<table>
<thead>
<tr>
<th>Subject Code</th>
<th>BRE345</th>
<th>MEASUREMENT, DOCUMENTATION AND ESTIMATING</th>
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<tbody>
<tr>
<td>Level</td>
<td>3</td>
<td></td>
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<tr>
<td>Contact Hours</td>
<td>Lect:21 Sem/Tut:21</td>
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<tr>
<td>Student Effort Hours</td>
<td>120</td>
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<tr>
<td>Assessment Method</td>
<td>Coursework 40% Examination 60%</td>
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<tr>
<td>Credit Value</td>
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<tr>
<td>Pre-requisites</td>
<td>BRE291</td>
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<tr>
<td>Co-requisites</td>
<td>Nil</td>
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<tr>
<td>Exclusions</td>
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<tr>
<td>Subject Leader/Lecturer/Dept.</td>
<td>M.F. Ho (BRE)</td>
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**Subject Aim:**

*This subject is intended to:*

1. Equip students with the skills and knowledge to measure buildings and property accurately and efficiently and produce appropriate documentation to obtain a competitive price.

**Learning Outcomes:**

*Students will demonstrate their ability to:*

1. Prepare, examine and compare documentation to be used in procurement of building works and property.
2. Quantify and describe new building works and alteration work.
3. Analyse and synthesis composition of unit rates and an appreciation of the cost.

**Brief Syllabus Content:**

*Measurement and documentation of new building work, alteration work and property:*

Organisation and systems of measurement including subdivision of building elements, gross measurement, schedules and other preparatory documentation such as query lists.

Conventions used in recording dimensions and descriptions.

Mensuration commonly used in measurement including mean girth, formulae for regular figures and methods of measuring irregular figures, interpolation and extrapolation of ground levels, gross and net floor areas.

Measurement techniques: measurement of buildings, comparative studies of measurement procedures and examination of forward trends.

Communication between buyer, designer, construction and estimator; types of documentation and their uses; preparation and uses of bills of quantities and specifications; preambles and preliminaries.

*Estimating:*

Factors influencing the pricing of new works and property.

Tender documentation: tendering with or without bills of quantities. Contractor selection: competition or negotiation. The role of the estimator.

Evaluation of resources: labour, plant and materials. Enquiries for materials and sub-contract prices; calculation of unit rates; calculation of preliminaries and temporary works.

Estimator’s cost report to management.

Head office and company overhead costs.

Detailed analysis of the method statement, programme of works etc; and their influence on the preliminary costs required for the project.

*Teaching activities: Lecture (LT)/Tutorial (TU)/Seminar (SM)/Drawing (DW)/Laboratory or Practical (LB)/Studio (ST)/Workshop (WS)/Project (PJ)/Field Study (FS)/Guided Study (GS)/Visit (VS)*
### Learning and Teaching Approach  
 *(tasks and activities designed to achieve learning outcomes):*  

The theory and rationale will be delivered in lecture periods. Practical experiences will be relocation in the tutorial periods.

### Assessment strategy  
 *(assessment of student performance resulting from learning tasks):*  

Examination and coursework will constitute 40% and 60% of the overall work of the subject respectively. The coursework grade will comprise two assignments.

The coursework for this subject will be very practical in nature. The first assignment will require the students to prepare an appropriate pricing document based on measured quantities. This will be based on background information which is mainly in the form of drawings and specification.

The second assignment will require the students to price the document given in the first assignment.

Both pieces of coursework will be undertaken on an individual basis.

### Reading List:  

**Recommended:**

- Royal Institution of Chartered Surveyors (1979) *Hong Kong Standard Method of Measurement for Building Works* 3rd Edition, Royal Institution of Chartered Surveyors (Hong Kong Branch)