

FUSION-EP

European Master in Nuclear Fusion Science and Engineering Physics

Duration: 2 years

Course description:

The aim of this multinational Master's programme is to provide a high-level research-oriented education in fusion-related engineering physics. This Course is closely connected to the research activities in the university partners, and provides a well-integrated language and cultural experience. The seven university partners Ghent University (Belgium), the Royal Institute of Technology (Sweden), Complutense University of Madrid (Spain), Technical University of Madrid (Spain), University Carlos III of Madrid (Spain), University Nancy I Henri Poincare (France), and the University of Stuttgart (Germany) offer great depth and experience in the field of fusion science and engineering physics. These universities provide a genuinely European opportunity for Master's level studies in a field which is of crucial importance to addressing the ever more urgent and vital problem of world energy supply. In view of the expertise of the university partners, the programme offers three different pathways for its students: fusion-oriented Plasma Physics, Computational Methods in Physics, and Instrumentation and Radiation. The programme structure is combined with a mandatory stay at three participating universities in three different countries. Semesters one and two are spent at one university and the third semester at a second institution. Throughout these semesters, topics covered are plasma physics, computational methods in physics, instrumentation and radiation, classical electrodynamics, mechanics of continuous media, and various lab projects. The final semester is spent at a third university while students work on their Master's theses. After the second semester, a summer event is organised in which the mobility and specialisation tracks are organised and students propose their Master's thesis topics.

Courses will be taught in the local language of the university. The joint or multiple degrees awarded by the consortium upon completion are recognised in all the participating countries. Admission criteria include a Bachelor's degree in engineering physics, applied physics, physics or an equivalent degree. Sufficient undergraduate knowledge of classical and modern physics is required, together with the necessary mathematical and computer programming skills. Applicants are subject to a well-defined selection procedure which identifies high quality students.

There exists an Action 3 partnership for European students and researchers between FUSION-EP and the following higher education institutions from third countries: UCLA and University of Wisconsin-Madison (USA); St. Petersburg State Polytechnic University and Moscow Engineering Physics Institute, (Russian Federation); and University of Science & Technology of China (USTC), Tsinghua University Beijing, and Southern Institute of Physics Chengdu (China).

Website: <http://www.em-master-fusion.org>

Partners:

Ghent University, Belgium (Co-ordinating Institution)
Royal Institute of Technology, Sweden
Complutense University of Madrid, Spain
Technical University of Madrid, Spain
University Carlos III of Madrid, Spain
University of Nancy I Henri Poincare, France
University of Stuttgart, Germany

Contact:

Guido Van Oost
Head of Research Unit, Ghent University
J. Plateastraat 22
9000 Ghent, BELGIUM
guido.vanoost@ugent.be

Grant:

894 000 € (15 000 € consortium + 879 000 € scholarships), 2006
852 000 € (15 000 € consortium + 837 000 € scholarships), 2007
865 000 € (15 000 € consortium + 850 000 € scholarships), 2008
781 000 € (15 000 € consortium + 766 000 € scholarships), 2009