9250.00 |
| 2017/8 | EU | Full Time / Sandwich | £9250.00 |
| 2017/8 | Overseas | Full Time / Sandwich | £11475.00 |
| 2017/8 | H | Part Time | £2835.00 |
| 2017/8 | EU | Part Time | £2835.00 |
| 2017/8 | Overseas | Part Time | £5738.00 |
| 2018/9 | H | Full Time / Sandwich | £9250.00 |
| 2018/9 | EU | Full Time / Sandwich | £9250.00 |
| 2018/9 | Overseas | Full Time / Sandwich | £11700.00 |
| 2018/9 | H | Part Time | £2925.00 |
| 2018/9 | Overseas | Part Time | £5850.00 |
| 2018/9 | EU | Part Time | £2925.00 |
| 2019/0 | H | Full Time / Sandwich | £9250.00 |
| 2019/0 | EU | Full Time / Sandwich | £9250.00 |
| 2019/0 | Overseas | Full Time / Sandwich | £12000 |
| 2019/0 | H | Part Time | £2975.00 |
| 2019/0 | Overseas | Part Time | £6000 |
| 2019/0 | EU | Part Time | £2975.00 |
| 2020/1 | H | Full Time / Sandwich | £9250.00 |
| 2020/1 | EU | Full Time / Sandwich | £9250.00 |
| 2020/1 | Overseas | Full Time / Sandwich | £12250.00 |
| 2020/1 | H | Part Time | £3050.00 |
| 2020/1 | Overseas | Part Time | £6125.00 |
| 2020/1 | EU | Part Time | £3050.00 |

PSRB:

None

Course Structure:

September (Full-time)

Part time students study alongside full time students. However, they do not study more than 80 credits in each academic calendar year.

Year 1

Full time and Sandwich Undergraduate Honours students normally study 120 credits per academic year; 60 credits semester 1 and 60 credits semester 2.

| Module | Title | Credits | Period | Type |
|--------|--|---------|--------|------|
| 4CS001 | Introductory Programming And Problem Solving | 20 | SEM1 | Core |
| 4CS015 | Fundamentals of Computing | 20 | SEM1 | Core |
| 4CI018 | Academic Skills and Team-based Learning | 20 | SEM1 | Core |
| 4CS017 | Internet Software Architecture | 20 | SEM2 | Core |
| 4MM013 | Computational Mathematics | 20 | SEM2 | Core |
| 4CS016 | Embedded Systems Programming | 20 | SEM2 | Core |

September (Full-time)

Year 2

Full time and Sandwich Undergraduate Honours students normally study 120 credits per academic year; 60 credits semester 1 and 60 credits semester 2.

| Module | Title | Credits | Period | Type |
|--------|---|---------|--------|------|
| 5CS019 | Object-Oriented Design and Programming | 20 | SEM1 | Core |
| 5CS021 | Numerical Methods and Concurrency | 20 | SEM1 | Core |
| 5CI022 | Databases | 20 | SEM1 | Core |
| 5CS022 | Distributed and Cloud Systems Programming | 20 | SEM2 | Core |
| 5CS020 | Human - Computer Interaction | 20 | SEM2 | Core |

For this option group you must choose a minimum of 20 credits and a maximum of 20 credits

| | | | | |
|--------|---|----|------|--|
| 5CS024 | Collaborative Development | 20 | SEM2 | |
| 5CS016 | Professional Experience and Development | 20 | SEM2 | |

September (Full-time)

Year 3

Full time and Sandwich Undergraduate Honours students normally study 120 credits per academic year; 60 credits semester 1 and 60 credits semester 2.

| Module | Title | Credits | Period | Type |
|--------|--|---------|--------|------|
| 6CS020 | Project and Professionalism with Computer Science Artefact | 40 | YEAR | Core |
| 6CS014 | Complex Systems | 20 | SEM1 | Core |
| 6CS005 | High Performance Computing | 20 | SEM1 | Core |
| 6CS012 | Artificial Intelligence and Machine Learning | 20 | SEM2 | Core |
| 6CS030 | Big Data | 20 | SEM2 | Core |

Learning, Teaching and Assessment

Academic Regulations Exemption:

N/A

Reference Points:

The course is designed with reference to the most up-to-date QAA Subject Benchmark for Computing and the accreditation requirements of BCS The Chartered Institute for IT. In addition reference has also been made to;

- Quality Code - [Part A: Setting and Maintaining Academic Standards](#). Including :
- [Qualifications Frameworks Characteristics Statements](#)
- [Credit Frameworks](#)
- [Subject Benchmark Statements- Computing](#)
- Quality Code - [Part B: Assuring and Enhancing Academic Quality](#)
- [University Policies and Regulations](#)
- [Equality Act \(2010\)](#).

Learning Outcomes:

CertHE Course Learning Outcome 1 (CHECLO1)

Demonstrate knowledge of the underlying concepts and principles associated with your area(s) of study, and an ability to evaluate and interpret these within the context of that area of study.

CertHE Course Learning Outcome 2 (CHECLO2)

Demonstrate an ability to present, evaluate and interpret qualitative and quantitative data, in order to develop lines of argument and make sound judgements in accordance with basic theories and concepts of your subject(s) of study.

CertHE Course Learning Outcome 3 (CHECLO3)

Evaluate the appropriateness of different approaches to solving problems related to your area(s) of study and/or work.

CertHE Course Learning Outcome 4 (CHECLO4)

Communicate the results of your study/work accurately and reliably, and with structured and coherent arguments.

CertHE Course Learning Outcome 5 (CHECLO5)

Demonstrate the qualities and transferable skills necessary for employment requiring the exercise of some personal responsibility.

DipHE Course Learning Outcome 1 (DHECLO1)

Demonstrate knowledge and critical understanding of the well-established principles of your area(s) of study, and of the way in which those principles have developed with an understanding of the limits of your knowledge, and how this influences analyses and interpretations based on that knowledge.

DipHE Course Learning Outcome 2 (DHECLO2)

Demonstrate the ability to apply underlying concepts and principles outside the context in which they were first studied, including, where appropriate, the application of those principles in an employment context.

DipHE Course Learning Outcome 3 (DHECLO3)

Demonstrate knowledge of the main methods of enquiry in the subject(s) relevant to the named award, and ability to evaluate critically the appropriateness of different approaches to solving problems in the field of study.

DipHE Course Learning Outcome 4 (DHECLO4)

Use a range of established techniques to initiate and undertake critical analysis of information, and to propose solutions to problems arising from that analysis

DipHE Course Learning Outcome 5 (DHECLO5)

Effectively communicate information, arguments and analysis in a variety of forms to specialist and non-specialist audiences, and deploy key techniques of the discipline effectively.

DipHE Course Learning Outcome 6 (DHECLO6)

Demonstrate the qualities and transferable skills necessary for employment, requiring the exercise of personal responsibility and decision-making and undertake further training, developing existing skills and acquire new competences that will enable them to assume significant responsibility within organisations.

Ordinary Degree Course Learning Outcome 1 (ORDCLO1)

Apply appropriate theory, tools and techniques (e.g. theory and practice of programming, object-oriented design and analysis, design and construction of data systems, concurrent and distributed systems) to the analysis, design and synthesis of solutions to requirements in the domain of Computer Science.

Ordinary Degree Course Learning Outcome 2 (ORDCLO2)

Demonstrate mastery of the essential facts, concepts, principles, theories and practices enabling graduate employment in applications of Computer Science (e.g. Software development, media computing, systems analysis).

Ordinary Degree Course Learning Outcome 3 (ORDCLO3)

Demonstrate a range of transferable skills in: problem solving; communication; project management; working individually and in teams; self-management; and the ability to gather, evaluate and reflect on information from relevant sources and synthesize new knowledge and solutions to requirements in the domain of applications of Computer Science.

Ordinary Degree Course Learning Outcome 4 (ORDCLO4)

Demonstrate a range of social, legal, ethical and professional skills required for continuing professional development in the Computer Science Discipline within a world-wide context.

Honours Degree Course Learning Outcome 1 (DEGCLO1)

Apply appropriate theory, tools and techniques (e.g. theory and practice of programming, object-oriented design and analysis, design and construction of data systems, concurrent and distributed systems) to the

analysis, design and synthesis of solutions to requirements in the domain of Computer Science.

Honours Degree Course Learning Outcome 2 (DEGCLO2)

Demonstrate mastery of the essential facts, concepts, principles, theories and practices enabling graduate employment in applications of Computer Science (e.g. Software development, media computing, systems analysis).

Honours Degree Course Learning Outcome 3 (DEGCLO3)

Demonstrate a range of transferable skills in: problem solving; communication; project management; working individually and in teams; self-management; and the ability to gather, evaluate and reflect on information from relevant sources and synthesize new knowledge and solutions to requirements in the domain of applications of Computer Science.

Honours Degree Course Learning Outcome 4 (DEGCLO4)

Demonstrate a range of social, legal, ethical and professional skills required for continuing professional development in the Computer Science Discipline within a world-wide context.

Overview of Assessment:

| Module | Title | Course Learning Outcomes |
|--------|--|--|
| 4CI018 | Academic Skills and Team-based Learning | CHECLO1, CHECLO2, CHECLO3, CHECLO4, CHECLO5 |
| 4CS001 | Introductory Programming And Problem Solving | CHECLO1, CHECLO2, CHECLO3, CHECLO5 |
| 4CS015 | Fundamentals of Computing | CHECLO1, CHECLO2, CHECLO3, CHECLO4, CHECLO5 |
| 4CS016 | Embedded Systems Programming | CHECLO1, CHECLO4, CHECLO5 |
| 4CS017 | Internet Software Architecture | CHECLO1, CHECLO2, CHECLO3, CHECLO4 |
| 4MM013 | Computational Mathematics | CHECLO1, CHECLO2, CHECLO3, CHECLO4 |
| 5CI022 | Databases | DHECLO1, DHECLO2, DHECLO4, DHECLO5, DHECLO6 |
| 5CS016 | Professional Experience and Development | DHECLO1, DHECLO2, DHECLO3, DHECLO5, DHECLO6 |
| 5CS019 | Object-Oriented Design and Programming | DHECLO1, DHECLO2, DHECLO3, DHECLO4, DHECLO6 |
| 5CS020 | Human - Computer Interaction | DHECLO1, DHECLO2, DHECLO3, DHECLO5 |
| 5CS021 | Numerical Methods and Concurrency | DHECLO1, DHECLO2, DHECLO3, DHECLO4 |
| 5CS022 | Distributed and Cloud Systems Programming | DHECLO1, DHECLO2, DHECLO3, DHECLO4, DHECLO6 |
| 5CS024 | Collaborative Development | DHECLO1, DHECLO2, DHECLO3, DHECLO5, DHECLO6 |
| 5MM006 | Industrial Placement | DHECLO1, DHECLO2, DHECLO3, DHECLO4, DHECLO5, DHECLO6 |
| 6CS005 | High Performance Computing | DEGCLO1, DEGCLO2, DEGCLO3, ORDCLO1, ORDCLO2, ORDCLO3 |
| 6CS012 | Artificial Intelligence and Machine Learning | DEGCLO1, DEGCLO2, DEGCLO3, ORDCLO1, ORDCLO2, ORDCLO3 |
| 6CS014 | Complex Systems | DEGCLO1, DEGCLO2, DEGCLO3, ORDCLO1, ORDCLO2, ORDCLO3 |
| 6CS020 | Project and Professionalism with Computer Science Artefact | DEGCLO1, DEGCLO2, DEGCLO3, DEGCLO4, ORDCLO1, ORDCLO2, ORDCLO3, ORDCLO4 |
| 6CS030 | Big Data | DEGCLO1, DEGCLO2, DEGCLO3, ORDCLO1, ORDCLO2, ORDCLO3 |

Teaching, Learning and Assessment:

You will engage with a range of learning activities which will include lectures, tutorials, workshops and on-line forums and in class discussions. The learning activities on your course will develop distinctive graduate attributes that will make you stand out and enhance your employability. These skills will be embedded into the curriculum throughout your course. Examples include;

Digitally Literacy: All Computer Science graduates will be users of advanced technologies. However, on your course you will develop your skills to encompass literacy more fully such as learning how to find information and how to take best advantage of digital resources and the Internet to make you effective in the Information Age.

Global Citizenship: On each level of your course you will learn about social, legal and ethical aspects of Computing, which will broaden your understanding of the way the world works and how communication and collaboration are evolving.

Knowledgeable and Enterprising: Throughout your course you will build up your professional and employability skills and learn to apply the knowledge you have acquired in an enterprising way. You will constantly nurture your own intellectual curiosity. The tools, methodologies and techniques that you will learn have been carefully selected to prepare you with the skills that employers demand and the opportunities for work based learning and placements will allow you to gain the vital experience that they often expect.

Learning and Teaching Methods:

This data indicates the proportion of time in each year of study that students can expect to engage in the following activities (expressed as a percentage for each level).

| Level | Teaching | Independent | Placement |
|-------|----------|-------------|-----------|
| 4 | 23 | 77 | 0 |
| 5 | 24 | 76 | 0 |
| 6 | 24 | 76 | 0 |

Assessment Methods:

This data indicates the proportion of summative assessment in each year of study that will derive from the following: (expressed as a percentage for each level).

| Level | Written Exams | Practical Exams | Coursework |
|-------|---------------|-----------------|------------|
| 4 | 17 | 0 | 83 |
| 5 | 0 | 0 | 100 |
| 6 | 0 | 0 | 100 |

Student Support:

Course support:

At the start of each year of your course you will be assigned a Personal Tutor who will guide you through the induction process and provide support and academic counselling throughout the year on an appointment basis. They should be able to offer you advice and guidance to help you liaise with other staff and support facilities in the Faculty and University. You should meet your Personal Tutor at least 3 times a year, which must include meetings that you are invited to at critical points in your course. The Personal Tutor provides academic counselling and will be accessible throughout the week on a drop-in or appointment basis to discuss timetables, requests for extensions, requests for extenuating circumstances, general concerns about study and student life and general programme planning. The APA will act as a first point of contact in relation

to leave of absence (including returning after leave), withdrawal, transferring to another course (internal and external) and changes to mode of attendance. Your Course Leader will be available thereafter for meetings by appointment to discuss leave of absence, withdrawal, transferring to another course (internal and external), changes to mode of attendance, returning after leave of absence and direct entrants.

Subject support:

Tutorials, workshops, seminars and meetings - provide the primary opportunities for students to interact with staff on topics relating to modules. All modules provide at least one of these forms of face-to-face support.

Formative feedback - tutors provide personalised written feedback on most summative assessments. The mechanism for feedback from purely formative tasks varies between assessments, but will always be provided in some form. Online formative tasks often provide feedback straight away. On occasions tutors may provide generalised verbal feedback to the whole class on points relating to an assessment

Assessment and subject-based surgeries provide additional student support for subjects that students often need extra help with. They are often concentrated around the times when assessments take place. Revision sessions are provided for many modules that have exam-like tests and enable you to interact with tutors to review parts of the course. Mock exams and tests may provide opportunities to experience an examination environment before the final summative test and give you feedback on your understanding.

Employability in the Curriculum:

A Computer Science degree is an internationally respected qualification which can lead you into careers such as;

Software Developer

Programmer

Software Tester

Database Administrator

Software Engineer.

Our graduates have progressed to careers in a wide range of organisations and institutions across the country.

You could also choose to continue your studies at Postgraduate level or pursue a career in research.

