

Subject Description Form

Subject Code	BRE291
Subject Title	Construction Technology I
Credit Value	3
Level	2
Pre-requisite / Co-requisite/ Exclusion	Nil
Objectives	<p><i>This subject is intended to:</i></p> <ol style="list-style-type: none"> 1. Equip students with an understanding of scientific and engineering principles governing the construction of buildings. 2. Be aware of the range of building materials available for construction and gain an understanding of the key concepts determining classification, properties and applications.
Intended Learning Outcomes	<p>Upon completion of the subject, students will be able to:</p> <ol style="list-style-type: none"> 1. Relate basic construction vocabulary and terminology of construction for various building elements/components, 2. Possess a knowledge of functional requirements of various building elements/components. 3. Give preliminary appraisal to the performances of various building elements/components with respect to their corresponding performance requirements. 4. Relate the inter-relationship among building elements/components. 5. Interpret and extract information from construction drawings.
Subject Synopsis/ Indicative Syllabus	<p><u>Technology:</u></p> <ul style="list-style-type: none"> • Introduction to the development of construction technology. System concept in modeling construction process. • Functional requirements, vocabulary and construction processes of various building elements: including excavation & foundations, walls, floors and roofs. • Functional requirements, vocabulary and construction processes of various building components: including stairs, non-load bearing walls, doors, windows, suspended ceiling and finishes. <p><u>Structure:</u></p> <ul style="list-style-type: none"> • Introduction to structural engineering concept and vocabulary. Introduction to forces and their effects on structures. • Simple Structural Mechanics on Shear Force & Bending Moment
Teaching/Learning Methodology	<p>Lectures, tutorials and workshop training constitute the delivery of the subject. Lectures aims at delivering the basic core concepts and knowledge, which are to be discussed and consolidated through tutorials. Workshop training provides hands on experience to student on selected construction methods.</p>

Assessment Methods in Alignment with Intended Learning Outcomes	<p>Assessment of the subject will be in the form of written report, journal of site activities and tutorial exercises on structures.</p> <p>Written report aims at assessing students' competence in relating and appraising functional requirements of building elements/components.</p> <p>Journal of site activities helps students to relate concept and knowledge to actual works on site and relate the inter-relationship among building elements/components. Also, students learn to work in a team and develop team working spirit and leadership.</p> <p>Tutorial exercises provide opportunities to students to apply structural principles in explaining simple structural behaviour and solving simple structural design problems.</p> <p>The split between coursework and examinations will be 40/60.</p>	
Student Study Effort Expected	<p>Class contact:</p> <ul style="list-style-type: none"> ▪ Lectures ▪ Tutorials <p>Other student study effort:</p> <ul style="list-style-type: none"> ▪ Photo Dairy of Construction Site (coursework) ▪ <p>Total student study effort</p>	<p></p> <p style="text-align: right;">21 Hrs.</p> <p style="text-align: right;">21 Hrs.</p> <p></p> <p style="text-align: right;">App. 12 Hrs.</p> <p style="text-align: right;">Hrs.</p> <p style="text-align: right;">120 Hrs.</p>
Reading List and References	<p>Recommended:</p> <p>Chudley R. and Greeno R. (2008) <i>Building Construction Handbook</i>, 7th ed. Butterworth – Heinemann</p> <p>Chudley R. (2006) <i>Construction Technology</i>, 4th edition, Pearson/Prentice Hall</p> <p>Chudley R. (2006) <i>Advanced Construction Technology</i>, 4th edition, Prentice</p> <p>Foster J.S. (2007) <i>Structure & Fabric Part I</i>, 7th Edition, Mitchell</p> <p>Foster J.S., Harrington R., Grenno R. (2007) <i>Structure & Fabric Part II</i>, 7th Edition, Longman</p> <p>Dean Y. (1996) <i>Finishes</i> 4th edition, Longman</p> <p>Blanc A. (1994) <i>Internal Components</i>, Longman</p> <p>McEvoy M. (1994) <i>External Components</i>, Longman</p> <p>Nageim, H. Al. Durka, F., Morgan W., Williams, D. (2002) <i>Structural Mechanics</i>, Prentice Hall 6th edition</p> <p>Shaeffer R.E. (2007) <i>Elementary Structures for Architects and Builders</i>, Pearson/Prentice Hall 5th edition</p>	

Supplementary:

H.K. Government, *The Building Ordinance*, CAP 123 H.K. Government Printer

BRE, *Digests & Current Papers*. Building Research Establishment, Garston, Watford, U.K.

Francis A.J. (1989) *Introducing Structures*, Ellis Horwood

Barry R. (1999) *The Construction of Buildings* Vol. 1-5, 7th edition, Blackwell, Service

Charlett A.J. (2007), *Fundamental Building Technology*, Taylor & Francis

Fleming E., (2005), *Construction Technology: an illustrated introduction*, Blackwell