

Department of Computing, Imperial College, London

Computing Integrated Engineering Study Scheme - pre 2001 entrants

The scheme is designed to develop the intellectual and practical skills of its students and to engage their enthusiasm for computing. It is based on the four-year MEng courses and the three-year Computing BEng course. These degrees offer a common set of core courses and a variety of specialisations are also available.

BEng Computing G500

provides an education and develops skills in the science and engineering of computation.

MEng Computing G501

provides a general education and professional formation in the science and engineering of computation to an advanced level.

The *MEng degree courses with specialisations* provide an education and professional formation in the science and engineering of computation and also knowledge of the following specialised fields:

MEng Computing (Software Engineering) G700

provides specialised engineering education in the methods, tools, techniques and processes underlying development of large and complex software.

Course structure - pre 2001 entrants

The course structure is very flexible providing many option courses. There is also a central spine of engineering project and design work running through all years. A substantial part of the final year (fourth year for MEng Students, third year for BEng students) is devoted to an individual project allowing detailed study of a topic relevant to the student's chosen specialisation. Students following one of the specialised MEng courses will select some of their options from a group of advanced courses set down for that specialisation.

All MEng courses include an approved period of professional formation - this will be either industrial placement, extended project work or placement in a European industry or university. It takes place during the period between Easter and the start of the fourth year.

The Computing Integrated Engineering Study Scheme has been developed to satisfy the requirements set down by the engineering institutions. Accreditation for all courses is given by the Institute of Electrical Engineers (IEE) and British Computer Society (BCS).

The scheme has been designed to give each student an overview of computing, an understanding of the basic concepts and principles, skills in their application and extension, the ability to appreciate and to adapt to changes in the state of the art, and practical experience in applied computing. Special emphasis is placed on the fundamental principles underlying computing and on an understanding of the engineering considerations involved in computing system design, implementation and usage. A solid background is given in discrete mathematics (logic, sets, relations and grammars) which is the basic mathematics of computing, as well as in the classical mathematics and statistics relevant to applications engineering and management. Students are introduced to computing architecture and hardware alongside the software which can exploit them. Advanced techniques such as artificial intelligence are presented throughout the scheme. All courses are supported by laboratory and problem classes which give 'hands-on' experience.

Examinations and assessment - pre 2001 entrants

The assessment of student performance is by examination and coursework. This assessment is in four parts (three for the BEng Computing course), one for each year. Each part consists of a group of formal written papers and assessment of laboratory, course and project work submitted throughout the year.

Students on MEng Computing (European Programme of Study) are assessed during their final year based on their performance in project work, coursework and examinations at their receiving institution.

Entrance requirements - pre 2001 entrants

The normal minimum entry requirements, common to all courses within the scheme, are three A levels at A grade, including Mathematics (pure mathematics or a mathematics subject containing an element of pure mathematics) and a hard science subject (such as Physics, Chemistry or Biology).

Applications from individuals with suitable non-GCE qualifications, such as Scottish Highers, International, French and European Baccalaureates are also welcomed.

Applicants for admission will not be judged by academic ability only but upon a wider profile to assess their potential for success in an engineering career.