## YEAR 3 BACHELOR OF ARCHITECTURAL STUDIES COURSE OUTLINE

### SEMESTER 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course</th>
<th>Hours</th>
<th>Examination</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAR 301</td>
<td>Building Technology and Services</td>
<td>45</td>
<td>1 x 2hr Paper</td>
</tr>
<tr>
<td>BAR 303</td>
<td>Theory and Design of Structures</td>
<td>45</td>
<td>1 x 2hr Paper</td>
</tr>
<tr>
<td>BAR 305</td>
<td>Landscape Architecture 1</td>
<td>45</td>
<td>1 x 2hr Paper</td>
</tr>
<tr>
<td>BAR 307</td>
<td>Elements of Law</td>
<td>45</td>
<td>1 x 2hr Paper</td>
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<tr>
<td>BAR 309</td>
<td>Architectural Conservation 1</td>
<td>45</td>
<td>1 x 2hr Paper</td>
</tr>
<tr>
<td>BAR 313</td>
<td>Architectural Design 5</td>
<td>180</td>
<td>By Coursework</td>
</tr>
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</table>

### SEMESTER 2

<table>
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<tbody>
<tr>
<td>BAR 302</td>
<td>Building Technology and Services</td>
<td>45</td>
<td>1 x 2hr Paper</td>
</tr>
<tr>
<td>BAR 304</td>
<td>History and Theory of Architecture</td>
<td>45</td>
<td>1 x 2hr Paper</td>
</tr>
<tr>
<td>BAR 306</td>
<td>Surveying</td>
<td>45</td>
<td>1 x 2hr Paper</td>
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<tr>
<td>BAR 308</td>
<td>Building Science 3 (Acoustics)</td>
<td>45</td>
<td>1 x 2hr Paper</td>
</tr>
<tr>
<td>BAR 310</td>
<td>Housing &amp; Human Settlements</td>
<td>45</td>
<td>1 x 2hr Paper</td>
</tr>
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<td>BAR 314</td>
<td>Architectural Design 6</td>
<td>180</td>
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One elective unit to be chosen from any one stream

- BAR 320 Architectural Conservation 2
- BAR 322 Interior Architecture 2
- BAR 324 Landscape Architecture 2

### COURSE DESCRIPTION

**BAR 301 BUILDING TECHNOLOGY & SERVICES 5**

45 Hrs


**BAR 303 THEORY AND DESIGN OF STRUCTURES 3**

45 Hrs

Concrete; ingredients and admixtures. Concrete grades and design of mixes. Site production storing, batching and mixing, transport, placing and compacting construction joints and concreting in hot weather. Curing and finishing. Control of concrete quality - tests on fresh and hardened concrete. Reinforcement k-bar sizes and dimensions. Fixing. Formwork - types, basis of design, surface treatment, striking of formwork and care. Properties of reinforced concrete. Reinforced concrete design - principles of design by CP 114, CP 110 and BS 8110 - beams, slabs stair slabs, columns and foundations in short and medium rise buildings design concept in high rise buildings.

**BAR 305 LANDSCAPE ARCHITECTURE 1**

45 Hrs

Introduction to landform, site analysis and site planning. Design of small and medium sized sites with particular regard to sense of place and the development of innovative and expressive design; the relationship between site use and site design; the application of planting design and concepts to a design situation; concepts of site design theory: spatial experience and landscape meaning; preparation of presentation graphics and models. Use of CAD. Professional practice. Codes and regulations.

**BAR 307 ELEMENTS OF LAW**

45 Hrs

The nature and meaning of law; sources of law; classification of laws; the court structure, separation
of powers; the judiciary, the executive and the legislature; some elements of property, personal and
tort law affecting Architecture. Elements of the law of equity. Formation of contracts, essential
requirements for a valid contract, factors vitiating a valid contract, privity of contract, discharge of
contracts, remedies for breach of contracts. Principles agency and partnership law.

**BAR 309 ARCHITECTURAL CONSERVATION 1**  
45 Hrs

The need and history of conservation, what need to be conserved. The conservation process,
Identification and survey of the works, designing for conservation, technology for conservation and
refurbishment, funding and implementation of conservation projects. Designing for harmony
between the “old” and the “new”. The practice of conservation. Laws and ordinances governing
conservation.

**BAR 313 ARCHITECTURAL DESIGN 5**  
180 Hrs

Design process and parameters for small-scale projects of primary social groups and their
institutions. Evolving structural order in design correlating to spatial needs. Design for social
structures and institutions, issues of cultural and organizational principles, simple environmental
controls etc. Brief formulation and reports, Site analysis and investigation, social and physical
environment. Landscape design. Topographical survey.

**BAR 302 BUILDING TECHNOLOGY & SERVICES 6**  
45 Hrs

Building systems, Prefabrication and modular design, standardization. Special topics: Introduction
to advanced building technology and breakthroughs, technological reviews of contemporary
projects of national and international importance. Services to complex buildings. Specification
writing; Need, form, order and procedure of specification writing. Building defects and
maintenance technology. Preparation of building owners manual. Structure of the building
industry in Kenya and its trends. Construction Information Management System (CIMS)

**BAR 304 HISTORY AND THEORY OF ARCHITECTURE 5**  
45 Hrs

Theories of Growth systems for space, form and Spatial Order. Analytical methods for design
appraisal. The present state: a multiplicity of theories; an exploration of the most prominent ideas
and personalities in the Third World. Outline of Architectural development in Kenya. Principles and
constants in traditional African Architecture - its vitality in contemporary context. Built form
transformations of an urbanizing culture. Exotic and vernacular architecture and urban design.

**BAR 306 SURVEYING**  
45 Hrs

The role of Surveying in Architecture. Use and interpretation of survey maps and plans, methods
and Equipment of surveying, chain surveying - Equipment, procedure, plotting, locating existing
features. Introduction to electronic surveying – GPS, GIS, satellite imaging and digital maps, remote
Application of survey principles and instruments in building construction and related civil
Engineering works. Leveling and contours - equipment, procedures, reducing and plotting.

**BAR 308 BUILDING SCIENCE 3 (Acoustics)**  
45 Hrs

Introduction to architectural acoustics. The hearing mechanisms and properties of sound.
Behaviour of sound in the open field. Background noise and audio comfort criteria. Measurement of
sound levels and values. Room acoustics and noise control – reflection, absorption and
transmission of sound. Room acoustics: reverberation time, volume, and materials, acoustic design
principles for specialised functions – E.g. theaters, auditoria, broadcasting studio etc. Sound
reinforcement systems – requirements, specification and installation.

**BAR 310 HOUSING & HUMAN SETTLEMENTS**  
45 Hrs

Introduction to National and Global need for Housing, Socio-cultural parameters of housing and
settlements. Economic and political parameters of Housing. Urban and rural Housing Strategies:
Social Economic and Financial, Cultural and Technological Strategies. Introduction to issues of settlement planning: Zoning, densities and density control, infrastructures and services, Typology of dwellings, cost control and ownership.

BAR 314 ARCHITECTURAL DESIGN 6 180 Hrs

One elective unit to be taken from the stream already chosen
BAR 320 ARCHITECTURAL CONSERVATION 2 45 Hrs

BAR 322 INTERIOR ARCHITECTURE 2 45 Hrs
Fundamental study of the relationships between ideas and architectural space as related to human culture. Conditions of existence - matter, form, life time and space. Sociocultural perspectives on design and dwelling. Place and setting, and aesthetics and senses in design. Environmental perception and cognition, personal space and territoriality, anthropometrics and ergonomics as well as ambient conditions. Tectonics and composition, human environmental and design processes scale and order. Scale and order, aspects of the individual and the community. Computer-aided interior design. Student use of CAD equipment and production of design. Professional practice: Codes and regulations governing the practice of interior architecture

BAR 324 LANDSCAPE ARCHITECTURE 2 45 Hrs
A comparative international review of the relationship between design and culture with particular reference to landscape architectural history: Japanese, Chinese, European, African etc. Working drawings, walls, fences and retaining walls, types of joints and fixings in a range of basic hard materials, decking and pergolas, unit paving and concrete, changes in level, contours and spot heights, stormwater drainage, earthworks, water, play and playgrounds, and site furniture.