

# THE UNIVERSITY OF HONG KONG

## **Bachelor of Engineering Degree in Engineering Science**

(Applicable to students admitted in the 2021-2022 academic year and thereafter)

### **Credit Unit Statement**

The Engineering Science curriculum consists of three types of courses, namely introductory courses, advanced courses and capstone experience courses. The majority of courses are 6-credit professional courses which are taught through lectures, tutorials, and laboratory sessions aimed at equipping students with professional skills and knowledge in mathematics 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, and the contact hours and expected learning outcomes for different groups of courses vary according to the learning modes employed. Most courses are assessed through practical work and continuous assessment (20% - 70%) and written examination (30% - 80%), with a few courses to be assessed through 100% continuous assessment. The three categories of engineering science courses are summarized as follows:

#### **Introductory Courses (6 credits)**

These courses, including Discipline Introductory courses, Engineering Core courses and Programme Common Core course IMSE2051 Engineering statistics and analytics, aim at providing students with a solid foundation in mathematics, engineering, communication skills and complementary studies.

The total contact hours ranging from 39 to 52 hours consist 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 1,000-2,000 words) and written examination. The written examination is normally 3 hours.

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

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

These courses, including Discipline Advanced courses and Programme Common Core course IMSE3115 Engineering economics and finance, aim at providing students with a breadth of knowledge in a broad range of technical courses, in-depth knowledge in selective subjects, effective communication skills and complementary studies.

The total contact hours ranging from 39 to 52 hours consist 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 1,000-2,000 words) and written examination. The written examination is normally 3 hours.

The number of and level of assignments, mathematical calculations, course projects and quizzes shall be appropriate for assessing the learning outcome of the students but in all cases written output shall not exceed 3,000 words.

#### **Capstone Experience Courses (6 or 12 credits)**

These courses include Programme Common Core course IMSE4051 Engineering research and innovation and the project courses under the category of Capstone Experience offered by five major options. The major

option (Systems Analytics) offers only one mode of project worth 12 credits. All other four major options (Environmental Engineering, Energy Engineering, Materials Engineering, Healthcare Engineering) offer two modes of projects: 6-credits or 12-credits mode.

Capstone experience courses may consist of individual or group projects over a period of half a year or one year to enable students to integrate and consolidate the knowledge gained in various courses, and apply it to an assigned project. The total contact hours range from 30 to 39 hours. The assessment is based on project presentations and written reports.

The 6-credit course consists of 30-39 hours of timetabled work, comprising lectures (4-6 hours) and laboratories (26-33 hours). Students will need to spend additional time in the laboratory beyond the timetabled hours to complete their practical implementation. Students are expected to submit a report with no more than 10,000 words per individual or 35,000 words per group.

For the 12-credit course, it is expected that there will be 30 contact hours and students will spend one-fifth of their work hours over a period of two semesters. Students are expected to submit a report of around 13,000 words.

Faculty of Engineering  
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