Subject Description Form

Subject Code	CSE1BN01
Subject Title	Transport and Society
Credit Value	3
Level	1
Pre-requisite / Co-requisite/ Exclusion	CEE students are allowed to take CSE1BN01.
Objectives	This course aims to familiarize students with the major and current issues affecting transportation in local and global contexts. The significance of transport to social and economic development is analyzed with particular emphasis on the concept of sustainability. Students will acquire knowledge of different forms of transportation and be able to discuss and analyze their significance to society in various aspects.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: (a) Identify the role and characteristics of transportation systems (b) Describe the role of transportation in social and economic development, and its environmental impacts (c) Appraise transportation challenges in Hong Kong and overseas, and ways in addressing these issues (d) Describe the contemporary trends in transportation development, such as smart city/ smart transportation
Subject Synopsis/ Indicative Syllabus	1. **Overview** – What is transportation, nature of transport demand, the role of transportation in society 2. **Evolution of transportation** – Development of transport modes. Transport and spatial organization in global, regional, and local scale 3. **Transportation modes and travel patterns**– characteristics of transportation systems and modes for: (i) passenger transport: urban, regional, long-distance; and (ii) freight transport. Passenger and freight travel patterns. Advanced technology and future developments. 4. **Transportation, Economy and Society** – Transport and economy. The full cost of transportation. Social impacts of transportation – health, safety, and equity issues 5. **Environmental impacts of transportation –** Fuel consumption, emission, noise, urban sprawl, ecology 6. **Sustainable transport** 6.1. Introduction – Mobility needs and costs, automobile

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<tr><td></td><td>dependence, unsustainable travel pattern. Business as usual versus sustainable transport
6.2. Spectrum of Sustainable Transport solutions – Options for sustainable mobility: avoid, shift, improve. Global and local policies, personal actions. Barriers to implementation. Sustainable transport in developing countries
6.3. Technological solutions – Advances in fuel, vehicle technology (emission and energy efficiency), information and communication technology (ICT) in transport, smart transportation
6.4. Policy & Planning solutions – Travel demand management, land-use policy, smart city
6.5. Fiscal measures – congestion pricing, fuel tax, carbon tax, tradable permits
6.6. Transport policy evaluation and planning – conventional economic evaluation approach, hidden costs. Public policy planning process, public participation. New planning paradigm.</td></tr>
<tr><td>Teaching/Learning Methodology</td><td>This subject is delivered in the flipped classroom approach which consist of:
• Weekly self-study video lectures – students are expected to gain fundamental understanding of the subject contents by completing the video lectures and the accompanying concept-check exercises before the tutorial sessions
• Interactive tutorials – students are expected to expand and deepen their understanding by engaging in interactive activities, including but not limited to group discussions, mini-research, presentation, and case studies, during the tutorial sessions. These activities are going to be conducted in small groups to facilitate peer learning, under the guidance of the subject lecturers.</td></tr>
<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. Lecture Exercises</td><td>10%</td><td>√</td><td>√</td><td></td><td></td></tr>
<tr><td>2. Two Tests</td><td>50%</td><td>√</td><td>√</td><td></td><td></td></tr>
<tr><td>3. Tutorial activities</td><td>40%</td><td></td><td>√</td><td>√</td><td>√</td></tr>
<tr><td>Total</td><td>100 %</td><td colspan="4"></td></tr>
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<tr><td></td><td colspan="2">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 of and ability to apply the concepts learnt in class <u>and reading the textbook</u> (mostly ILOs (a) and (b)) are assessed through the lecture exercises (10%) and the tests (two tests, 30% + 30%).
The tutorial sessions provide opportunities for students to demonstrate their level of learning with respect to ILO (b), (c) and (d). Assessment of students' performance (such as preparation, participation, and quality of presentation) is formative in nature but still carries some weighting (40%) to promote continuous participation in these teaching/ learning activities.</td></tr>
<tr><td rowspan="7">Student Study Effort Expected</td><td>Class contact:</td><td></td></tr>
<tr><td>▪ Lectures/ Tutorials</td><td>26 Hrs.</td></tr>
<tr><td>Other student study effort:</td><td></td></tr>
<tr><td>▪ Completing video lectures</td><td>39 Hrs.</td></tr>
<tr><td>▪ Preparation for tutorial tasks</td><td>13 Hrs.</td></tr>
<tr><td>▪ Revision</td><td>39 Hrs.</td></tr>
<tr><td>Total student study effort</td><td>117 Hrs.</td></tr>
<tr><td>Reading List and References</td><td colspan="2">Textbook:
Rodrigue, J.-P. (2024). The Geography of Transport Systems (Sixth ed.).New York: Routledge.

Major references:
Schiller, P., Brunn, E., & Kenworthy, J. (2010). An introduction to Sustainable Transportation. London, UK: Earthscan.
Banister, D. (2005). Unsustainable Transport. Oxfordshire: Routledge.
Hoyle, B., & Knowles, R. (Eds.). (1998). Modern Transport Geography (Second, revised ed.). West Sussex, England: John Wiley & Sons Ltd.
Other references:
Cahill, M. (2010). Transport, Environment and Society. Berkshire: Open Univesity Press, McGraw-Hill Education.
Khisty, J. C., & Lall, K. B. (2002). Transportation Engineering: An Introduction (Third ed.). New Jersey: Prentice Hall.
Vuchic, V. (2005). Urban Transit: operations, planning, and</td></tr>
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economics.
New Jersey: John Wiley & Sons.
Vuchic, V. (2006). *Urban transit systems and technology.* New Jersey: John Wiley & Sons.
International Transport Forum. (2011). Transport for Society - Highlights. *2011 Annual Summit.* Leipzig, Germany: OECD Publishing.
Proceedings of the Motor Vehicle Emissions Control Workshop (MoVE)