



Department

of

Computer Science

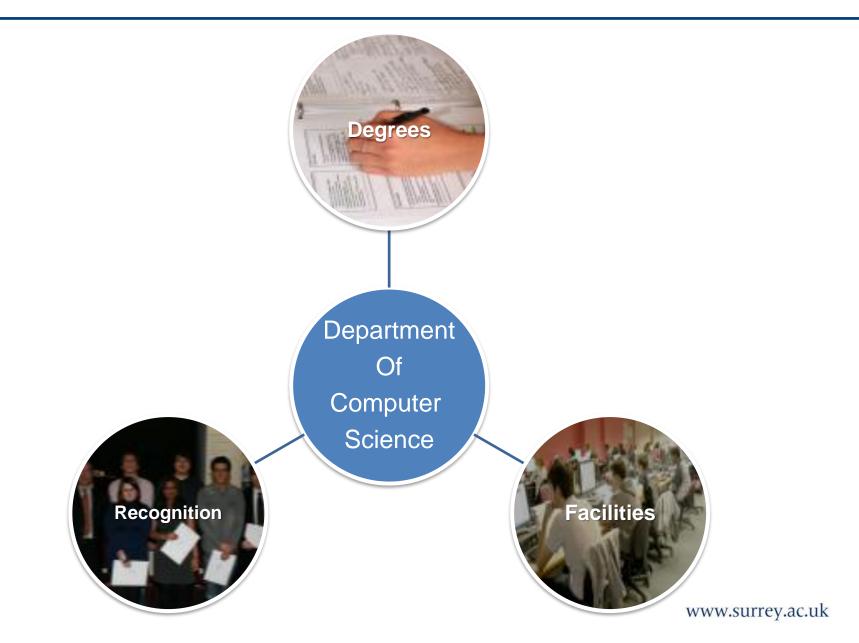
Overview of Degree Programmes

presented by

Dr Andrew Crossan Director of Learning and Teaching

www.surrey.ac.uk









Our Degrees



Preparing you for a range of careers:

- Exploiting computation and computer technology
- Fluency in development and programming
- Solving real-world technical and business problems
- Applying innovative and emerging technologies

Two degrees: common core, different focus

- Computer Science: Advanced principles and technologies
- Computing and Information Technology: IT as an integral part of business

Computing at the core



Year 1: 8 compulsory modules + **Year 2:** 8 compulsory modules + Optional placement year + **Year 3:** 5 modules plus project

Foundations of Computing I & II
Programming
Software Engineering
Data Structures and Algorithms
Web Development and Databases
Information Retrieval
Further Programming Paradigms
Software Engineering Project
Information Security Management
Final Year Project
Professionalism

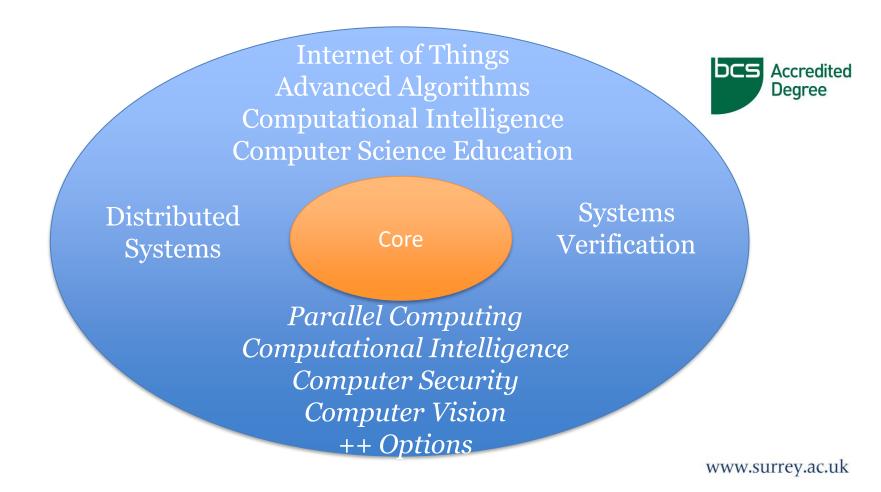
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BSc Computer Science



G400 (3 years) / G401 (3 years plus placement)

 Entry requirements: ABB, A-Level Mathematics required, GCSE Mathematics and English





BSc Computing and Information Technology

G560 (3 years) / G561 (3 years plus placement)

- Entry requirements: **ABB**, A-Level in Mathematics, *Computing or Physics* required, GCSE Mathematics and English
- 2 modules different to CS in Year 1



Programme comparison – Semester 1



	Semester 1 module	Computer Science	Computing and IT
	FOUNDATIONS OF COMPUTING	Compulsory (C)	С
Year 1	PROGRAMMING FUNDAMENTALS	С	С
	WEB AND DATABASE SYSTEMS	С	С
	COMPUTER LOGIC	С	
	FINANCIAL ACCOUNTING		С
	FURTHER PROGRAMMING PARADIGMS	С	С
	INFORMATION RETRIEVAL	С	С
Year 2	WEB APPLICATIONS DEVELOPMENT	С	С
	ADVANCED ALGORITHMS	С	
	BUSINESS FINANCE		С
	PROFESSIONAL PROJECT	C*	C*
	INFORMATION SECURITY MANAGEMENT	С	С
	ADVANCED CHALLENGES IN WEB TECHNOLOGIES	Optional (O)	0
	COMPUTATIONAL INTELLIGENCE	0	Ο
Year 3	COMPUTER SECURITY	0	0
	COMPUTER VISION	0	
	ENTREPRENEURSHIP AND INNOVATION	0	0
	INTERNATIONAL BUSINESS STRATEGY	0	0
	INTERNET OF THINGS	0	Ο
	PRACTICAL BUSINESS ANALYTICS	0	0

Programme comparison – Semester 2



	Semester 2 module	CS	CIT
	DATA STRUCTURES AND ALGORITHMS	С	С
	FOUNDATIONS OF COMPUTING II	С	С
	SOFTWARE ENGINEERING	C*	C*
Year 1	MOBILE COMPUTING	С	
	MARKETING PRINCIPLES		С
	ARTIFICIAL INTELLIGENCE	С	С
	COMPUTER NETWORKING	С	С
	SOFTWARE ENGINEERING PROJECT	С	С
Year 2	PARALLEL COMPUTING	С	
	BUSINESS LAW		С
	PROFESSIONAL PROJECT	C*	C*
	COMPUTER SCIENCE EDUCATION	0	0
	DEEP LEARNING AND ADVANCED AI	0	0
	DISTRIBUTED SYSTEMS	0	0
Year 3	MAINFRAME COMPUTING	0	0
100.10	PROJECT MANAGEMENT	0	0
	SYSTEMS VERIFICATION	0	0
	MARKETING IN THE DIGITAL ENVIRONMENT		0

Timetable – a rough guide



Per programme, per individual

- Personalised timetable
- Wednesday after 12noon generally reserved for sport
- Grouped for tutorials
- About 20-25 hours timetabled in the first semester of the first year, similar beyond

Assessments

- Blend of examinations, class tests, and various kinds of coursework
- Some assessments are practical (includes examination)

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Technology and facilities



Extensive PC labs

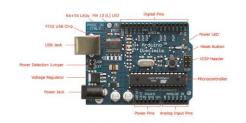
- Windows 10 and Microsoft Office plus a variety of teaching applications (150 seats)
- Ubuntu for specialist applications (140 seats)
- Java, Eclipse, Visual Studio, NetBeans, Matlab, C++, SQL, Ruby, R, Python, HTML

Specialist equipment depending on programme

- Year 1: Arduino
- Year 2: Android, Linux servers
- Year 3: Mainframe, IoT devices, Nvidia GPU cards

Free software

- Microsoft
- IBM Academic Initiative software







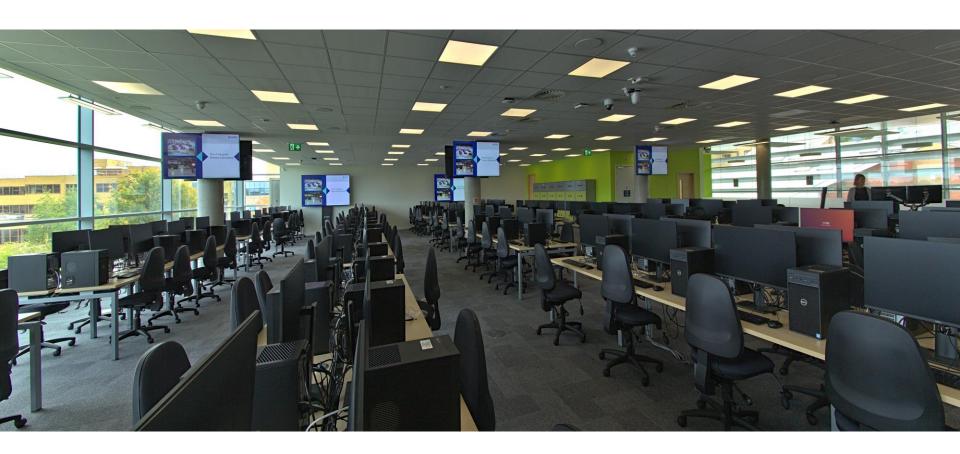






NEW Teaching Facilities





Teaching and Learning Support



Support for each subject

- Lectures, labs, office hours, tutorials, discussion surgeries
- Online resources and e-learning
- Online discussions, journals, books, dissertations

Study skills and one-to-one help

- Regular workshops: academic writing, assignment feedback
- Student learning advisors
- Podcasts, study guides
- Additional learning support

Careers events and industry networking



Inside the Library





Recognition



Graduate-level employment: **84.6**%

- 16/17 graduates,
 last data point
- (93.3% in the previous year)
- defined as students in graduate-level activities (largely employed, some studying) 6 months after graduation
- Significantly higher than the national average of 74% for Computer Science (HESA 2013)



Professional Training



Each year around **50-60%** of our students go on placement

- Experience = a real boost in a tough economic environment
- Helps with developing professional skills
- Usually many more jobs than students, though still competitive
- This year, companies with 1 or more students *include*:

Ansys	Avco Systems	Cisco	Consult Hyperion	Expedia	Fivium
GSK	Hindsight Software	Hitachi	IBM (4)	IDBS	Intel Security McAfee
ITM	Lilly UK (4)	Mapp Digital (2)	Metricell	Minted Box	Nintendo (Frankfurt)
Note Machine Technologies	Royal Surrey County Hospital	SONY	Sophos	Xceptor	Yell

Graduate positions, companies & salaries



Companies

Accenture UK limited

Alemba

Aloit Consulting

Avco Systems

Bank of England

Blippar Ltd

ВТ

Capgemini UK

Close Brothers Group

Cobalt Telephone Technologies

Crowd Connected

Curo Compensation

Damarel Systems International

EAMS Group

Fivium Ltd

ID Business Solution

ITM Ltd

LEGO System

LogRhythm

Metapack

Morgan Stanley

NCT Security

Peak Lab Limited

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University of Surrey

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VB NET

Virgin Media

Voofoo Studios

Xceptor

Roles including

Enterprise Advisor

Web Developer

Analyst Programmer

Software Developer

Graduate software developer

Junior Application Developer

Software Developer

Software Engineer

Computer scientist

Software Developer

Software Delivery Consultant

Business Analyst

Digital Strategist

Web Analyst

Project Engineer

Technical Consultant

Average salary: ~£29,000

Recognition





CS and CIT accredited by BCS, to 2021

- Fully meeting requirements for Chartered IT Professional (CS, CIT)
- Partially meeting requirements for Chartered Engineer (CS, CIT)
- Partially meeting requirements for Chartered Scientist (CS)



In the 2014 Research Excellence Framework (REF), 60% of our research output was rated as world-leading or internationally excellent.



Thank you for visiting

Presented by Dr Andrew Crossan www.surrey.ac.uk/cs