

THE UNIVERSITY OF HONG KONG

Bachelor of Engineering Degree in Mechanical Engineering **(Applicable to students admitted in the 2018-19 academic year and thereafter)**

Credit Unit Statement

The Mechanical Engineering curriculum offers five types of courses, namely introductory courses, advanced courses, projects, engineering training and internship. The majority of courses are 6-credit courses which are taught through lectures, tutorials, and laboratory sessions aims at equipping students with professional skills and knowledge in mathematics and engineering. The programme also has one 6-credit course Design and manufacture and one 12-credit course Integrated capstone experience as Capstone Experience. 120 hours of student learning activity (including both contact hours and all other forms of student learning activity) is the norm for a 6-credit course, whereas 240 hours of student learning activity is the norm for a 12-credit course, and the contact hours and expected learning outcomes for different groups of courses vary according to the learning modes adopted. The programme also has an optional non-credit bearing Internship. Most courses are assessed through practical work and continuous assessment (15% - 40%) and written examination (60% - 85%), with a few courses to be assessed through 100% continuous assessment and/or practical work. The five categories of mechanical engineering courses are summarized as follows:

Introductory Courses (6 credits)

These courses aim at providing students with a solid foundation in mathematics, engineering, communication skills and complementary studies including economics, management, legal environment, engineering ethics, etc.

The total contact hours of introductory courses are normally 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 to 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 aim at providing students with a breadth of knowledge in a broad range of technical courses, in-depth knowledge in selective subjects with special emphasis on topics related to mechanical engineering, effective communication skills and complementary studies including economics, management, legal environment, engineering ethics, etc.

The total contact hours of advanced courses are normally 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 to 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).

Projects (6 or 12 credits)

Project courses are under the category of Capstone Experience and consist of group project over a period of one/two semesters to enable students to integrate and consolidate the knowledge gained in various courses, and apply the knowledge to implement a practical system. There are two types of projects: Design and manufacture and Integrated capstone experience. Students are required to take the Design and manufacture at their third year of study whereas the Integrated capstone experience should be taken in their final year of study.

The Design and manufacture (6 credits) consists of 30-39 hours of timetabled work, comprising lectures (4-6 hours) and laboratories (26-33 hours). Students need to spend additional time in the laboratory beyond the timetabled hours to complete their practical implementation. The output requirement typically will be a new or novel solution of a practical problem based on the design concepts of the students. The problem to be tackled usually comes from industries or engineering applications.

For the Integrated capstone experience (12 credits), contact hours of instructions is 30 hours and students are generally expected to spend one-fifth of their work hours on the project over a period of two semesters. Usually the advisor meets with the student group on a weekly or biweekly basis, while the students will utilize the remaining work time on literature search, conceptual design and laboratory implementation, with the goal of integrating all aspects of knowledge in the core fields learned in previous years. The second semester of the Integrated capstone course runs in parallel with an applied English language course which is itself a graduation requirement. The presentation is evaluated by language specialists. The goal is to enhance the communication skills of the students.

The assessment of these courses are based on assignments, project presentations and written reports. The maximum length of an Design and manufacture project report should be no more than 10,000 words while that of an Integrated capstone experience project report should be no more than 35,000 words per group and 8000 words per individual.

Engineering Training (6 credits)

The engineering training provides students with hands-on workshop training aimed at reinforcing their practical engineering skills. The course consists of 150 hours of tutorials and laboratories. The assessment is based on continuous assessment and the student's log-book report totaling approximately 1,000 words.

Internship (non-credit bearing)

The internship, which is optional, aims at immersing students into work environment where their practical engineering knowledge can be reinforced in applied situations. The internship consists of a minimum of 6 weeks of placement in an industrial organization with an engineering environment. Alternatively, students are given the option of joining a one-year Integrated Study-Work Programme on a full-time basis to work in the industry between their third and final year of studies. Students are required to submit a training

report after the internship or the integrated study-work placement. The assessment is based on the employer's feedback and the training report totaling not more than 1,000 words.

Faculty of Engineering
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