

OEL302 Overseas Experiential Learning (Shanghai/Hangzhou)

Level: 3

Credit Units: 5 Credit Units

Language: ENGLISH

Presentation Pattern: EVERY JULY

Synopsis:

Disruptive technologies refer to the advances in technologies that will transform life, business and the global economy. Several emerging and disruptive technologies have the potential to reshape our world, commerce, jobs, livelihoods and lives. These include big data, artificial intelligence, the Internet of Things, autonomous vehicles, advanced genomics, and other emerging technologies that support the next digital revolution and enhance the quality of our lives (like “Smart Nation”). As a consequence, there is a strong need for individuals who understand the value and distinct functions of these cutting-edge technologies and are able to harness the full power of these breakthrough innovations, in order to tap into all the potential changes.

In line with this need, this course is about understanding the new trends and disruptive technologies from a technical and managerial point of view. Emphasis will be given to the way technologies create a competitive edge and generate business value. Participants will study the technologies behind the innovations and their implications for business models and the geometry of markets.

This course will provide an understanding of the disruptive technology development and deployment. Topics will include data-driven innovation (e.g. big data, artificial intelligence, smart grid energy, etc.) and data-matching businesses (e.g. Uber, Grab, and Airbnb), disruptive technologies that power the smart manufacturing (e.g., autonomous robots, additive manufacturing, internet of things, augmented reality, etc.), and implementations of these disruptive technologies in smart transportation and cashless payment systems. In addition, this course takes a unique approach – comparative studies across three Asian megacities: Singapore, Shanghai and Hangzhou. Participants will visit companies and fields that utilize disruptive technologies to create smart solutions in these three cities and observe state-of-the-art of smart manufacturing, smart transportation and cashless payment implemented in these cities. Examined together, the comparative study will give participants a better view of the most recent developments in disruptive digital technologies and learn the lessons from these projects.

The rationale for choosing Shanghai and Hangzhou is the fact that both cities are located at the Yangtze River Delta that has been described as the “showpiece” of the booming economy of mainland China. Both cities are working to become smarter by exploiting the Internet and related disruptive technologies to the full. Specifically, Shanghai is capitalising on opportunities that are expanding connectivity across every aspect of city life. These range from the provision of tech-led healthcare and education to how people use sophisticated Fintech such as credit systems, e-transactions, clearing and taxes to do business. Hangzhou is one of the first cities to utilise mobile internet and big data to build a system where real-time responses cater to residents’ needs, according to the 2016 China Internet Plus and Social Services Index. The Hangzhou city government is now working with Alibaba and 13 other companies to create smart service delivery systems for the city. For example, Hangzhou City Brain, driven by the Alibaba Group, aims to use big data to help the city think and make decisions. Another example is the Hangzhou Resident Card, which is a card that enables access to 13 e-services, from withdrawing money from the local ATM, renting a bicycle, hopping on to a bus, buying groceries, accessing libraries and gyms, to grabbing a meal, paying taxes and even booking a hospital appointment. Visiting Shanghai and Hangzhou will give participants a good view of how the most promising high-tech cities are using digital technologies to improve the quality of the life.

In this course, participants will gain a thorough understanding of the challenges and the opportunities associated with disruptive technologies as well as how urban infrastructure can be managed in order to deliver desirable performance in cities. More precisely, throughout this 6-week course, participants will learn about the most important disruptive technologies that are driving businesses in the current world and the application of technologies in manufacturing, transportation, and financial industries. Given the importance of these disruptive technologies in the near future, it is critical for us to study and access the possible entrepreneurial opportunities that may arise. This course will help participants grasp the knowledge and skills related to the management and development of disruptive innovation and fit into tomorrow’s living and working environment.

Topics:

- China's history, economy, political system, and businesses
- Data-driven Innovation and Smart Nation
- Smart Manufacturing
- Smart Transportation
- Smart Cashless Society with Contactless payment
- Disruptive Innovation and Entrepreneurial Opportunity

Learning Outcome:

- Appraise various disruptive innovations from a technical perspective and gain a basic working knowledge of these technologies
- Discuss the differences and affordance inherent in emerging and disruptive technologies for different contexts
- Examine the strengths and weaknesses of cutting-edge technologies and the advantages and disadvantages of these technologies when implemented in society
- Deconstruct how their personal worldviews and presumptions about the host country shape the way they address their selected issues
- Examine comparative perspectives of the use of disruptive technologies in Singapore, Shanghai, and Hangzhou through on-site observation studies and published secondary sources
- Analyse market gaps and create technological innovations that can address these gaps by assimilating prior coursework on technologies, programming, economics and data analytics

Assessment Strategies:

Continuous Assessment Component	Weightage (%)
GROUP BASED ASSIGNMENT	20
TUTOR-MARKED ASSIGNMENT	5
TUTOR-MARKED ASSIGNMENT	10
GROUP BASED ASSIGNMENT	25
GROUP BASED ASSIGNMENT	25
TUTOR-MARKED ASSIGNMENT	10
TUTOR-MARKED ASSIGNMENT	5
Sub-Total	100

Examinable Component	Weightage (%)
Sub-Total	

Weightage Total **100**