

AMID-16 ADVANCED MATERIALS AND APPLICATIONS

Course Overview:

The course provides information on the properties, management, specifications, use, application and costs of the materials used in the interiors.

Objectives of the course:

To impart knowledge on the various materials while highlighting the current trends and innovations in the usage of interior design materials.

Expected Skills / Knowledge Transferred:

Knowledge required for specifying appropriate materials for various spaces in interiors of buildings.

Course Contents:

Materials to be studied based on –

physical and behavioral properties, tools and technology of its application in the construction of floors, walls, ceilings, walls, doors, windows, staircase, built in furniture, partitions and other interior design components.

Visual quality of materials in terms of finishes through color, texture, modulations and pattern evolution. Material and workmanship, specification etc.

Unit – I

Roofing and Flooring – Roofing tiles and asbestos cement products, sheets and fiber boards – properties, uses and application. Various natural as well as artificial flooring materials like vitrified tiles, ceramic tiles, Shahabad stones, Mosaic, Rubber, Linoleum, PVC and PVA flooring. Properties, other uses and applications in the interiors.

Unit -II

Metals – Steel, iron, aluminum, bronze, brass, copper – alloys, characteristics, form and uses, properties, definition of terms, methods of working with metals, fixing and joinery in metals, finishing and treatment to metals. Application of metals to built form and interiors - special doors and windows, ventilators – sliding, sliding and folding, revolving, pivoted, rolling, collapsible, dormer, skylights, clerestory etc.

Unit –III

Fabrics and other furnishing materials – fibers, textiles, fabric treatments, carpets, durries, tapestries, Drapery, upholstery, wall coverings, etc. –properties, uses and application in the interiors.

Unit – IV

Miscellaneous materials such as cork, leather, paper, Rexene etc. – their properties, uses and applications in the interiors. A brief overview of Green materials.

Reference Books:

- Bindra, S.P. and Arora, S.P. Building Construction: Planning Techniques and methods of Construction, 19th ed. Dhanpat Rai Pub., New Delhi, 2000.
- Moxley, R. Mitchell's Elementary Building Construction, Technical Press Ltd. Rangwala, S.C. Building Construction 22nd ed. Charota Pub. House Anand, 2004.
- Sushil Kumar. T.B. of Building Construction 19th ed. Standard Pub. Delhi, 2003.

- Chowdary, K.P. Engineering Materials used in India, 7th ed. Oxford and IBH, New Delhi,1990.
- Rangwala, S.C. Building Construction: Materials and types of Construction, 3rd ed. John Wiley and Sons, Inc., New York, 1963.
- Francis D. Ching, Building Construction Illustrated, Wiley publishers, 2008. S.K.Duggal, Building
- Materials, Illustrated, A.A.Balkema,1998.