<table>
<thead>
<tr>
<th>Subject Code</th>
<th>LSGI297</th>
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<tbody>
<tr>
<td>Level</td>
<td>2</td>
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</table>
| Contact Hours | Lect: 21  
|             | PW: 21  |
| Student Effort Hours | 120 |
| Assessment Method | Examination 60% 
|                    | Coursework 40% |
| Credit Value | 3       |
| Pre-requisites | Nil |
| Co-requisites | Nil |
| Exclusions | Nil |
| Subject Leader/ Lecturer/Dept. | LSGI |

**SITE SURVEYING**

**Subject Aim:**

*This subject is intended to:*

- Provide students with elementary theory and practice of control surveys, detail mapping, setting-out of different structures and presentation of survey data in construction projects

**Learning Outcomes:**

- **Category A - Professional/academic knowledge and skills**
  - S1. Able to master the elementary theory and techniques of engineering surveying.
  - S2. Able to operate and calibrate steel tape, electronic total station, levelling rod, auto-level and other surveying instruments.
  - S3. Able to collect, analyse and report basic survey data for the design and construction of civil and building infrastructures.

- **Category B - Attributes for all-roundedness**
  - S4. Able to communicate with other professionals such as real estate developers, architects and engineers concerning survey standards, specifications and other requirements in construction projects.

**Syllabus Content:**

*Fundamentals of Engineering Surveying*


*Distance Measurement*


*Angular Measurement*

Theodolite components of total station: construction, operation, observation procedures and reduction for vertical and horizontal angles, sources of errors.

*Vertical Control Survey - Levelling*

Standards, specifications, monumentation, instrumentation, and observation procedures. Levelling instruments, their calibration and applications in ordinary and precise levelling. Differential levelling.

*Horizontal Control Survey - Traverse*

Standards, specifications, monumentation, instrumentation, and observation procedures. Traverse computation by Bowditch Method and computer software.

*Detail Surveying and Mapping*

Topographic surveys and drafting by total stations and computer systems. Accuracy standards, conventional signs and entities of detail survey plans.
### Syllabus Content: (Cont’d)

**Setting-Out for Construction**
- Curve Computations. Circular curve, transition curve and vertical parabola. Simple and compound curves.

### Learning and Teaching Approach:

This subject is taught in the form of normal lectures which are supported with practical work in the appropriate areas.

Hand-outs are delivered to students for some of the subjects areas. Students are instructed to consult suitable chapters of texts in due course. Students are encouraged to take their own notes in lecture session. Any problems encountered will be solved in the lecture/practical sessions or students may approach the lecturer directly in emails.

Instructions, introductions and field booking sheets/forms are given to students prior to field practicals. Students may prepare for their field works in advance. Survey reports and test(s) are marked and returned to students. These will make up the mark for the continued assessments for the subject.

### Assessment:

60% examination + 40% coursework.

### Reading List:

**Recommended:**