

Subject Description Form

Subject Code	BRE273
Subject Title	Construction and Maintenance Technology
Credit Value	3
Level	2
Pre-requisite / Co-requisite / Exclusion	BRE261, or equivalent
Objectives	<ol style="list-style-type: none"> 1. To identify and understand the construction technology that is available for the construction of contemporary buildings. 2. To provide the necessary skills to allow the evaluation of a range of technologies towards the adoption of an appropriate design, construction and building maintenance decision. 3. To identify and understand the deterioration mechanisms of buildings and to proposed remedies.
Intended Learning Outcomes	<p>Upon completion of the subject, students will be able to:</p> <ol style="list-style-type: none"> a. Possess knowledge of processes and methods on construction activities. b. Able to use the knowledge and methods for different types of construction. c. Possess knowledge on the code of practice, environmental and safety issues into the construction processes. d. Able to identify the causes of common defects and material deterioration. e. Able to diagnose building defects and propose remedial actions.
Subject Synopsis/ Indicative Syllabus	<ul style="list-style-type: none"> • Processes and methods of building construction • Deep foundation and basement structures. • Precast concrete construction. • System formworks. • Building deterioration mechanisms. • Concrete properties and its deterioration. • Plastering, tiling and painting. • Dampness in buildings. • Testing and diagnosis of building defects, remedies and prevention. • Environmental and safety issues in construction. • Building repair.

Teaching/Learning Methodology	<p>Interactive lectures, tutorials, seminars and/or laboratory visit are conducted throughout the semester. A lecture schedule outlining the topics to be introduced is distributed to the students at the beginning of the semester. During the lecture period topics are introduced, often with reference to professional journal papers. In tutorial periods, students are required to discuss real-life cases related to the lecture topic and during seminars students are required to present the findings of an assigned research topic. Students will be able to visualize and conduct some tests related to the lecture.</p>																																												
Assessment Methods in Alignment with Intended Learning Outcomes	<table border="1" data-bbox="443 533 1473 909"> <thead> <tr> <th data-bbox="451 544 786 701" rowspan="2">Specific assessment methods/tasks</th> <th data-bbox="794 544 930 701" rowspan="2">% weighting</th> <th colspan="6" data-bbox="938 544 1465 633">Intended subject learning outcomes to be assessed</th> </tr> <tr> <th data-bbox="938 645 1018 701">a</th> <th data-bbox="1026 645 1106 701">b</th> <th data-bbox="1114 645 1193 701">c</th> <th data-bbox="1201 645 1281 701">d</th> <th data-bbox="1289 645 1369 701">e</th> <th data-bbox="1377 645 1465 701"></th> </tr> </thead> <tbody> <tr> <td data-bbox="451 712 786 768">1. Coursework</td> <td data-bbox="794 712 930 768">50%</td> <td data-bbox="938 712 1018 768">√</td> <td data-bbox="1026 712 1106 768">√</td> <td data-bbox="1114 712 1193 768">√</td> <td data-bbox="1201 712 1281 768">√</td> <td data-bbox="1289 712 1369 768">√</td> <td data-bbox="1377 712 1465 768"></td> </tr> <tr> <td data-bbox="451 779 786 835">2. Examination</td> <td data-bbox="794 779 930 835">50%</td> <td data-bbox="938 779 1018 835">√</td> <td data-bbox="1026 779 1106 835">√</td> <td data-bbox="1114 779 1193 835">√</td> <td data-bbox="1201 779 1281 835">√</td> <td data-bbox="1289 779 1369 835">√</td> <td data-bbox="1377 779 1465 835"></td> </tr> <tr> <td data-bbox="451 846 786 902">Total</td> <td data-bbox="794 846 930 902">100%</td> <td colspan="6" data-bbox="938 846 1465 902"></td> </tr> </tbody> </table> <p data-bbox="443 981 786 1014">Students will be assessed by:</p> <ul style="list-style-type: none"> <li data-bbox="443 1048 1473 1115">(i) examination, including problem analysis and essay type question, accounting for 50% and <li data-bbox="443 1149 1473 1294">(ii) through the medium of coursework, including presentation in class of project assignments, accounting for 50% <ul style="list-style-type: none"> <li data-bbox="515 1216 946 1249">- 2 individual assignments (20%) <li data-bbox="515 1261 834 1294">- 1 group project (30%) 							Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed						a	b	c	d	e		1. Coursework	50%	√	√	√	√	√		2. Examination	50%	√	√	√	√	√		Total	100%						
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**Reading List and
References**

Indicative Reading List:

Briffett, C. (1995), *Building Maintenance Technology in Tropical Climates*, Singapore University Press.

Chew, Y.L.M. (2009) *Construction Technology for Tall Buildings*. 3rd Edition
Singapore: Singapore University Press.

Chudley, R. (2006) *Advanced Construction Technology* (Rev. ed.) 4th Edition,
Longman.

Foster J.S. & Greeno R. (2007) *Structure & Fabric – Part II*, 7th Edition, Mitchell,
Pearson Prentice Hall.

Hinks, J. & Cook, G. (1997), *The Technology of Building Defects*, E. & F.N. Spon.

Lee, H.S. & Yuen, C.S. (1993), *Building Maintenance Technology*, MacMillan.

Chandler, I. (1991), *Repair & Renovation of Modern Buildings*, McGraw-Hill

Emmitt S. & Gorse C.A. (2010), *Barry's Introduction to Construction of Buildings*,
2nd Edition, Wiley-Blackwell.