



THE UNIVERSITY
of EDINBURGH

Postgraduate Virtual
Open Days

Computer Science
MSc



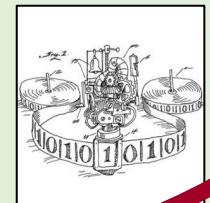
Dr Antonio Barbalace
Computer Science MSc Programme Director

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Computer Science MSc Program: Courses

“Spans the range from computer architecturesystems through theoretical computer science.”

CS Foundations, Systems and Software (60-100 credits)



Collection of **22** preselected courses

Collection of **14** preselected courses

CS non-Foundations, Systems and Software (0-40 credits)

- a) ML/AI, Ethics
- b) NLP, Speech
- c) Bioinformatics, Neuroscience
- d) Computational, Data Science

Programming (0-10 credits)

Programming Skills (10 credits)

Informatics and Math (0-20 credits)

- a) Must be level 10
- b) Several systems and theory courses are suggested

Courses in all Schools (0-20 credits)

- a) Includes Informatics and Math
- b) No Medicine, Veterinary Studies, or COL



Computer Science MSc Program: FSS Courses

“Spans the range from computer architecturesystems through theoretical computer science.”



Computer Systems
HPC, Cloud, Edge, IoT



Databases and Data Management



Human-Computer Interaction and Design



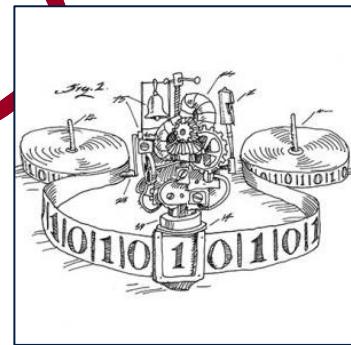
Software Engineering



Cyber Security and Privacy



Quantum Informatics



Theoretical Computer Science



MSc Courses: Computer Systems

“Spans the range from computer systems through theoretical computer science.”



- Theory and the practice of designing, optimising and programming computer systems
 - Internet of Things (IoT)
 - Cloud and Edge
 - High Performance Computation (HPC)

Principles and Design of IoT Systems

Applied Cloud Programming*

Machine Learning Systems

Parallel Programming Languages and Systems

Distributed Systems*



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MSc Courses: **Cyber Security and Privacy**

“Spans the range from computer systems through theoretical computer science.”



- Cyber Security
 - Protecting computers and their data against malicious or accidental damage
- Privacy
 - Limiting personal information and protecting it from abuse, even when data is shared
- Blockchain

Blockchain and Distributed
Ledgers

Secure Programming

Introduction to Modern
Cryptography

Quantum Cyber Security

Usable Security and Privacy



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MSc Courses: **Databases and Data Management**

“Spans the range from computer systems through theoretical computer science.”



- Theoretical analysis of database systems
 - Data structures
 - Algorithms for dealing with big data
 - Practical approaches for dealing with distributed data

Advanced Database Systems
Machine Learning Systems
Distributed Systems
Modelling Concurrent Systems



MSc Courses: **Software Engineering**

“Spans the range from computer systems through theoretical computer science.”



- Software usability and design
- Software quality control
 - Testing
 - Formal verification
- Software management

Applied Cloud Programming

Computer Graphics:
Rendering

Computer Graphics:
Geometry and Simulation

Text Technologies for Data
Science



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MSc Courses:

Human-Computer Interaction

“Spans the range from computer systems through theoretical computer science.”



- Theoretical and practical aspects of a human centered approach to design computer software, systems and interfaces
 - Design with users in mind
 - Evaluate existing systems' usability

Case studies in Design
Informatics 1

Human-Computer
Interaction

Usable security and Privacy



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MSc Courses: Quantum Informatics

“Spans the range from computer systems through theoretical computer science.”



- Exploiting quantum effects to manipulate information in novel ways
 - Quantum Information Theory (Physics)
 - Communication
 - Computation
 - Security

Introduction to Quantum Computing

Introduction to Quantum Programming and Semantics

Quantum Cyber Security

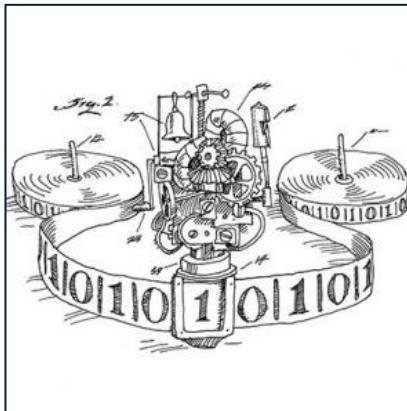


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MSc Courses: Theoretical Computer Science

“Spans the range from computer systems through theoretical computer science.”



- What is Computation?
 - Design of new Algorithms
 - How can we know whether our algorithm is the fastest?
 - Computation Complexity

Types and Semantics for Programming Languages

Machine Learning Theory

Algorithmic Game Theory and its Applications

Modelling Concurrent Systems

Security and privacy **courses**

Quantum Informatics **courses**



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Credits Breakdown

Computer Science MSc (180 credits)

Mandatory courses (80 credits)

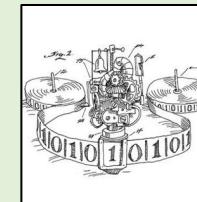


Informatics Project Proposal (IPP, S2, 10 credits)

Informatics Research Review (IRR, S1, 10 credits)

MSc Dissertation (Summer 60 credits)

CS Foundations, Systems and Software (60-100 credits)



Programming (0-10 credits)

Programming Skills (10 credits)

CS non-Foundations, Systems and Software (0-40 credits)

- a) ML/AI, Ethics
- b) NLP, Speech
- c) Bioinformatics, Neuroscience
- d) Computational, Data Science

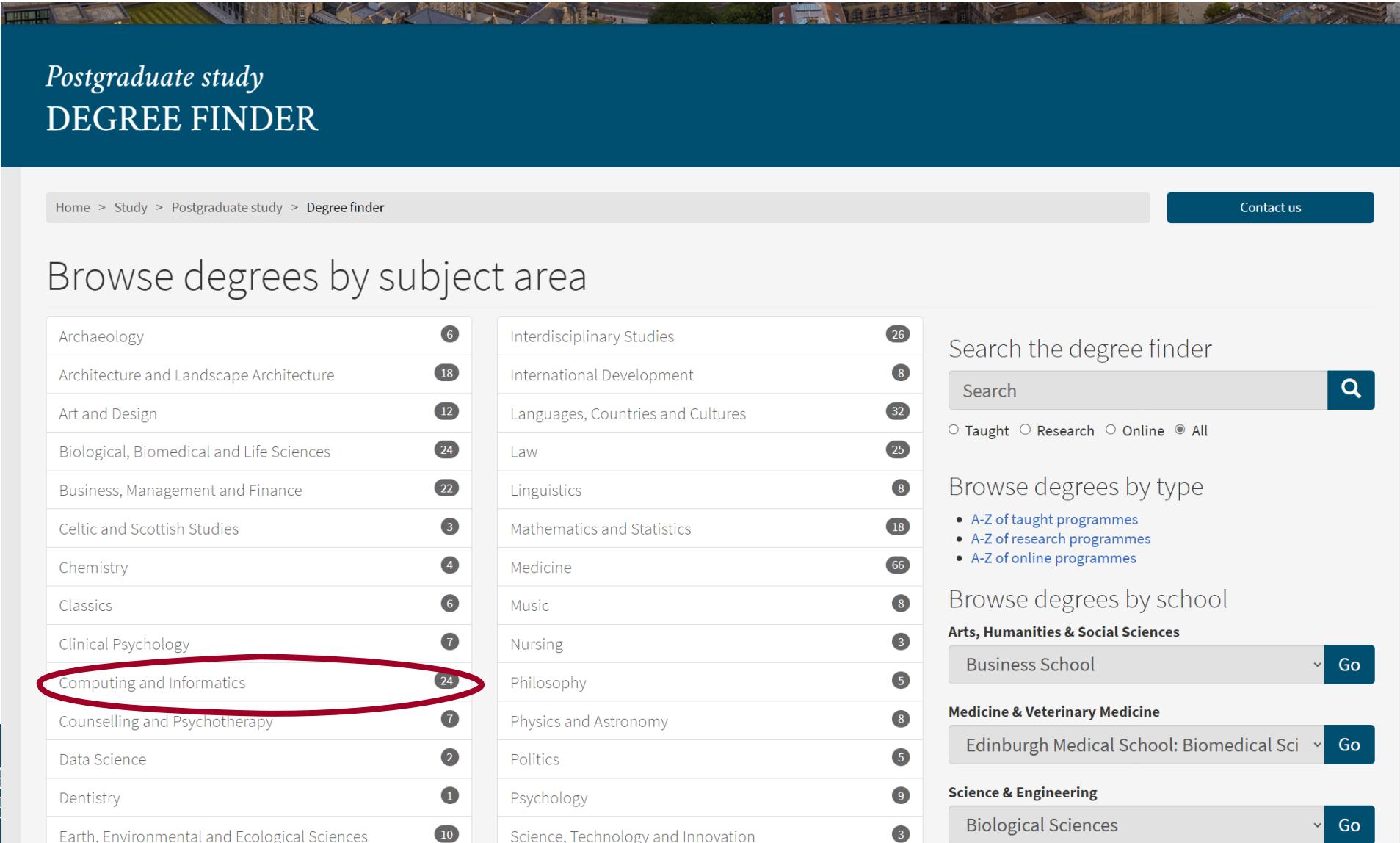
Informatics and Math (0-20 credits)

- a) Must be level 10
- b) Several systems and theory courses are suggested

Courses in all Schools (0-20 credits)

- a) Includes Informatics and Math
- b) No Medicine, Veterinary Studies, or COL

Additional Information (1/4)



The screenshot shows the 'Postgraduate study DEGREE FINDER' page. At the top, there is a banner with a photograph of a building. Below the banner, the page title is 'Postgraduate study DEGREE FINDER'. A breadcrumb navigation bar shows 'Home > Study > Postgraduate study > Degree finder'. On the right, there is a 'Contact us' button. The main content area is titled 'Browse degrees by subject area' and lists various degree programs with their counts: Archaeology (6), Architecture and Landscape Architecture (18), Art and Design (12), Biological, Biomedical and Life Sciences (24), Business, Management and Finance (22), Celtic and Scottish Studies (3), Chemistry (4), Classics (6), Clinical Psychology (7), Computing and Informatics (24), Counselling and Psychotherapy (7), Data Science (2), Dentistry (1), Earth, Environmental and Ecological Sciences (10), Interdisciplinary Studies (26), International Development (8), Languages, Countries and Cultures (32), Law (25), Linguistics (8), Mathematics and Statistics (18), Medicine (66), Music (8), Nursing (3), Philosophy (5), Physics and Astronomy (8), Politics (5), Psychology (9), and Science, Technology and Innovation (3). To the right, there is a search bar with a magnifying glass icon, and filters for 'Taught', 'Research', 'Online', and 'All'. Below the search is a section titled 'Browse degrees by type' with links to 'A-Z of taught programmes', 'A-Z of research programmes', and 'A-Z of online programmes'. Further down are sections for 'Browse degrees by school' (with dropdowns for 'Business School', 'Edinburgh Medical School: Biomedical Sci', and 'Biological Sciences') and 'BURGH' (with the tagline 'Your futures await'). The bottom left corner features the University of Edinburgh logo and the text 'THE UNIVERSITY OF EDINBURGH'.

Subject Area	Count
Archaeology	6
Architecture and Landscape Architecture	18
Art and Design	12
Biological, Biomedical and Life Sciences	24
Business, Management and Finance	22
Celtic and Scottish Studies	3
Chemistry	4
Classics	6
Clinical Psychology	7
Computing and Informatics	24
Counselling and Psychotherapy	7
Data Science	2
Dentistry	1
Earth, Environmental and Ecological Sciences	10
Interdisciplinary Studies	26
International Development	8
Languages, Countries and Cultures	32
Law	25
Linguistics	8
Mathematics and Statistics	18
Medicine	66
Music	8
Nursing	3
Philosophy	5
Physics and Astronomy	8
Politics	5
Psychology	9
Science, Technology and Innovation	3

Search the degree finder

Search Go

Taught Research Online All

Browse degrees by type

- [A-Z of taught programmes](#)
- [A-Z of research programmes](#)
- [A-Z of online programmes](#)

Browse degrees by school

Arts, Humanities & Social Sciences

Business School Go

Medicine & Veterinary Medicine

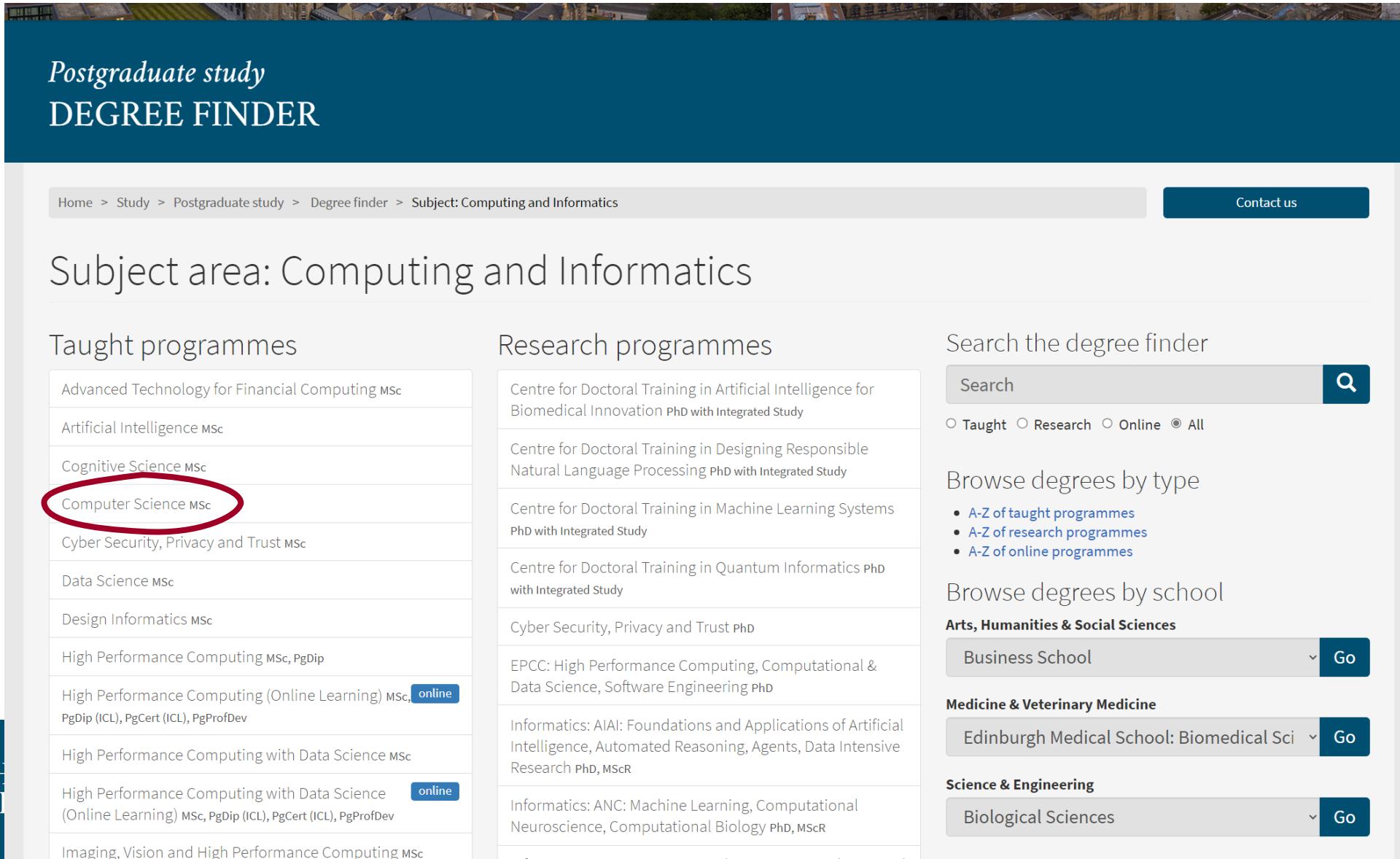
Edinburgh Medical School: Biomedical Sci Go

Science & Engineering

Biological Sciences Go

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Additional Information (2/4)



The screenshot shows the University of Edinburgh's Postgraduate Degree Finder page for the subject area of Computing and Informatics. The page has a dark blue header with the text "Postgraduate study" and "DEGREE FINDER". Below the header, a breadcrumb navigation shows "Home > Study > Postgraduate study > Degree finder > Subject: Computing and Informatics". A "Contact us" button is in the top right. The main content area is titled "Subject area: Computing and Informatics". It is divided into three sections: "Taught programmes", "Research programmes", and "Search the degree finder".

Taught programmes

- Advanced Technology for Financial Computing MSc
- Artificial Intelligence MSc
- Cognitive Science MSc
- Computer Science MSc** (This item is circled in red)
- Cyber Security, Privacy and Trust MSc
- Data Science MSc
- Design Informatics MSc
- High Performance Computing MSc, PgDip
- High Performance Computing (Online Learning) MSc, online PgDip (ICL), PgCert (ICL), PgProfDev
- High Performance Computing with Data Science MSc
- High Performance Computing with Data Science (Online Learning) MSc, PgDip (ICL), PgCert (ICL), PgProfDev
- Imaging, Vision and High Performance Computing MSc

Research programmes

- Centre for Doctoral Training in Artificial Intelligence for Biomedical Innovation PhD with Integrated Study
- Centre for Doctoral Training in Designing Responsible Natural Language Processing PhD with Integrated Study
- Centre for Doctoral Training in Machine Learning Systems PhD with Integrated Study
- Centre for Doctoral Training in Quantum Informatics PhD with Integrated Study
- Cyber Security, Privacy and Trust PhD
- EPCC: High Performance Computing, Computational & Data Science, Software Engineering PhD
- Informatics: AI&I: Foundations and Applications of Artificial Intelligence, Automated Reasoning, Agents, Data Intensive Research PhD, MScR
- Informatics: ANC: Machine Learning, Computational Neuroscience, Computational Biology PhD, MScR

Search the degree finder

Search Go

Taught Research Online All

Browse degrees by type

- [A-Z of taught programmes](#)
- [A-Z of research programmes](#)
- [A-Z of online programmes](#)

BURGH ary futures await

Browse degrees by school

Arts, Humanities & Social Sciences

Business School Go

Medicine & Veterinary Medicine

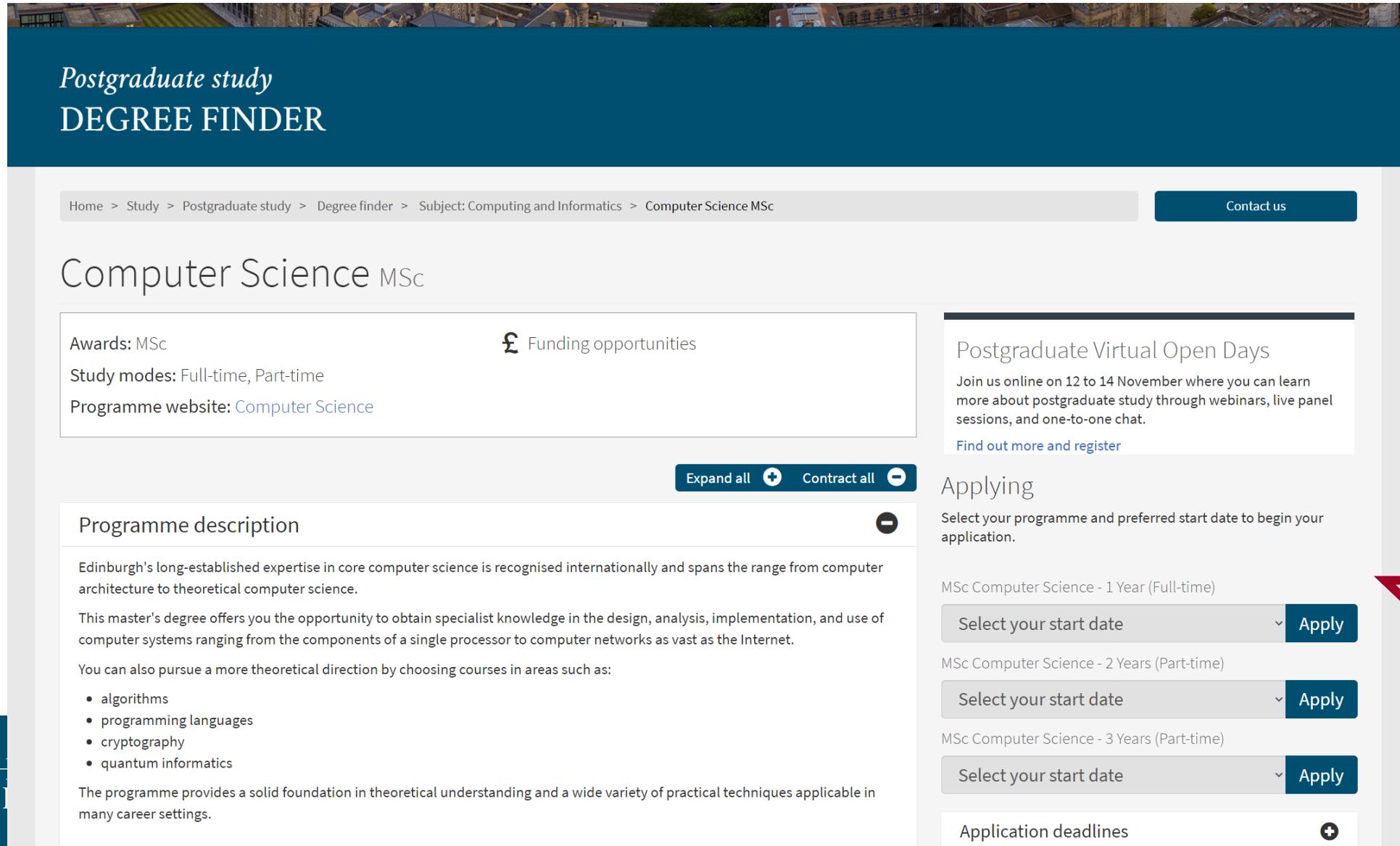
Edinburgh Medical School: Biomedical Sci Go

Science & Engineering

Biological Sciences Go

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Additional Information (3/4)



Postgraduate study
DEGREE FINDER

Home > Study > Postgraduate study > Degree finder > Subject: Computing and Informatics > Computer Science MSc

Contact us

Computer Science MSc

Awards: MSc **£** **Funding opportunities**

Study modes: Full-time, Part-time **Programme website:** [Computer Science](#)

Expand all **Contract all**

Programme description

Edinburgh's long-established expertise in core computer science is recognised internationally and spans the range from computer architecture to theoretical computer science.

This master's degree offers you the opportunity to obtain specialist knowledge in the design, analysis, implementation, and use of computer systems ranging from the components of a single processor to computer networks as vast as the Internet.

You can also pursue a more theoretical direction by choosing courses in areas such as:

- algorithms
- programming languages
- cryptography
- quantum informatics

The programme provides a solid foundation in theoretical understanding and a wide variety of practical techniques applicable in many career settings.

Postgraduate Virtual Open Days

Join us online on 12 to 14 November where you can learn more about postgraduate study through webinars, live panel sessions, and one-to-one chat.

[Find out more and register](#)

Applying

Select your programme and preferred start date to begin your application.

MSc Computer Science - 1 Year (Full-time)

Select your start date **Apply**

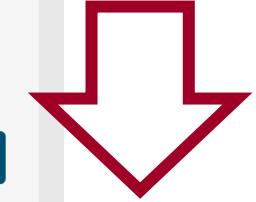
MSc Computer Science - 2 Years (Part-time)

Select your start date **Apply**

MSc Computer Science - 3 Years (Part-time)

Select your start date **Apply**

Application deadlines



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Additional Information (4/4)

Programme structure

You will follow two taught semesters of lectures, tutorials, project work and written assignments (September to May). During this time you will also learn research methods (such as literature review and project planning) to prepare for your final project and dissertation, which is completed during the summer.

Courses

Around half your taught course credits must be chosen from areas in core computer science (foundations and systems). Course offerings follow the main research areas of our staff, which include:

- parallelism and distributed systems
- security and privacy
- programming languages
- theoretical computer science
- quantum informatics

Example courses offered recently in computer science foundations and systems include:

- Advanced Databases Systems
- Blockchains and Distributed Ledgers
- Computational Complexity
- Computer Networking
- Distributed Systems
- Internet of Things: Systems, Security, and the Cloud
- Introduction to Quantum Computing
- Parallel Programming Languages and Systems
- Secure Programming

For your remaining courses, you may choose further options from foundations and systems or from a wide range of courses offered in other areas of Informatics, including:

- artificial intelligence
- software engineering
- social and biological computation

Guidance is provided to help you choose a set of courses that work well together, giving you specialised expertise in your chosen area.

Please note: This degree has flexible course options. Students are only admitted onto the degree if they will have a viable set of options, but not all courses on offer are appropriate for all admitted students. The School of Informatics offers a wide selection of courses, but not all optional courses are guaranteed to run every year, and a few high-demand courses may limit enrollment to students on the most relevant degree(s).

MSc Computer Science - 1 Year (Full-time)

Select your start date Apply

MSc Computer Science - 2 Years (Part-time)

Select your start date Apply

MSc Computer Science - 3 Years (Part-time)

Select your start date Apply

Application deadlines +

How to apply +

Featured funding

Further information

Admissions Contact (lines open Mon-Fri 10am-4pm)

Phone: +44 (0)131 650 5737

Contact: [College of Science & Engineering Admissions Enquiries](#)

Programme Contact

Contact: futurestudents@ed.ac.uk

School of Informatics

11 Crichton Street

Central Campus

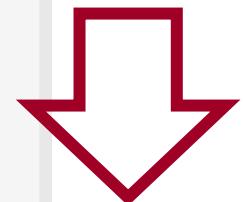
Edinburgh

EH8 9LE

Programme: [Computer Science](#)

School: [Informatics](#)

College: [Science & Engineering](#)



Resources: Program Structure

Degree Programme Table: Computer Science (MSc) (Full-time) (PTMSCCMPsi1F)

Jump to: [Year 1](#)

Year 1 Academic year: 2024/25, Starting in: September

NOTES:

Before making your course choices make sure you have discussed them with your Student Adviser, or someone in your student support team.

Compulsory courses

You must take these courses

[MSc Dissertation \(Informatics\)](#)

Must be passed at 50%

INFR11077

[Informatics Research Review](#)

INFR11136

[Informatics Project Proposal](#)

INFR11147

10 credits

10 credits

Course options

Group A

Select exactly 100 credits in this group.

[Informatics MSc FSS Courses](#)

Select between 60 and 100 credits of the following courses

NOTES:

These are CS Foundations, Systems and Software courses at Level 11 open to taught postgraduate students.

[Human-Computer Interaction \(Level 11\)](#)

INFR11017

[Algorithmic Game Theory and its Applications](#)

INFR11028

[Distributed Systems \(Level 11\)](#)

INFR11039

[Parallel Programming Languages and Systems \(Level 11\)](#)

INFR11050

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Resource: MSc Handbook



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Schools & departments MyEd

Search



School of Informatics Intranet TAUGHT STUDENTS

Taught students home

Information for students

Information for MSc students

Taught MSc Handbook 2024/25

Degree programmes and courses

Courses by Topic

Common Compulsory Courses

Programming Courses

Entrepreneurship and other Outside Courses

Bioinformatics, Systems and Synthetic Biology

Cognitive Science and Neuroinformatics

Computer Systems and High-Performance Computing

Computation in Social Systems

Cyber Security and Privacy

Databases and Data Management

Formal Methods

Human-Computer Interaction and Design

Machine Learning

Natural Language Processing

Programming Languages

Quantum Informatics

Software Engineering

Home > InfWeb > Student Services > Taught students > Information for students > Information for MSc students > Taught MSc Handbook 2024/25 > Degree programmes and courses > Courses by Topic

Contact us

Courses by Topic

Courses available in the MSc degree programmes, arranged by topic.

Common Compulsory Courses

Information about IRR, IPP, and the MSc Dissertation

Programming Courses

Information about the programming courses we offer and whether you should take one

Entrepreneurship and other Outside Courses

Course options and guidance for the Entrepreneurship and other outside courses

Bioinformatics, Systems and Synthetic Biology

Course options and guidance for the Bioinformatics, Systems and Synthetic Biology topic area

Cognitive Science and Neuroinformatics

Course options and guidance for the Cognitive Science and Neuroinformatics topic area

Computer Systems and High-Performance Computing

Course options and guidance for the Computer Systems and High-Performance Computing topic area

Computation in Social Systems

Cyber Security and Privacy



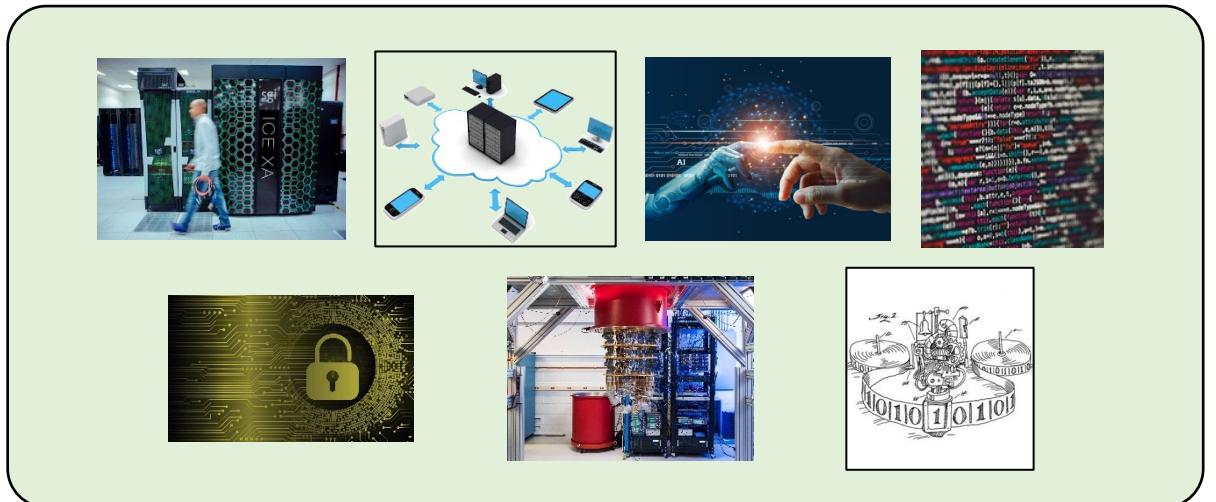
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When a MSc in Computer Science?

“Spans the range from computer systems through theoretical computer science.”

- Interest in:
 - Computer Systems
 - Database and Data Management
 - Human-Computer Interaction
 - Software Engineering
 - Cyber Security and Privacy
 - Quantum
 - Theoretical Computer Science
- You want a broad perspective
- You may not know yet exactly which niche fits you best ...



... a versatile MSc!



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Thanks for listening! Questions?



Computer Systems
HPC, Cloud, Edge, IoT



Databases and Data Management



Cyber Security and Privacy



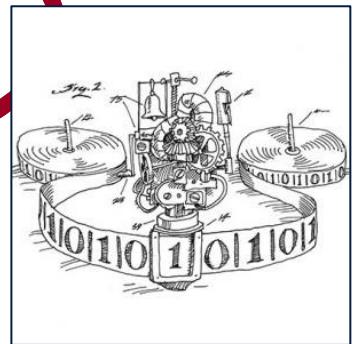
Human-Computer Interaction and Design



Software Engineering



Quantum Informatics



Theoretical Computer Science



Did you get the info you were looking for?

- Programme-specific info: <https://postgraduate.degrees.ed.ac.uk/>
- Chat to our Students: <https://edin.ac/student-chat-pg>
- Any other questions (including, Fees & Admissions) email:
futurestudents@ed.ac.uk
- Read our students' blogs at <https://blogs.ed.ac.uk/studentstories/>





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Thank you

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