INFORMATION AND DATA ANALYSIS

Subject Aim:
This subject is intended to:

1. Develop the ability of students to understand and apply statistical concepts and computer & IT software packages in manipulating data for presentation, analysis and decision-making throughout the process of construction and real estate developments.

Learning Outcomes:

Students will demonstrate their ability to:

1. Apply the knowledge of fundamental statistics in collecting, organizing, summarizing, presenting and analyzing data, as well as drawing valid conclusions.
2. Use computer programs/ information management systems to search information, analyze and document data, as well as make reasonable decisions.
3. Communicate effectively and work in collaboration with other members of the project team in a professional context.
4. Adopt professional skills to identify, analyze and solve problems.

Brief Syllabus Content:

Information Technology
Introduction to computers, networks and information systems
Searching on the Internet and construction IT
Computer applications in information control/ electronic Documentation
Study of construction integrated management system
Presentation of information with multimedia
Introduction to profession-specific information systems for building surveying, construction management, quantity surveying and real estate

Data Analysis
Descriptive statistics
Probability theory
Random variables and probability distributions
Sampling theory and sampling distributions
Hypothesis testing and decision making
Introduction to statistical programs

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

Lectures will be used to present essential concepts and principles of the various subject areas. Tutorial and laboratory sessions, where appropriate, will be used for discussion, problem-solving, hands-on demonstration and presentation. Interactive multimedia self-accessed learning materials will be provided via the department’s computer network.

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

The subject will be assessed on a continuous basis and no examination is required. ‘Information technology’ and ‘data analysis’ will constitute equal proportions of the total coursework mark of the subject respectively. The total coursework mark will be based on a portfolio comprising a series of problem-based assignments, written tests, group reports and presentations. Marks will be allocated on both group effort and individual basis.

**Reading List:**

**Recommended:**

**Information Technology:**


**Data Analysis:**


**Supplementary:**


CIOB, *Construction Computing*. CIOB.


