

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 913"> <thead> <tr> <th data-bbox="443 533 786 703" rowspan="2">Specific assessment methods/tasks</th> <th data-bbox="786 533 935 703" rowspan="2">% weighting</th> <th colspan="6" data-bbox="935 533 1473 633">Intended subject learning outcomes to be assessed</th> </tr> <tr> <th data-bbox="935 633 1018 703">a</th> <th data-bbox="1018 633 1110 703">b</th> <th data-bbox="1110 633 1198 703">c</th> <th data-bbox="1198 633 1289 703">d</th> <th data-bbox="1289 633 1377 703">e</th> <th data-bbox="1377 633 1473 703"></th> </tr> </thead> <tbody> <tr> <td data-bbox="443 703 786 770">1. Coursework</td> <td data-bbox="786 703 935 770">50%</td> <td data-bbox="935 703 1018 770">√</td> <td data-bbox="1018 703 1110 770">√</td> <td data-bbox="1110 703 1198 770">√</td> <td data-bbox="1198 703 1289 770">√</td> <td data-bbox="1289 703 1377 770">√</td> <td data-bbox="1377 703 1473 770"></td> </tr> <tr> <td data-bbox="443 770 786 837">2. Examination</td> <td data-bbox="786 770 935 837">50%</td> <td data-bbox="935 770 1018 837">√</td> <td data-bbox="1018 770 1110 837">√</td> <td data-bbox="1110 770 1198 837">√</td> <td data-bbox="1198 770 1289 837">√</td> <td data-bbox="1289 770 1377 837">√</td> <td data-bbox="1377 770 1473 837"></td> </tr> <tr> <td data-bbox="443 837 786 913">Total</td> <td data-bbox="786 837 935 913">100%</td> <td colspan="6" data-bbox="935 837 1473 913"></td> </tr> </tbody> </table> <p data-bbox="443 981 786 1014">Students will be assessed by:</p> <p data-bbox="443 1048 1473 1294">(i) examination, including problem analysis and essay type question, accounting for 50% and</p> <p data-bbox="443 1149 1473 1294">(ii) through the medium of coursework, including presentation in class of project assignments, accounting for 50%</p> <ul style="list-style-type: none"> <li data-bbox="512 1227 946 1261">- 2 individual assignments (20%) <li data-bbox="512 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.