**ARC7210/ARC 8105 APPROPRIATE TECHNOLOGY AND MATERIALS [30 CH]**

**Description**

Appropriate technologies are a means of not only protecting the environment but also exploiting it in a sustainable manner. In order to do this successfully, it is important to understand and be able to use technologies and materials that are suitable for a given environment.

**Objectives**

1. Students to appreciate importance and potential of traditional/local building materials
2. Students to acquire skills in determining appropriate technologies for use in the practical environment

**Course Content**

* 1. Critical review of physical and chemical properties of traditional building materials and related construction methods. **[10 CU]**
  2. Technical requirements availability and quality control of contemporary materials, **[10 CU]**
  3. Evolution of the construction industry in East Africa and its standard of organization and technology. **[10 CU]**

**Learning Outcomes**

At the end of the course the students should be able to:

* 1. Identify appropriate technologies and materials for construction
  2. Contribute to the development of traditional building materials
  3. Appreciate and exploit the potential of traditional/local materials

**Teaching and Learning Pattern**

The course will be delivered through a mixture of lectures, tutorials, illustrations, and group discussions. Lecture material will be supplemented by individual reading by students.

**Mode of Assessment**

Assessment will be done through continuous coursework and final written examination. Continuous assessment will include assignments, tests and practical exercises. A final examination will be offered at the end of the semester. Coursework will carry a total of 40% and a written examination will carry 60%.

**Mode of delivery**

Lectures (30 hours), Practicals (0 hours). The total contact hours are 30

**Recommended Reference Books/ Literature**

1. Bynum, R. T. and Rubina, D. L. (1998) [Handbook of Alternative Materials in Residential Construction](http://www.amazon.com/Handbook-Alternative-Materials-Residential-Construction/dp/0070119783/ref=sr_1_1?s=books&ie=UTF8&qid=1300981278&sr=1-1)
2. Numan, J (2009) [The Complete Guide to Alternative Home Building Materials & Methods: Including Sod, Compressed Earth, Plaster, Straw, Beer Cans, Bottles, Cordwood, and Many Other Low Cost Materials](http://www.amazon.com/Complete-Alternative-Building-Materials-Methods/dp/1601382456/ref=sr_1_4?s=books&ie=UTF8&qid=1300981278&sr=1-4)
3. C. I. B. and R. I. L. E. M. (1985) [Appropriate Building Materials for Low Cost Housing: African Region](http://www.amazon.com/Appropriate-Building-Materials-Cost-Housing/dp/0419134301/ref=sr_1_7?s=books&ie=UTF8&qid=1300981278&sr=1-7)