Postgraduate opportunities

EPCC's MSc in High Performance Computing has always been a leader in its field. Coupling it to Data Science responds to the huge increase in demand for graduates with both HPC and data skills from both science and business.

Professor Mark Parsons
Executive Director, EPCC

MSc in High Performance Computing

MSc in High Performance Computing with Data Science

These two Masters of Science (MSc) programmes are taught by EPCC at the University of Edinburgh. EPCC is the UK's leading supercomputing centre and operates ARCHER, a Cray XC30 system with 118,080 processor-cores, which is the UK's national supercomputer facility.

epcc

Leading the way in the age of information

High Performance Computing (HPC) is widely used in science, engineering and industry. Many branches of modern science, such as climate research and nanotechnology, rely on complex computer models or data-intensive analysis that can only be run on parallel supercomputers. The same parallel programming techniques are also essential for software developers to take full advantage of modern multicore processors, graphics processors and computing clusters.

HPC is also a key driver for the emerging field of data science. The tools and techniques of HPC and parallel programming are indispensable for manipulating, processing and analysing the massive and complex data sets which are now generated across many areas of science and commerce.

Find us at
www.epcc.ed.ac.uk/msc

Studying the MSc in High Performance Computing

The MSc in HPC trains the next generation of specialists in parallel programming. Learn leading-edge HPC technologies and skills to exploit the full potential of the world's largest supercomputers and multicore processors.

Studying the MSc in High Performance Computing with Data Science

The MSc in HPC with Data Science equips you with multidisciplinary skills and knowledge in both HPC and data science. You will apply this to tackle real-world data science problems through your dissertation project, from either academia or industry.

Courses include:
- Data Analytics with High Performance Computing
- Fundamentals of Data Management
- HPC Architectures
- HPC Ecosystem
- Message-Passing Programming
- Threaded Programming
- Parallel Numerical Algorithms
- Performance Programming
- Advanced Parallel Programming
- Parallel Design Patterns
- Software Development
- Programming Skills

Additional courses are available from the School of Informatics.

After completing the 12 taught courses, students work on a three-month individual project. These may be research or work-based with opportunities for placements in local companies.

Industry-based dissertation projects
Through our strong links with industry, we also offer our students the opportunity to undertake their dissertation project with a wide range of local companies. To find out more, please visit: **http://edin.ac/2rCTF3p**

Facilities

EPCC is one of the leading supercomputing centres in Europe, hosting and managing an extensive collection of HPC systems. MSc students utilise both Cirrus, a national Tier-2 system, and ARCHER, the UK national supercomputer. Other facilities include multicore, Xeon Phi and GPU-based machines. EPCC collaborates with major technology providers such as Intel, Cray, NVIDIA, and SGI. MSc students also benefit from regular guest lectures. Recent guest lecture details are available here: **http://edin.ac/2rD8WRI**

City centre learning

From September 2018 the MSc will be taught in the University's Central Area, allowing students the opportunity to step straight from classes into the heart of Scotland's vibrant and historic capital city.

Careers

The skills learnt are applicable both to academic computational science research and to a wide range of careers in science, engineering, industry and commercial software development.

Entry requirements

Good honours degree (UK 2:1 honours degree, or its equivalent if outside the UK) or equivalent work experience.

No prior HPC knowledge is assumed but candidates must be competent programmers, for example in C, C++, Python, Fortran or Java.

English language requirements

IELTS Academic Module 6.5 (with at least 6.0 in each section).

TOEFL-iBT 92 (with at least 20 in each section)

More information about other qualifications we accept is online at

HPC: **http://edin.ac/2rCUZTZ**

HPC with Data Science: **http://edin.ac/2rNCBrH**

Course duration

MSc: 12 months, full-time from September

MSc part-time: two or three years from September

Diploma: nine months, full-time from September

Scholarships

A number of scholarships are available, including provisions for overseas students. Please visit **http://edin.ac/2qjutez** for details. For more scholarship information, please visit **www.ed.ac.uk/student-funding**

How to apply

Apply online using the application link beside each programme in the online prospectus:

HPC: **http://edin.ac/2rCUZTZ**

HPC with Data Science: **http://edin.ac/2rNCBrH**

Contact us

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The University of Edinburgh is consistently one of the world's top 50 universities.*

* QS World Rankings 2016/17