

Subject Description Form

Subject Code	EE560
Subject Title	Metros in Hong Kong and China
Credit Value	3
Level	5
Pre-requisite/ Co-requisite/ Exclusion	Nil
Objectives	To provide students through lectures, site visits and exchanges with Metro personnel; an overview knowledge and an appreciation of Metro operations, business and projects, using systems in Hong Kong and China as illustrations.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: <ul style="list-style-type: none"> a. demonstrate an understanding of the fundamentals of metro operations and management b. acquire a comprehensive knowledge of key engineering systems in metros to pave the way for more advanced studies c. appreciate the key issues in the planning and implementation of metro projects.
Subject Synopsis/ Indicative Syllabus	<ol style="list-style-type: none"> 1. <u>Introduction</u> <ol style="list-style-type: none"> a. Objectives and key attributes of Metros b. Major components of a Metro c. Role of Metros in public transport d. A survey of operating Metros in Hong Kong and China. e. Future development of Metros in Hong Kong and China. 2. <u>Key systems in Metro</u> <ol style="list-style-type: none"> a. Trains b. Trackwork and civil infrastructure c. Signalling, control and communication systems d. Power supply system e. Station facilities f. System integration and system assurance 3. <u>Metro Operation</u> <ol style="list-style-type: none"> a. Train operation b. Station operation c. Depot operation d. Asset maintenance e. Key performance indicators f. Safety and risk management 4. <u>Metro business</u> <ol style="list-style-type: none"> a. Customer services b. Non-fare business c. Fare policy and strategy 5. <u>Metro Project</u> <ol style="list-style-type: none"> a. Project planning b. Project implementation c. Funding of projects

Teaching/Learning Methodology	<p>a) Lectures – 30 hours b) Site visits c) Tutorial/Discussion with Metro personnel – 9 hours</p> <p>Core subject knowledge will be delivered in the lectures, site visits will enhance the students’ understanding on the subject contents, while tutorials and discussion with Metro personnel will give more details on the real world practices.</p> <table border="1" data-bbox="427 365 1452 568"> <thead> <tr> <th rowspan="2">Teaching/Learning Methodology</th> <th colspan="3">Outcomes</th> </tr> <tr> <th>a</th> <th>b</th> <th>c</th> </tr> </thead> <tbody> <tr> <td>Lectures</td> <td>√</td> <td>√</td> <td></td> </tr> <tr> <td>Tutorials</td> <td>√</td> <td></td> <td>√</td> </tr> </tbody> </table>				Teaching/Learning Methodology	Outcomes			a	b	c	Lectures	√	√		Tutorials	√		√								
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Assessment Methods in Alignment with Intended Learning Outcomes	<table border="1" data-bbox="427 636 1452 927"> <thead> <tr> <th rowspan="2">Specific assessment methods/tasks</th> <th rowspan="2">% weighting</th> <th colspan="3">Intended subject learning outcomes to be assessed</th> </tr> <tr> <th>a</th> <th>b</th> <th>c</th> </tr> </thead> <tbody> <tr> <td>1. Mini project/assignments</td> <td>40%</td> <td>√</td> <td>√</td> <td>√</td> </tr> <tr> <td>2. Examination</td> <td>60%</td> <td></td> <td>√</td> <td>√</td> </tr> <tr> <td>Total</td> <td>100%</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>Candidates are expected to select a mini-project from the wealth of case studies to demonstrate their understanding of the metro systems. The examination covers both practical and theoretical aspects of the major issues to be considered in the design and planning of metro systems in both Hong Kong and Mainland.</p>				Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed			a	b	c	1. Mini project/assignments	40%	√	√	√	2. Examination	60%		√	√	Total	100%			
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Student Study Effort Expected	Class contact: <ul style="list-style-type: none"> ▪ Lectures ▪ Tutorials Other student study effort: <ul style="list-style-type: none"> ▪ Site Visits ▪ Self-study Total student study effort		 30 Hrs. 9 Hrs. 9 Hrs. 57 Hrs. 105 Hrs.																								
Reading List and References	<ol style="list-style-type: none"> 1. Hirsch, R. (Ed), (2007), ‘Managing Railway Operations and Maintenance: Best Practices from KCRC’, University of Birmingham Press 2. Industry specific codes of practice, procedures, standards and manuals 																										