

**THE UNIVERSITY OF HONG KONG  
FACULTY OF ENGINEERING**

**Minor in Innovation and Design**

**Credit Unit Statement**

All HKU undergraduates are welcome to take this Minor. Students can satisfy the academic requirement by taking 48 credits in addition to their regular degree program from their home Faculty. Students from STEM (Science Technology Engineering Mathematics) Faculties may apply for an exemption of 12 credits based on equivalent or related courses from their 'Major' academic studies.

These 48 credits would be mostly from Engineering and, with special permission, can be taken from a cognate Faculty. The courses will be broadly classified as

- ▶ 3 'Introductory Courses', 18 credits;
- ▶ 4 'Advanced Courses', 24 credits;
- ▶ 1 'Hands-on' Experiential Learning course (6 credits)

The Introductory Courses and Advanced Courses are 6-credit courses which are taught through lectures, tutorials, and laboratory sessions. These courses aim at equipping students with professional skills and knowledge in mathematics, science and engineering. 120 hours of student learning activity (including both contact hours and all other forms of student learning activity) will be the norm for a 6-credit course. The contact hours and expected learning outcomes for different groups of courses vary according to the learning modes adopted. Most courses are assessed through practical work (0% - 10%), continuous assessment (10% - 40%) and written examination (60% - 80%). These numbers illustrate the typical range of values used in assessment. An illustrative example might be

- practical work: 10%
- continuous assessment (quiz or midterm): 20%
- written final examination: 70%

**Introductory Courses (6 credits)**

These courses aim at providing students with a solid foundation in mathematics, science and engineering.

The total contact hours of introductory courses are normally 39 to 45 hours, consisting of a combination of lectures, tutorials and laboratories. The assessment is generally based on assignments, quizzes, course projects, mid-term tests, oral presentation, practical work, laboratory reports (totaling 1,000 to 2,000 words) and written examination. The written examination is normally of a 3-hour duration.

The number of and level of assignments, mathematical calculations, course projects and quizzes shall be selected to be appropriate for assessing the learning outcome of the students, but in all cases the written output shall not exceed 3,000 words (laboratory reports not included for this counting purpose).

## **Advanced Courses (6 credits)**

These courses aim at providing student with a breadth of knowledge in a broad range of technical courses, in-depth knowledge in selective subjects, with special emphasis on advanced knowledge necessary for a successful implementation and learning of the 'hands-on' experiential learning course.

The total contact hours of advanced courses are normally 39 to 45 hours, consisting of a combination of lectures, tutorials and laboratories. The assessment is generally based on assignments, quizzes, course projects, mid-term tests, oral presentation, practical work, laboratory reports (totaling 1,000 to 2,000 words) and written examination. The written examination is normally of a 3-hour duration.

The number of and level of assignments, mathematical calculations, course projects and quizzes shall be chosen to be appropriate for assessing the learning outcome of the students, but in all cases the written output shall not normally exceed 3,000 words (laboratory reports not included for this counting purpose).

### **'Hands-on' Experiential Learning course in Design (6 credits)**

This 'hands-on' course in Design will consist of a combination of lectures, homework, individual or group small-scale project work over a period of one semester. As indicated in the beginning paragraph of this Credit Unit Statement, the course will be of 6 credits . The goal of this 'Hands-on' course is to enable students to integrate and to consolidate the knowledge gained in their previous studies, and to apply the specialized knowledge to design / implement a practical engineering system relevant to frontier knowledge and technology.

This course consists of 30-39 hours of timetable work, comprising lectures (4-6 hours) and laboratories (26-33 hours). Students may need to spend additional time in the laboratory beyond the timetabled hours to complete their practical implementation. The total learning / working hours for the students for one semester should be 130 – 180 hours, in accordance with general University guidelines.

The assessment of these courses are based on assignments (homework, quiz, or perhaps examinations, depending on the instructor), project presentations and written reports totaling 1,500-4,500 words.

In terms of precise relative weights of the assessment modes, quizzes, midterm and final examinations may take up 20% to 40%. Laboratory work, testing of models, presentation and reports will typically count toward 60% to 80% of the final grade. These numbers illustrate the importance of the practical work component. An illustrative example might be

- practical work: 70%
- continuous assessment (quiz or midterm): 10%
- written final examination: 20%