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

### Subject Aim:

This subject is intended to:

This subject aims to introduce the concept and practical skills of land surveying in building construction projects.

### Learning Outcomes:

*Students will demonstrate their ability to:-*

1. the modern concept of land surveying as related to construction industry.
2. the practical skill to set out building structures, curves, earthworks, and drainage works and to be familiar with methods of controlling the vertical alignment of buildings.
3. an ability to use the modern surveying equipment relevant to the construction industry.

### Syllabus Content:

**Co-ordinate System**
Plane rectangular co-ordinates, computation of bearings and distance using co-ordinates.

**Linear Measurement**

**Angular Measurement**
The theodolite (optical, mechanic and electronic), horizontal and vertical angles, methods of reading, booking and adjustment. Precision of measurements. Methods of checking adjustment of instruments. Traverse observation, computation and adjustment.

**Spirit Levelling**
Types of instruments including laser and staves, methods of booking and adjustment. Two peg test of instrument adjustment. Precision of measurements.

**Areas and Volumes**
Simple measurement.

**Setting Out**
Setting out buildings by elementary methods and by theodolite and level.

Setting out simple curves by deflection distance and deflection angles and co-ordinates.

Setting out simple earthworks involving both cut and fill. Vertical alignment using plumb bobs and optical plummets.

The use of lasers for alignment. Setting out simple drainage.
**Learning and Teaching Approach:**

This subject occurs only in the second term of the first year. It confines itself to the requirement of a development site, building services and to the infrastructure of the site.

Concept and knowledge of land surveying related to building works will be covered by lectures. Fieldwork will allow students to develop practical skill in the use of modern surveying equipment to set out building structures.

**Assessment:**

Examination and coursework will constitute the 60% and 40% of the overall marks of the subject respectively. The coursework mark will be based on the fieldwork assignments and a phase test.

**Textbook:**


**Reading List:**


**Journals:**