University of Suffolk

DEFINITIVE COURSE RECORD

Course Title	**BSc (Hons) Software Engineering [progression route]**
Awarding Bodies	**University of Suffolk**
Level of Award[1]	**FHEQ Level 6**
Professional, Statutory and Regulatory Bodies Recognition	**None**
Credit Structure[2]	**360 Credits** **Level 6: 120 Credits**
Mode of Attendance	**Full-time and Part-time**
Standard Length of Course[3]	**1 year full time**
Intended Award	**BSc (Hons) Software Engineering**
Named Exit Awards	**None**
Entry Requirements[4]	**Typical Offer: 240 credits from the FdSc Communications Technologies: Software Engineering, FdSc Software Engineering, or another appropriate Foundation degree along with 80 UCAS tariff points.** **GCSE Maths and English at grade C or above (or equivalent)**
Delivering Institution(s)	**University of Suffolk**
UCAS Code	**I304**

This definitive record sets out the essential features and characteristics of the BSc (Hons) Software Engineering course. The information provided is accurate for students entering level 6 in the 2016/17 academic year[5].

Course Summary

The BSc Software Engineering degree programmes is intended to equip graduates with the knowledge and hands on skills required by employers in the IT and telecommunications sectors. They are designed to give students opportunities to acquire the specialist academic knowledge, practical skills and industrial certification that would help you secure employment in this competitive economy. Graduates from the Software Engineering programme should expect to secure employment in the software industry (software developers, big data analysts and data scientists, cloud computing and distributed system specialists, software security specialists, project managers, and similar roles.) The degree will provide opportunities for students to become experts in all aspects of cyber security (software, network and system), distributed systems (Internet of things) and big data (information engineering), and to undertake a major business-related or research project.

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[1] For an explanation of the levels of higher education study, see the QAA Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies (2014)
[2] All academic credit awarded as a result of study at the University adheres to the Higher education credit framework for England.
[3] Where the course is delivered both full-time and part-time, the standard length of course is provided for the full-time mode of attendance only. The length of the part-time course is variable and dependent upon the intensity of study. Further information about mode of study and maximum registration periods can be found in the Framework and Regulations for Undergraduate Awards.
[4] Details of standard entry requirements can be found in the Admissions Policy
[5] The University reserves the right to make changes to course content, structure, teaching and assessment as outlined in the Admissions Policy.

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Course Aims

- Provide students with comprehensive knowledge and understanding of cyber security for networks, software and systems

- Enable students to be proficient in the design and implementation of cyber security elements of networks, software and systems

- Provide students with sound knowledge, understanding and practical skills in advanced software topics

- Develop students' ability to take responsibility for their own learning and professional development.

- Provide opportunities for employers to up skill their computing and networking workforce

- Give an opportunity for students' employers to take advantage of their students improved knowledge and practice

- Contribute to raising the educational aspirations and achievements of those employed in the area of computing and networking technologies

- Ensure the availability of key technological skills

Course Learning Outcomes

The following statements define what students graduating from the BSc (Hons) Software Engineering course will have been judged to have demonstrated in order to achieve the award. These statements, known as learning outcomes, have been formally approved as aligned with the generic qualification descriptor for level 6 awards as set out by the UK Quality Assurance Agency (QAA)[6].

Knowledge and Understanding

By the end of the course you should be able to:

- Express and employ detailed knowledge and systematic understanding of essential facts, concepts, principles and theories, both established and emergent, relating to cyber security for software, networks, and systems.

- Express and employ detailed knowledge and systematic understanding of essential facts, concepts, principles and theories, both established and emergent, relating to advanced topics in software engineering

- Utilise knowledge and skills relating to cyber security to analyse, develop and deploy ethical "cyber attacks" for essential penetration testing of software, networks and systems, and to analyse, develop and deploy cyber defences in depth to protect software, networks, and systems, using both established and bleeding-edge techniques as appropriate

- Utilise knowledge and skills relating to advanced topics in software engineering to analyse, specify, develop and deploy technical solutions to appropriate problems, using both established and bleeding-edge techniques as appropriate

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[6] As set out in the QAA Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies (2014)

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- Understand, describe, and comment upon the literature and cutting edge research in cyber security and specific areas of software engineering, and appreciate the associated uncertainties, ambiguities, and limits to knowledge at the forefront of the discipline

Mental or cognitive skills

By the end of the course you should be able to:

- Apply methods and techniques learned in cyber security and advanced topics in software engineering to consolidate, extend, and apply knowledge and understanding to extended realistic and real-world projects

- Apply detailed knowledge, systematic understanding, and mastered techniques to initiate and execute one major and multiple minor projects in different topic areas

- Critically evaluate arguments, concepts, requirements, constraints and data in order to make rational judgements on appropriate algorithms, designs, methods, and configurations leading to the necessary analysis, design, implementation, and/or testing of a solution or identification of a class of solutions to significant problems

- Present ideas, information, analyses, designs, implementations, tests and results relating to cyber security or software engineering, critically, comprehensibly and succinctly to both specialist and non-specialist audiences

Subject Specific and Practical Skills

By the end of the course you should be able to:

- Deploy appropriate established and/or cutting edge theory, practices and tools for the successful attack and defence of software, networks and systems.

- Recognise the legal, ethical and professional issues in all aspects of cyber security, and be able to exercise initiative and personal responsibility in cyber security

- Research, design, implement, test, utilise and document software solutions to address specific problems, using knowledge, understanding and technical skills in software engineering

Key Skills

Key Skills, also known as graduate key skills, transferable skills or general skills, comprise communication, information technology, problem solving, numeracy, working with others and improving own learning.

By the end of the course you should be able to:

- Develop an understanding of a specialist subject or problem area to a level where you can effectively evaluate it, analyse possible solutions, design an appropriate solution and bring that solution to a successful conclusion in a defined time-frame, showing by doing so your capabilities and readiness for lifelong learning and professional training

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- Evidence the qualities and transferable skills necessary for graduate-level employment requiring the exercising of initiative, personal responsibility, and decision making, through working individually and in groups on mini-projects, extended case studies and scenarios, and your major project

Course Design
The design of this course has been guided by the following QAA Benchmark:

- Computing (2007)

Course Structure
The BSc (Hons) Software Engineering comprises modules at level 6.

Module Specifications for each of these modules is included within the course handbook, available to students on-line at the beginning of each academic year.

	Module	Credits	Module Type[7]
Level 6			
	Project and Dissertation	40	M
	Cyber Security (Attack)	20	R
	Cyber Security (Defence)	20	R
	Distributed Systems	20	R
	Information Engineering	20	R

Awards
On successful completion of the course, students will be awarded a BSc (Hons) Software Engineering.

Course Delivery
The course is delivered at Ipswich. Students studying full-time on BSc (Hons) Software Engineering are likely to have approximately 6 contact hours per week during semesters with taught modules for level 6. The contact hours will be a mix of lectures, seminars, practical programming classes and tutorials. During the periods without taught modules, students will be expected to remain in contact with their project supervisors by email, website forum, and face-to-face discussions. Students will normally be expected to undertake 6 hours of independent study in an average week, but should be prepared for this to vary based on assignment deadlines and class exercises.

Course Assessment
A variety of assessments will be used on the course to enable students to experience and adapt to different assessment styles. The assessment methods used will be appropriate to assess each module's intended learning outcomes. Assessment on the course overall will be 100% coursework (including essays, reports, presentations, group work, reflective learning journals and research projects).

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[7] Modules are designated as either mandatory (M), requisite (R) or optional (O). For definitions, see the Framework and Regulations for Undergraduate Awards

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Course Team
The academic staff delivering this course are drawn from a team that includes teaching specialists and current practitioners. All staff are qualified in their subjects with their own specialist knowledge to contribute.

Course Costs
Students undertaking BSc (Hons) Software Engineering will be charged tuition fees as detailed below.

Student Group	Tuition Fees
Full-time UK/EU	£9,250 per year
Part-time UK/EU	£1,454 per 20 credit module
Full-time International	£10,080 per year
Part-time International	£1,680 per 20 credit module

Payment of tuition fees is due at the time of enrolment and is managed in accordance with the Tuition Fee Policy.

Academic Framework and Regulations
This course is delivered according to the Framework and Regulations for Undergraduate Awards and other academic policies and procedures of the University and published on the website.