INTEGRATED PROJECT (Engineering)

Subject Aim:

This subject is intended to:

1. Bring students attention to the vertical integration of the subject areas learned in Level 2 such as BRE294 (Construction Technology and Structure) together with the practical experience gained in Industrial Centre to the subject areas of Level 3, such as BRE391 (Construction Technology II) and BRE396 (Construction Management) while the inter-relationship of the horizontal integration between subjects are also important in solving a problem-based project work.

Learning Outcomes:

Students will demonstrate their ability to:-

1. Integrate and apply knowledge and skills acquired in individual subject areas on construction engineering design, technology, management, economics and legal aspects to the case of a particular project.
2. Achieve the practice of teamwork in a real-life project environment to excel for the common goal.
3. Communicate effectively technical information in a managerial role, including information collection, proper presentation of analysis and justification of recommended actions.

Brief Syllabus Content:

A construction and property related project scenario will be set to replicate a situation which could be met in practice. Sometimes the restrictions of the study environment will require the scenario to be modified. The integrated project requires students to make use of the knowledge and skills acquired in Level 2 subjects (e.g. Construction Technology and Structure) and Level 3 subjects (e.g. Construction Technology II and Construction Management) to tackle the tasks related to the management and technology aspects as assigned by the respective lecturers. The project will include an element of group effort and individual work assessment.

Learning and Teaching Approach (tasks and activities designed to achieve learning outcomes):

The whole class is divided into groups of 4 or 5 students. Each group is to select a building construction site/project to form a common base for several given tasks. Briefing sessions via a ‘Project Guide” will be conducted to familiarize students with the methodology and areas of consideration for each task. The tasks are to be performed in the given sequence and time frame. Supervision and consultation will be made available during the entire process. Mid-way through the project, an Interim Report is required from each group for assessment by the relevant supervisors. Towards the end of the Semester II, each group shall present their work in the form of a concise written report with full working details. A final assessment will then be made on overall group performance for this subject.

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

The assessment of the subject will be in the form continuous assessment. Students have to produce two written reports (Interim Report and Final Report) including written text, diagrams/drawings, photographs, design calculations, tables and charts necessary for explanation and illustration wherever appropriate. Also, supervisors will be assigned for each group, and in regular interval, they will be asked to report to their supervisors on the progress of work. Both aggregating grades and assigning grades are given to group effort and individual contribution in a group. This is to ensure that there will be no ‘non-performer’.
Typical assessment criteria include:

(a) Appropriate report structure
(b) Participation and contribution
(c) Relevant focus and depth
(d) Assumptions and information collection
(e) Analysis, synthesis and technical competence of construction methods
(f) Appropriateness of programme descriptions and durations
(g) Clarity and relevance of written report
(h) Logic of explanation
(i) Relevance and clarity of sketches
(j) Originality
(k) Comprehensive consideration of inter-relationships between site operations

Reading List:

No standard text is recommended, since students have to refer to various literature in order to achieve the requirements of the project.