**EHS 3101 BUILDING TECHNOLOGY II (3 CU)**

**Course description:** The course describes the knowledge and skills required by the student to know the required building materials and regulations and to be able to inspect, supervise and give health promotion advice on construction, maintenance and repair of buildings and drainages.

**Course Objectives**

By the end of this course, the student should be able to:

1. Explain different types of building materials.
2. Compare the methods for protecting construction materials against aggressive situations.
3. Master the techniques and notions for making building construction.
4. Explain the procedure of submitting building plans to relevant authorities for approval.
5. Carry out systematic inspection of various stages of construction.
6. Participate in the planning and construction of sanitary infrastructures.

**Detailed Course Outline**

* Introduction to Building Materials: types and methods of construction for timber, clay products, metallic products, concrete. Properties, advantages and disadvantages of each type of building material
* Soils: **s**oil composition and physical properties. Classification, properties and foundations
* Finishes: **v**oids, ventilation, mosquito, fly etc proofing. Principles and rules governing design and construction of stairs. Paint work-types of paint coats
* Introduction to building design:  **c**onventions used in building, terminologies, drawing instruments, material symbols, scales, specifications and drawing for simple buildings, Planning of a homestead and an overview on selection of building sites
* Building regulations: purpose of building, interpretation of building rules and regulations, by-laws and code of practice, Public Health Act
* Practical and demonstrations: making bricks and blocks, drawing plans, sections and elevations
* Scrutinising plans, carpentry practice, estimating and

costing building materials

* Field visits: foundation, general steps in building construction, the scaffolds, damp proofing, lumbering and shattering

**Mode of delivery:**

* Lectures, tutorials, seminars, practical/field work.

**Mode of Assessment**

- Continuous assessment **(40%)**.

- End of semester exam: MCQ’s, short answer and long assay questions **(60%)**.

**Suggested Reading List**

1. Lecture handouts and additional materials on reserve at the MUSPH Resource Centre.

2. Franklin & Andrews, SPON'S African Construction Costs Handbook, UK. Routledge

3. MidWest Plan Service (MWPS- 1).1997.Structures and Environmental Handbook, September 1997 Ninth edition. *An Agricultural engineering program of 12 Universities serving Home owners, farmers and industry. USDA Cooperating member.*

4. Bengtsson, L.P. and J.H*.*Whitaker.1998. Farm structures in tropical climates. *A textbook for structural engineering and design.FAO/SIDA Cooperative Programme. Rural structures in East Africa & South-East Africa.*

5. Stern, P. et al.1990. Field engineering: An introduction to development work and construction in rural areas. *Intermediate technology publications.*

# 6. McMullan, R., (2002). *Environmental Science in Building*. 5th Ed. Macmillan.