

Applied Learning (Senior Secondary Level)

2019-21 Cohort

Learning and Teaching

Subject Title : **Internet of Everything Application**
Area of Studies : **Engineering and Production**
Course Provider : **School of Professional and Continuing Education,
The University of Hong Kong**

In Internet of Everything (IoE) Application, student-centred learning and teaching activities are designed to enable students to understand fundamental theories and concepts, develop their generic skills, and address their career aspirations in Internet of Everything Application.

Different modes of activities are employed to provide students with a systematic understanding about the context (e.g. lectures on the overview of the application and trend of IoE) and eye-opening opportunities to experience the complexity of the context (e.g. visits to technology related organisations and seminars by practitioners).

Students acquire an understanding of the requirements, fundamental knowledge and skills essential for further learning within the area through learning-by-practising opportunities in an authentic or near-authentic environment (e.g. practical exercises using popular IoE hardware and sensors and integration with mobile devices organisation).

Students are also encouraged to develop and apply conceptual, practical and reflective skills to demonstrate entrepreneurship and innovation (e.g. case studies to evaluate the impacts of IoE on society and economy). Students are given opportunities to integrate the knowledge and skills acquired and consolidate their learning (e.g. in the mobile IoE development project, students investigate authentic cases of mobile IoE Apps development and suggest solutions. Students are expected to make use of the knowledge acquired and present their findings in a systematic way. In the process, students apply practical skills at industrial development platform, demonstrate problem-solving and creative thinking skills through tackling IoE related issues with multi-disciplinary knowledge, and prepare reports and presentation. During the project, students are also expected to demonstrate the positive values and attitudes required in the modern information communication and technology industry).

Applied Learning (Senior Secondary Level)

2019-21 Cohort

Curriculum Pillars of Applied Learning in Context – Internet of Everything Application

Upon completion of the subject, students should be able to:

- describe the key concept of Internet of Everything (IoE) and appraise the value created by IoE applications;
- demonstrate basic programming knowledge and skills on modern and popular IoE platforms;
- implement IoE solutions by selecting and applying appropriate development tools;
- demonstrate problem-solving skills through tackling IoE related issues with multi-disciplinary knowledge; and
- develop self-understanding for further studies and career development in the related field.

Through the specific contexts related to the subject, students have different learning opportunities, for example:

1. Career-related Competencies

- understand the IoE application development;
- develop basic skills in integration of mobile applications;
- enhance reflective thinking skills and evaluating ability in the IoE development from different perspectives; and
- enhance understanding of industry competency requirements through practical exercises which are set according to the industry standard.

2. Foundation Skills

- enhance integration of knowledge from different aspects including mathematics, ICT and liberal studies;
- enhance communication skills both in verbal and visual forms through participation in site visits and report preparation, presentation and practical exercises;
- enhance information technology skills through doing research and information collection for assignments and projects; and
- enhance mathematical skills through exercises in IoE application and development.

3. Thinking Skills

- develop critical thinking skills and analytical skills through discussions on real life cases and practical exercises which will stimulate students' thinking and further understanding of the competency required by the industry;
- develop skills in problem solving and decision making through IoE Application exercises and project works which require information search and filtering; and
- appreciate the future development trend of IoE applications and its economic value through real life case studies.

4. People Skills

- develop self-management skills through individual practical exercises and group works;
- enhance team working skills and concept of division of works through group projects and the practical exercises; and
- enhance communications and interpersonal skills during different phases of application development projects.

5. Values and Attitudes

- develop self-values and positive attitudes towards the use of new technologies through discussing the issues on intellectual property and copyright etc.; and
- gradually develop self-confidence through successful completion of practical exercises with performance feedbacks by tutors.