**Subject Description Form**

|  |  |  |
| --- | --- | --- |
| **Subject Code** | ISE5026 | |
| **Subject Title** | Technology Entrepreneurship and Innovation in Practice | |
| **Credit Value** | 3 | |
| **Level** | 5 | |
| **Pre-requisite / Co-requisite/** **Exclusion** | None | |
| **Objectives** | The subject aims to provide an analysis of the relationship of scientific research, innovation and technology entrepreneurship in their role as driver of the knowledge-based economy. It will analyze the methods and approaches to nurture innovation and pursue technology entrepreneurship. It will highlight the role and interaction of players of the innovation system in a region or nation aspiring to establishing an economy based on knowledge.  Upon completion of this subject, students should be able to accomplish the following :   1. Understanding the concept of innovation and technology entrepreneurship and the components of an effective innovation system   2. Having the ability to appraise different models of developing innovation for companies engaged in commercialization of products and services  3. Understanding the fundamental elements of an effective eco- system of innovation  4. Gaining an insight on implementation of a technology entrepreneurship and the essence of management of change  5. Keeping abreast with the best practices and role models of successful entrepreneurship in the Asia Pacific Region | |
| **Intended Learning Outcomes** | Upon completion of the subject, students will be able to:   1. Understand the concepts and salient aspects of innovation and technology entrepreneurship 2. recognize the crucial role of national innovation system and the modes of operation under different social-political environment 3. nurture the culture of entrepreneurship and the essence of management of change 4. familiarize with global best practices for innovation and technology entrepreneurship | |
| **Subject Synopsis/ Indicative Syllabus** | The subject shows the importance of critical activities and approaches to manage the challenges on innovation and technology entrepreneurship. The following topics are covered;  Basic Concepts of Innovation and Technology Entrepreneurship  Drivers of economic growth, concept of innovation and innovation process, technology entrepreneurship, different models of developing innovation, the process of commercialization of research results, business model and business plan  The National Innovation System  The roles of the University, business, government and the technology institute, the different modes of interaction of these players, eco-environmental factors of  an effective innovation system  Culture of Entrepreneurship and Management of Change  The concepts of Laozi and Confucius related to Innovation and technology entrepreneurship, management of change, the method for building and nurturing the spirit of entrepreneurship  Role Models Best Practices  The legacy of the four most successful global innovator groups are examined: Silicon Valley, ITRI/Hsin-Chu, Shenzhen and Singapore. Stories and case studies of very successful technology entrepreneurship are discussed. | |
| **Teaching/Learning Methodology** | As shown in Table 1, this subject is offered in block mode format on weekends, usually spread over a period of4-6 weeks. A mixture of lectures, tutorial exercises, and case studies will be used to deliver the various topics in this subject. Some of which will be covered in a problem-based format where this enhances the learning objectives. Others will be delivered directly through directed study in order to enhance the students’ ability of “learning to learn”. A mini-project will be used to integrate related topics and the students will demonstrate how to apply various techniques in real life situations. Cross fertilization of ideas and experiences of students through discussions and presentations are highly encouraged.  Table 1:   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Teaching/ Learning Methodology | Intended subject learning outcomes | | | | |  | a | b | c | d | | 1.Lectures | ✓ | ✓ | ✓ | ✓ | | 1. In-class activities | ✓ | ✓ | ✓ |  | | 3. Case studies | ✓ | ✓ | ✓ |  | | 4. Mini-project | ✓ | ✓ | ✓ | ✓ | |  |  |  |  |  | | |
| **Assessment Methods in Alignment with Intended Learning Outcomes** | As shown in Table 2, this is a 100% continuous assessment subject which is comprised of assignments with individual and group, mini-project, short quiz and an open-book test. All assessment components will require students to apply what they have learnt to realistic work applications.  To reflect what the student’s learning for topics in learning outcomes (c) and (d), an individual assignment is provided which allows the students to apply the theory and concepts to address real life problems.  The group assignment aims to allow the students to prepare for a proposal for the mini-project in organizations (Learning Outcome (a)) and develop their skill to formulate a plan to address the problems (Learning Outcome (d)). The short quiz aims to assess the understanding of the students for the topics in learning outcomes (a) and (b).  The students are required to present the results and write a report for their mini-project which allow the students to integrate and apply the concept, theory, methods and approaches to innovation and entrepreneurship as strategic resources for enhancing the competitiveness for organizations. (learning outcomes (a) to (d)),  There is an open book test which aims to assess the students’ capability for applying the theory and concepts learnt in the class for analyzing and solving problems related to related to the subject (learning outcomes (a) to (d)).  Table2. Assessment   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | Specific assessment methods/tasks | % weighting | Intended subject learning outcomes to be assessed | | | | | | | a | b | c | d |  |  | | 1. Group Projects | 25 % | ✓ | ✓ | ✓ |  |  |  | | 1. Presentation | 10% |  | ✓ |  | ✓ |  |  | | 3. Individual assignments | 25 % |  |  | ✓ | ✓ |  |  | | 1. In-class activities | 15 % | ✓ | ✓ |  |  |  |  | | 5. open-book test | 25 % | ✓ | ✓ | ✓ |  |  |  | | Total | 100% |  |  |  |  |  |  | | |
| **Student Study Effort Required** | Class contact: |  |
| * Lectures | 26 Hrs. |
| * In-class activities/Tutorial/ Laboratory | 13 Hrs. |
| Other student study effort: |  |
| * Study and self-learning including mini-project and preparation for mini-project presentation | 38 Hrs. |
| * Assignment and report writing | 30 Hrs. |
| Total student study effort | 107 Hrs. |
| **Reading List and References** | **Textbooks-**  1.Otto C C Lin, " Innovation and Entrepreneurship: Choice and Challenge". World Scientific Publishers, February, 2018 (in press)  2. Frederick Betz, "Managing Technology Innovation: Competitive Advantage from Change,". John Wiley and Sons, 2nd Edition, 2003.  **Reading List**  1.Chong moon Lee, William F. MIller, Marguerite Gong Hancock, Henry S Rowen., “the Silicon Valley Edge: a Habitat for Innovation and Entrepreneurship., Stanford University Press, Stanford, 2000  2.Dan Breznits and Michael Murphree, "Run of the Red Queen: Government, Innovation, Globalization and Economic Growth in China," Yale University Press, 2011.  3.Walter Isaacson, "Steve Jobs." New York, Simon and Schuyler, 2011.  4.David McCullough," The Wright Brothers, " New York, Simon and Schuyler, 2015.  5.Thomas L. Freeman, " The World is Flat: a brief history of the twenty-first century,". Farrar, Strauss and Giroux, New York, 2005.  6. James C Collins, " Good to Great: Some Companies make the leap..and others don't " Harper Business, 2001.  7."Pearl River Delta Super zone: Tapping into world's fastest growing economy," South China Morning Post, 2003  8.林垂宙，“創新四重奏：從实验室到市场”，上海交通大学出版社，2014  9.吴曉波，”腾訉傳：1998-2016中國互聯網公司進化論"，淅江大學出版社，2016  10. 陳偉，"這就是馬雲"浙江人民出版社，2015  11. 薛瀾、梁正、柳卸林、穆榮平等譯箸”中国創新政策研究報告”，2011. | |