

## CSSM Complex Systems Science

**Duration:** 2 years

**Course description:**

A “complex system” comprises many interacting components leading to multiple levels of collective structure and organization. Examples include natural systems ranging from bio-molecules and living cells to human social systems and the ecosphere, as well as sophisticated artificial systems such as the Internet, power grid or any large-scale distributed software system. It is a key challenge for our society to better understand, adapt, design and control such systems.

Our Masters degree teaches the tools to analyse complex systems and to understand their emergent behaviour. Students are offered a variety of research project opportunities to develop experience applying this to fresh challenges from the real world and within academic research.

We offer an exceptional cross-disciplinary environment and experience, with the programme based around three leading research centres in Complex Systems, associated with the Universities of Warwick (UK), Ecole Polytechnique (de Paris, France), and Chalmers/Gothenberg (Sweden). The European Complex Systems Society is an associated partner

The programme runs over two years (120 ECTS); it is half taught and half by research and leads to a JOINT Masters degree of University of Warwick, Ecole Polytechnique, Chalmers University (Gothenberg) and the University of Gothenberg. Students will be required to spend extended time in at least two centres and to join in events/collaborations across all three. Admissions are centralised (students must apply through Warwick, the Co-ordinating node) and successful candidates will start in September at the Centre whose initial teaching provides the best bridge between their undergraduate background and the programme as a whole. All students will have mobility opportunities after six months, and earlier for some well prepared students.

Instruction will generally be available in English, in which all students will be required to have some competence. Local language support will be available at the respective nodes to help students integrate. Each Centre has staff speaking a wide range of European languages and will allocate each student a mentor with some language in common.

**Website:** [www.warwick.ac.uk/go/emmcs](http://www.warwick.ac.uk/go/emmcs)

**Partners:**

UNIVERSITY OF WARWICK, United Kingdom (Co-ordinating institution)  
ECOLE POLYTECHNIQUE, France  
CHALMERS UNIVERSITY OF TECHNOLOGY, Sweden  
UNIVERSITY OF GOTHENBURG, Sweden

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