Subject Description Form

Subject Code	CSE1BN04
Subject Title	Infrastructure on the Belt and Road Initiative
Credit Value	3
Level	1
Pre-requisite / Co-requisite/ Exclusion	Nil
Objectives	One-Belt-One-Road (OBOR) is a development strategy and framework proposed by China that focuses on connectivity and cooperation among countries primarily in Eurasia through a global infrastructure network. This subject aims to introduce students to the concepts of OBOR, equip them with understanding on the transport infrastructures involved, why these infrastructures are needed, and how these infrastructures are brought into reality, so that students can develop an objective understanding of the significance and impacts of OBOR infrastructure in the development of countries and regions. Through examining infrastructure projects examples, students shall be able to comprehend and appraise the local physical, social, economic, and political environment of China and OBOR countries, and how infrastructure in China and OBOR countries interacted with these factors.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: (a) Describe the background, objectives, and basic features of OBOR; (b) Explain the characteristics of and concepts in the planning and development of transport infrastructure; (c) Analyze the role infrastructure development plays in regional development (China/ Asia, Europe, and Africa); (d) Work as a team with shared responsibilities.
Subject Synopsis/ Indicative Syllabus	**1. Overview of One-Belt-One-Road** - Historical Background - OBOR initiative: role of the government (China and OBOR countries), objectives, features, geographical scope, infrastructure projects **2. Transport Infrastructure** - The role of infrastructure development in regional development (economic, social, and political aspects) - Basic characteristics of specific type of transport infrastructure - highway, railways & high-speed rail, airports, marine ports - Conceptual planning of transport infrastructure - Case studies (e.g. roads and railways along China-Pakistan Economic Corridor, Gwadar port and airport in Pakistan, The New Eurasian Land Bridge, Hambantota Port in Sri Lanka) **3. Infrastructure Development**

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- Quantifying economic and environmental impacts of infrastructure development using systematic methods (e.g. Cost-benefit analysis and Life-cycle assessment).
- Investment and Financing of infrastructure projects (e.g. private/ foreign/ state capital, Asian Infrastructure Investment Bank, European Banks, Silk Road Fund, etc.), political influence
- Risks in infrastructure development (e.g. technical, financial, legal, contractual, and other risks).
- Basic concepts of infrastructure contracts (e.g. Turnkey, Design-Build, Public Private Partnership, etc.).
- Basic concepts of construction management including scheduling, cost estimation, etc.
- Case studies (e.g. Shenzhen-Minsk rail link, OBOR impacts on Hong Kong, etc.)

<u>4. Group Project</u>
refer to the Teaching/ Learning Methodology Section for details
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<tr><td>Teaching/Learning Methodology</td><td>
In this subject, various teaching/ learning activities and assessment approaches are employed to facilitate collaborative learning both inside and out of classroom.

Basic concepts and techniques are being introduced in weekly lectures, achieving learning at knowledge level.

Students are expected to look for and read supplementary reading materials (such as reports, newspaper articles, websites, and videos) to reinforce their knowledge and broaden their learning. In the interactive tutorial sessions, students will present, discuss, analyze, or debate the reading materials to stimulate critical thinking and higher-order reasoning. In the tutorial sessions, students will have opportunity to apply the numerical techniques learnt in class through exercises.

Students will work on a group project to consolidate the learning gathered from various lectures and tutorials and to generate their own insights. The group project would require students to research on a specific OBOR transport infrastructure project. Students will examine the characteristics of that infrastructure, analyze how this project will impact the country’s or region’s development, assess the risks associated with the project, its financing options, and other aspects in the project development. Students will document their document their findings in a written report and also oral presentation.
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<tr><td>Assessment Methods in Alignment with Intended Learning Outcomes</td><td>
<table>
<tr><td rowspan="2">Specific assessment methods/tasks</td><td rowspan="2">% weighting</td><td colspan="4">Intended subject learning outcomes to be assessed (Please tick as appropriate)</td></tr>
<tr><td>a</td><td>b</td><td>c</td><td>d</td></tr>
<tr><td>1. Two quizzes</td><td>30%</td><td>√</td><td>√</td><td></td><td></td></tr>
<tr><td>2. Tutorial activities</td><td>30%</td><td>√</td><td>√</td><td>√</td><td>√</td></tr>
<tr><td>3. Group project</td><td>40%</td><td>√</td><td>√</td><td>√</td><td>√</td></tr>
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	Total	100 %	

Students must pass all the assessments and achieve a passing overall score / grade to pass the subject.

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

The accuracy of students understanding in basic knowledge about OBOR (ILO (a)), transport infrastructure (ILO (b)) and their development (ILO (c)) are assessed through two **quizzes**.

Students ability to consolidate and apply the basic knowledge (OBOR- ILO(a), transport infrastructure – ILO (b), and transport infrastructure development – ILO (c)) are assessed through various interactive **tutorial tasks** (such as mini-presentations, discussions, debate), and these tasks might be individual or team-based (ILO (d)). Students are assessed according to their active participation, preparation and quality of work (such as accuracy, breadth and depth) in these tutorial tasks. Individual contribution in a team will also be part of the assessment criteria if applicable).

Students are required to work as a group to illustrate their understanding about transport infrastructure development in OBOR, (ILO (a)). They will select a specific transport infrastructure (ILO (b)), analyze the significance of this infrastructure to the development of the region (ILO (d)), and how that infrastructure is being developed (ILO (c)). They will need to integrate the concepts introduced in lectures, research information from various other sources, and synthesize them into a project report (25%) and oral presentation (15%). Students will demonstrate how they can work as a team with shared responsibilities in the process, individual contribution in a team will also be part of the assessment criteria. (ILO (d)).

Student Study Effort Expected	Class contact:	Average hours per week
	▪ Lectures / Tutorials	3 Hrs.
	Other student study effort:	
	▪ Reading/ Studying/ Revision (before and after class)	2 Hrs.
	▪ Preparing for tutorial sessions	1 Hrs.
	▪ Prepare project report and presentation	2 Hrs.
	Total student study effort	8 Hrs.

Reading List and References	Hong Kong Trade Development Council. (3 May 2018). The Belt and Road Initiative. Retrieved from http://china-trade-research.hktdc.com/business-news/article/The-Belt-and-Road-Initiative/The-Belt-and-Road-Initiative/obor/en/1/1X3CGF6L/1X0A36B7.htm

	Rodrigue, J.-P. (2017). *The Geography of Transport Systems* (4th ed.). New York: Routledge. Wright, P. H., Ashford, N. J., & Stammer, R. J. (1997). *Transportation Engineering: Planning and Design* (4th ed.): Wiley. Uddin, W., Hudson, W. R., & Haas, R. C. G. (2013). *Public Infrastructure Asset Management* (2nd ed.): McGraw-Hill Education. Boardman, A., Greenberg, D., Vining, A., & Weimer, D. (2010). *Cost-Benefit Analysis* (4th ed.): Pearson.