

## Design Theory II – Structures, Maths, Physics

<b>Code</b>	BADO-1-1-08
<b>Prerequisites</b>	None
<b>Number of credits</b>	4 semester credits / 6 quarter units
<b>Assessment weighting</b>	60% continuous assessment 40% examination
<b>Module duration</b>	Semester III – 2 hours/week
<b>Element</b>	Design, Technology

### Syllabus:

#### **Introduction to elementary structural principles**

The relationship between interior architecture and structures.

Basic solid geometrical forms - their structural strengths, stability.

Basic structural requirements of form and function (organic and man-made)

Historical development of structures both for support and for design.

#### **Structural forces**

Forces; moments: vector components.

Elasticity; calculations

Load bearing; calculations.

Stresses and strains; diagrams and calculations.

Tension and compression; basic calculations.

Bending and deflection; diagrams and calculations.

Beams, columns and structural design; theory, rules of thumb and calculations.

Structural materials; material behaviour and fatigue; theory and rules of thumb.

Design for safety.

Application of knowledge to project work.