# City University of Hong Kong
## Course Syllabus

offered by Department of Advanced Design and Systems Engineering  
with effect from Semester A  2021 / 22

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### Part I Course Overview

<table>
<thead>
<tr>
<th>Course Title:</th>
<th>Technological Innovation and Entrepreneurship</th>
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</thead>
<tbody>
<tr>
<td>Course Code:</td>
<td>SEEM6012</td>
</tr>
<tr>
<td>Course Duration:</td>
<td>One Semester</td>
</tr>
<tr>
<td>Credit Units:</td>
<td>3</td>
</tr>
<tr>
<td>Level:</td>
<td>P6</td>
</tr>
<tr>
<td>Medium of Instruction:</td>
<td>English</td>
</tr>
<tr>
<td>Medium of Assessment:</td>
<td>English</td>
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</tbody>
</table>

**Prerequisites:**
(Course Code and Title) Nil

**Precursors:**
(Course Code and Title) MEEM5010 (offered until Semester A 2011/12) / SEEM5010 Engineering Management Principles and Concepts or an equivalent management course

**Equivalent Courses:**
(Course Code and Title) MEEM6012 Management of Technological Innovation

**Exclusive Courses:**
(Course Code and Title) Nil
Part II Course Details

1. Abstract

The aim of this course is to develop an understanding of the processes involved in developing innovative technological products, and of the skills and techniques that can be usefully employed to effectively manage development projects. At the conclusion of the course, the student is expected to:

- appreciate the nature of innovative work in order to provide a framework for understanding the skills and techniques needed to manage innovative development projects;
- understand the nature of management in innovative technological projects and the skills and techniques which can be employed in these situations;
- understand the issues and techniques valuable for managing new product design to ensure the development of high-quality, manufacturable and cost-effective products; and
- be aware of the market issues and economic aspects of technological product development projects.

2. Course Intended Learning Outcomes (CILOs)

(CILOs state what the student is expected to be able to do at the end of the course according to a given standard of performance.)

<table>
<thead>
<tr>
<th>No.</th>
<th>CILOs</th>
<th>Weighting (if applicable)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>A1</td>
<td>A2</td>
</tr>
<tr>
<td>1.</td>
<td>To identify and describe new ideas developed from group discussion and brainstorming. Both technology-push and market pull will be used as sources of new ideas.</td>
<td>20%</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>2.</td>
<td>To describe the basic process and principle of product and process innovation. To understand the different thinking pattern and work style along the process of innovation. To understand the difference between creative and critical thinking.</td>
<td>20%</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>To integrate managerial issues like marketing, finance and team management into new product development. To conduct an innovation project from an entrepreneurial perspective rather than an engineering perspective.</td>
<td>20%</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>4.</td>
<td>To Identify examples and cases of innovation in daily life and work in order to be inspired by the fact that innovation is everywhere.</td>
<td>10%</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>To combine all the relevant engineering and managerial theories and methods and apply them in formulating a complete innovation and entrepreneurship project plan. The final goal is to integrate your creative ideas, physical design, patent search, marketing plan and financial plan into a complete entrepreneurial package.</td>
<td>30%</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

100%
A1: Attitude
Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability
Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to self-life problems.

A3: Accomplishments
Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

3. Teaching and Learning Activities (TLAs)
(TLAs designed to facilitate students’ achievement of the CILOs.)

<table>
<thead>
<tr>
<th>TLA</th>
<th>Brief Description</th>
<th>CILO No.</th>
<th>Hours/week (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class activities</td>
<td>Including lecturing, discussion, questioning, answering questions, participating in class assessments.</td>
<td>✓ ✓ ✓ ✓ ✓</td>
<td>26 hrs/sem</td>
</tr>
<tr>
<td>Group project and tutorial</td>
<td>Including idea generation, product design, market research, financial analysis and project report.</td>
<td>✓ ✓ ✓ ✓ ✓</td>
<td>13 hrs/sem</td>
</tr>
</tbody>
</table>

4. Assessment Tasks/Activities (ATs)
(ATs are designed to assess how well the students achieve the CILOs.)

<table>
<thead>
<tr>
<th>Assessment Tasks/Activities</th>
<th>CILO No.</th>
<th>Weighting</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous Assessment:</td>
<td>100%</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Class activities</td>
<td>✓ ✓ ✓ ✓ ✓</td>
<td></td>
<td>20%</td>
</tr>
<tr>
<td>Group project</td>
<td>✓ ✓ ✓ ✓ ✓</td>
<td></td>
<td>40%</td>
</tr>
<tr>
<td>Continuous tests</td>
<td>✓ ✓ ✓ ✓ ✓</td>
<td></td>
<td>40%</td>
</tr>
<tr>
<td>Examination:</td>
<td>0%</td>
<td>100%</td>
<td>(duration: , if applicable)</td>
</tr>
</tbody>
</table>
5. **Assessment Rubrics**  
(Grading of student achievements is based on student performance in assessment tasks/activities with the following rubrics.)

<table>
<thead>
<tr>
<th>Assessment Task</th>
<th>Criterion</th>
<th>Excellent (A+, A, A-)</th>
<th>Good (B+, B, B-)</th>
<th>Fair (C+, C, C-)</th>
<th>Marginal (D)</th>
<th>Failure (F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Class activities</td>
<td>Active participation in class activities measured each time.</td>
<td>High</td>
<td>Significant</td>
<td>Moderate</td>
<td>Basic</td>
<td>Not even reaching marginal levels</td>
</tr>
<tr>
<td>2. Group project</td>
<td>Contribution to group project in terms of problem, idea, product concept and/or business plan preparation, plus peer assessment.</td>
<td>High</td>
<td>Significant</td>
<td>Moderate</td>
<td>Basic</td>
<td>Not even reaching marginal levels</td>
</tr>
<tr>
<td>3. Continuous tests</td>
<td>Identification of programmes and provide potential solutions.</td>
<td>High</td>
<td>Significant</td>
<td>Moderate</td>
<td>Basic</td>
<td>Not even reaching marginal levels</td>
</tr>
</tbody>
</table>

Class activities: Including Q&A, attendance, and class activities. A scorecard will be used to measure how active a group will be in the class. For all the questions asked in the class, a score will be given and recorded.

Group project: Including a written report, the final presentation, peer assessment and a preliminary patent application form. The distribution of the scores among team members will be adjusted by peer assessment.

Continuous tests: Continuous tests will be conducted in the middle and the end of the semester.
Part III Other Information (more details can be provided separately in the teaching plan)

1. **Keyword Syllabus**  
   *An indication of the key topics of the course.*

- Creativity, innovation and entrepreneurship
- Creative thing and idea generation
- Sources of innovation
- Technology forecasting and assessment
- Innovative team
- Innovative organization
- Management fundamentals for innovation project
- Basic marketing and financial issues for innovation

2. **Reading List**
   
   2.1 **Compulsory Readings**  
   *(Compulsory readings can include books, book chapters, or journal/magazine articles. There are also collections of e-books, e-journals available from the CityU Library.)*


   2.2 **Additional Readings**  
   *(Additional references for students to learn to expand their knowledge about the subject.)*

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