

THE ENGINEERING DEPARTMENT, SUNWAY COLLEGE

INTRODUCTION

The Engineering Department was the first department to be set up at Sunway College and the Foundation Engineering Course took off on the 6th of July 1987. At present, the department consists of three full-time lecturers and one laboratory assistant. As part of the expansion programme due to start in 1988, the department will boast about 10 lecturers, 2 laboratory assistants and 2 laboratory technicians. The department also has two up-to-date laboratories with the related facilities. One of them is used for Chemistry experiments while the other is shared between the Electrical and Mechanical Science experiments. With the introduction of the First Year Leicester University Engineering Programme in 1988, there will be a need for more laboratories at the proposed Bandar Sunway campus equipped with the necessary facilities for the first year engineering experiments..

At present, only the one-year Foundation Year Engineering Course is being offered. This foundation year course is offered to students who have completed their SPM or 'O' Level examinations and obtained excellent results, and who have the intention of obtaining a degree in engineering. This course is a necessary requirement for these students who wish to enter the First Year Leicester University Engineering Programme which will be conducted at the Sunway College. After their first year at Sunway College, the successful students will be able to go to Leicester University to complete the second and third years of the course.

THE FOUNDATION YEAR ENGINEERING COURSE

To be awarded the degree in engineering from the University of Leicester, a student must first complete the one-year Foundation Engineering course and the first year of the 3 year degree course. After completion, the student will then complete the 3 year degree course, at the University of Leicester. Students admitted to the Foundation Engineering course are guaranteed a place in the engineering degree programme of Leicester University provided that the foundation course is completed satisfactorily. Thus, the foundation year comprises those branches of the physical sciences and mathematics needed for progression to the first year which in turn comprises of the following:-

- (a) Communication and study skills taught throughout the year.
- (b) Academic programmes in the following subjects including laboratory and

computing tasks where appropriate:

- i) Chemistry
 - ii) Mathematics
 - iii) Mechanical Science
 - iv) Electrical and Electronic Science
 - v) Engineering Drawing
 - vi) Computing
- (c) Projects in the engineering applications of some or all of the above subjects during the last term of the course.

The syllabus of the subjects given above have been planned mainly to:

- i) encourage the recognition of the operation of concepts and principles of the sciences to engineering applications.
- ii) provide a firm foundation for the further study of engineering.
- iii) foster an appreciation and knowledge of the concepts which link the sciences and mathematics.
- iv) develop manipulative and observational skills and use these to analyse and evaluate information arising from facts, concepts and principles.
- v) enable students to perform experiments and develop their skills in laboratory procedures and techniques.

THE FOUNDATION COURSE ASSESSMENT

The Foundation Year Engineering Course assessment falls into two main categories. One is based on the final examinations while the other is based on coursework; both weigh equally in their contribution.

(a) EXAMINATIONS

Students are examined in four subjects. There are as follows:

- i) Chemistry
- ii) Mathematics
- iii) Mechanical Science
- iv) Electrical and Electronic Science

There is a total of seven examination papers. There is one Chemistry paper, two Mathematics papers, two Electrical and Electronic Science papers and two mechanical Science papers.

To proceed to the first year Engineering Course, students have to obtain at least four grade Cs in the four subjects listed above and an overall grade C based on their coursework and examinations.

(b) COURSEWORK

The coursework in the form of phase tests, laboratory work, projects and engineering drawing in the foundation year forms an important part of the course.