

University of
Hertfordshire



Online Masters Programme in Computer Science

Study anytime, anywhere

School of Computer Science

What is online study?

Our innovative online programme enables you to study for a masters degree (MSc) without the need to attend the University. Our online degrees share the same academic quality standards as our long standing on-campus equivalents. This means your award should be widely recognized internationally.

Just as on campus, you study as a group, with fixed start times and assessment deadlines. However, as an online student, there is no timetable so you can study when it suits you best. There are no examinations to attend; all assessment is by coursework or online tests.

You will just need access to a suitable computer and the Internet.

Who should apply?

1. Computer Science graduates looking for professional development in a specialist area or to prepare for research.
2. Graduates in other subjects wanting to move into the IT industry or to apply advanced IT techniques within their own profession.

About the online Masters Programme

We offer a **range of degrees**. On successful completion, you will be awarded the degree of Master of Science from the University of Hertfordshire.

To be awarded the master's degree you need to complete 180 credit points made up of 120 credits worth of taught modules and a 60 credit project.

For all the specialist degree titles you study 60 credits worth of **core modules**, i.e. those defined for the award. For the title *MSc Computer Science* there are no core modules defined and you are free to choose your own.

If your first degree is in Computer Science, you will also take 60 credits worth of **elective modules (options)**, chosen from the full list of advanced, specialist modules.

Otherwise, if your first degree is in another subject, typically you will first take 30–60 credits worth of intensive **foundation modules**. These are designed to prepare you for the advanced, specialist modules that you then study to make up 120 credits in total.

Finally, you complete your studies with a **project** in your chosen specialism under the guidance of an experienced individual supervisor.

Range of Degrees

MSc Computer Science
MSc Distributed Data Management
MSc Distributed Systems and Networks
MSc eLearning Technology
MSc Human Computer Interaction
MSc Mobile Computing
MSc Multimedia Technology
MSc Software Engineering

Key Opportunities

Study online for a masters in computer science

- range of advanced courses for CS graduates
- routes for graduates in other disciplines
- wide choice of modules

Gain an internationally recognized master's degree

- same academic quality standards as our on-campus degrees
- well-established computer science department with a strong RAE result
- support from well-qualified tutors
- all instruction in English

Complete in one year full-time, or flexibly over a longer period

- fit your study in around your other commitments, yet be part of a supportive group
- two intakes per year

Invest in your career

- benefit from our inclusive fees, payment by module, and no travel or accommodation costs
- open up new career opportunities with your masters degree from the UK.

Also available

We offer a Postgraduate Diploma (120 credit points, no project), Postgraduate Certificate (60 points), and individual modules for Continuing Professional Development (CPD).

Programme Overview : two routes

first degree in computer science

first degree in another subject

1. Enter with one of these qualifications

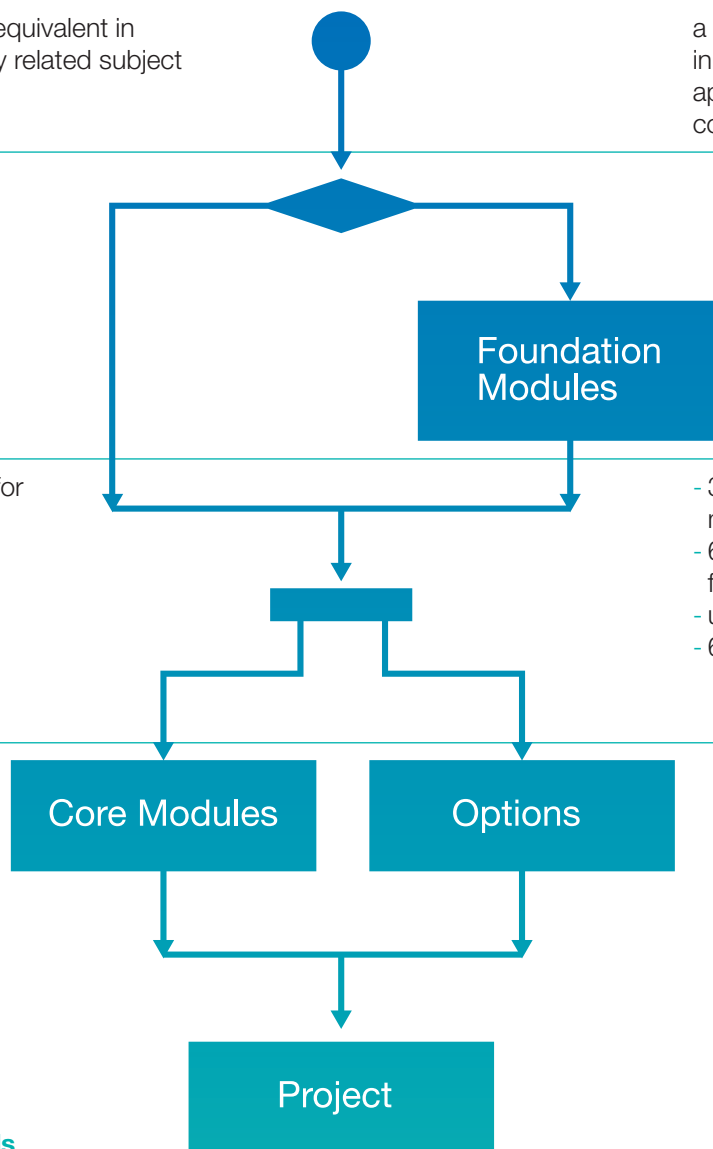
a good bachelor's degree or equivalent in **Computer Science** or closely related subject

a good bachelor's degree in **any subject** PLUS an appropriate level of computer literacy

2. Study these modules

- 60 credits of core modules for this award, plus
- 60 credits of options
- 60 credit project.

- 30–60 credits of foundation modules
- 60 credits of core modules for this award
- up to 30 credits of options
- 60 credit project.



3. Gain one of these awards

MSc Computer Science
MSc Distributed Data Management
MSc Distributed Systems and Networks
MSc eLearning Technology
MSc Human Computer Interaction
MSc Mobile Computing
MSc Multimedia Technology
MSc Software Engineering

MSc Computer Science
MSc eLearning Technology
MSc Human Computer Interaction

4. Enhance your career

Our Masters Programme is designed to give you the specialist, up-to-date skills and knowledge sought after by employers. It should enable you to move into the IT industry, to develop your position within it, or to prepare you for research.

Online Study with UH

How it works

Our programme is very flexible. You can study full-time or part-time, simply by varying the number of modules you take at a time. You can change your study rate or you can take a break.

There are no set hours so you can study when and where you want, fitting in with your other commitments such as work or family.

However, there are fixed start dates for each module and fixed deadlines for assignments. All assessment is through coursework or online testing. You study as part of a mutually supportive small group, often from many different countries. Individual or group feedback is given for all assignments.

This approach means that you combine the freedom of distance learning with the motivation, discipline, and community spirit of conventional study.

You will be using *Studynet*, the University's state-of-the-art Virtual Learning Environment, to access all course materials, to receive and submit assignments, and to communicate with staff and fellow students. You will need access to a suitable PC or Mac with a good Internet connection.

Our materials exploit online technologies to provide faster, more effective communication and to deliver a much richer learning experience.

Tutored e-Learning: our blended approach

In certain locations, we offer our innovative Tutored e-Learning approach. This combines the advantages of gaining an internationally recognized degree with the practicality of studying at a local centre.

The University partners with carefully validated local universities, colleges or training companies. The University provides quality materials and assessment; the support partner takes care of local arrangements and provides additional services. Most of your studying will still be carried out independently.

Start dates and rates of study

There are two starts per year: in September and late January. Each taught module takes approximately 16 weeks to complete (one semester including vacations). There are three semesters per year so by studying 60 credits at a time you can complete the course in 12 months. By reducing this rate or taking a break, you can extend this period.

You should plan a commitment of at least 15 hours a week per 30 credit module, depending on your background and experience.

What is included

The University provides:

- all the online study content
- all the support material e.g. text books, software
- access to online books and journals
- all the assessment and marking
- project supervision
- discussion boards and individual access to University tutors (not with Tutored e-Learning)

With Tutored e-Learning the Support Partner typically provides:

- supplementary tuition, e.g. to relate the course to local practice
- timetabled classes (e.g. 1-2 hrs/week), local discussion boards
- computer & Internet facilities
- career support

Typical Study Patterns

Full-time over one calendar year

each semester, you take 60 credits

Year	Semester	Credits	Notes
1	1	30	foundation, core or options
	2	30	
	3	60	project

Flexible, e.g. part-time over two years

each semester, you take 30 credits

Year	Semester	Credits	Notes
1	1	30	foundation, core or options
	2	30	foundation, core or options
	3	30	core or options
2	1	30	core or options
	2	60	project
	3	60	

Module Details

(showing number of credits and level if not "M")

Specialist Modules (Core or Options)

offered to all students

Advanced Database [30]

for those with existing database knowledge

Grounded in sound understanding of relevant theory, practice and principles; made concrete by practical work using an enterprise scale DBMS such as Oracle®.

Distributed Systems Security [30]

Covers the theoretical and practical techniques used to provide security and protection to networked and distributed systems. Case studies are used throughout.

HCI: Selecting Usable Systems [15]

Covers the concepts, tools, techniques, standards and guidelines needed to plan and to evaluate interactive systems.

HCI: Developing Usable Systems [15]

Extends the "Selecting Usable Systems" module into design and production.

Measures & Models for Software Engineering [30]

Explains how modelling and measuring of software engineering products (requirements, design documents, code) and processes (testing, de-bugging) enable quantified decisions to be made.

Mobile Standards, Interfaces & Applications [15]

Typically covers pervasive computing, mobile HCI, privacy/ security, location/ context awareness, networking, and data standards. You will program mobile devices with an industry-standard development platform.

Multicast & Multimedia Networking [15]

Considers how to integrate diverse applications onto a single network infrastructure: those that send the same data to many different destinations and those with very different quality of service (QoS) requirements.

Multimedia Specification, Design & Production [30]

Provides an advanced understanding of the development of interactive, multimedia computer applications as well as their component media; develops advanced practical skills in a particular multimedia programming tool such as Adobe® Flash®.

Principles and Practice of e-Learning Design & Development [30]

Provides the theoretical background to instructional design, reinforced by practical exercises: how people learn, how to produce technology-based materials that are educationally useful, and how to evaluate their effectiveness.

Secure Systems Programming [15]

Covers the pro-active defence mechanisms needed to counter the variety and proliferation of malicious attacks made against users of networks and distributed systems.

Software Engineering Practice & Experience [30]

Develops advanced knowledge and skills in software engineering, readily transferable to professional practice; practically oriented, typically using open source systems, Java® or another modern, industry-standard 3GL.

Web Services [30]

Covers Web Services, the building blocks of "service oriented architectures" (SOA) and Web 2.0 "mash-ups", which enable information sharing and integration of functionality in a decentralised network environment.

Wireless, Mobile and Ad-hoc Networking [15]

Examines wireless communication technologies and addresses the issues of mobile ad-hoc and wireless networks: how to handle users and computers that move from place to place. The practical work involves Java network programming and NS2 network simulation.

Foundation Modules

offered primarily to students without a first degree in Computer Science

Web Scripting and Content Creation [30]

Covers the basics of scripting, programming, and database design for web applications: how to display database information and other dynamic data compellingly, and how to show and query web based data.

Introduction to Programming [15, level 2]

Introduces the basic facilities in imperative and object-oriented programming languages; develops the skills needed to build and verify high quality programs to solve clearly-specified problems.

Object-oriented Programming [15, level 3]

Explores the use of object-oriented methods and tools in the design and implementation of software; how inheritance can support code reuse and promote flexible design.

Professional Issues [15]

Covers information systems project management: estimation of resources, risk management, quality assurance and HR management. It also examines the relationship between technological change, society and the law, as applicable to IT professionals.

Software Development Tools and Methods [15]

Emphasizes the use of industry-standard, best practice tools and techniques for software development. The Unified Modelling Language (UML) is used to produce models throughout a project, from analysis through to design, implementation and deployment.

Note: all modules are offered at least once per year, but this is subject to demand

University of Hertfordshire

Why study with us

The University

We are one of the UK's leading business-facing universities, with over 23,000 students on two campuses in Hatfield, Hertfordshire, only 30km from the centre of London, and with excellent transport links. Hatfield and the surrounding area are a centre of high-tech industry in particular for IT, aerospace and pharmaceuticals.

School of Computer Science

The School of Computer Science has provided undergraduate and postgraduate courses for more than 40 years and more recently has invested heavily in online materials for distance learning.

We have approximately 50 teaching staff with 5 full professors. There are more than 1,500 students in the department, with our traditional masters programme attracting over 150 students per year, and about 600 students currently following our innovative online degree courses.

In the last UK Government Research Assessment Exercise (RAE 2008), over half the research outputs in Computer Science at the University were rated as world-leading or internationally excellent. We have strong links with employers in business and industry.

The research interests of the department include adaptive systems (including robotics), algorithms, biological and neural computation, teaching and learning, and software engineering.



Next Steps

want to know more?

Online Programme Fees

Online fees are different from the standard University postgraduate fees. Please visit go.herts.ac.uk/csonline for details. Our online fees are charged per module taken, in advance.

The fee includes full support from well-qualified tutors, all assessment, all materials (online, textbooks, software), and access to learning resources such as online books and journals.

How to Apply

For the online programme, you should apply directly to the School of Computer Science. See go.herts.ac.uk/csonline for further information or email csonline@herts.ac.uk for the application form.

You will need to provide two academic references or one academic reference plus one from your current work. You will also need to provide evidence of your qualifications, e.g. transcripts.

If Tutored e-Learning is offered in your area, then you should apply via the Support Partner.

Entry requirements

- EITHER a good† bachelor's degree or equivalent in Computer Science or closely related subject;
- OR a good† bachelor's degree in any subject together with an appropriate level of computer literacy, e.g. you have studied some computing as part of your degree or have IT experience at work;
- OR equivalent qualifications and experience
- PLUS If your first language is not English, you must satisfy the University's requirement for this programme, i.e. a minimum IELTS score of 6.0, or TOEFL 550 (213 CBT).

If you are not sure whether you meet these requirements, you should simply apply and your individual case will be carefully considered by an admissions tutor. There is no application fee.

†“good” means, for example, at least a UK second class honours degree or a score of 65%.

More information

Visit our website to find information about:

- course structure
- individual modules
- the fees
- start dates and application deadlines,
- Tutored e-Learning Support Partners

From the website you can download a PDF of the extended version of this prospectus that also includes:

- a table showing core modules for each degree
- more detail about individual modules
- an FAQ

You can take the free trial of our sample material (registration required)

visit: go.herts.ac.uk/csonline
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