COURSE OUTLINE

ABT109	Construction Materials
Course Number	**Course Title**
2	**2 / 0**
Credits	**Hours: lecture/laboratory**

COURSE DESCRIPTION

A survey of building materials, their physical properties, manufacture and use as applied in the building trades and architectural design. Materials are studied relative to practical real-life applications. Fall offering.

Text (s): **Reference Division Booklist**

Prerequisites: N/A

Co-requisites: N/A

Course Coordinator: John Santosuosso
Latest Review: 2007

I. COURSE OBJECTIVES

A. To familiarize the student with a wide range of materials which can be used in architectural design and construction.

B. To make the student more aware of the capabilities and drawbacks of the more common structural materials; i.e. steel, concrete, brick, wood and stone.

C. To supply the student with fundamental knowledge, physical behavior, and practical values of architectural materials.

D. To show methods of construction required for proper installation, erection, and finishing of many materials.

E. To develop a practical approach in choosing architectural and construction materials based on use, desired results, durability, availability, and cost.

II. SPECIFIC OBJECTIVES

A. The student should be able to enumerate the advantages and disadvantages of the more common materials.

B. The student should be able to recount facts about most materials such as weight per cubic foot, ultimate strength, normal working stress, nominal and actual sizes of common materials, durability due to weather or use, availability and relative cost.

C. The student should be able to describe the methods of construction required by each material during its incorporation in a structure.

D. The student will be able to reasonable predict the durability of materials under a set of given conditions.

E. The student should be capable of choosing architectural finishing material wisely, based on their function.

F. The student should be able to discuss the history of modern manufacturing methods for common materials.

G. The student should be able to describe the construction steps in a simple wood, concrete, or steel structure and be able to relate the general methods of construction and installation of such items as doors, windows, hardware, lock-sets wiring, water piping, and sanitary waste lines.

III. METHOD OF PRESENTATION

The subject matter for the main materials use in construction will be presented by the instructor. The lesser used materials will be presented by a student assigned that subject. A presentation of at least 10 minutes in duration presenting the salient facts about the material, its manufacture, construction uses and shortcomings will be expected. A paper by the student on the assigned subject will also be required. Additional information by the instructor will supplement each presentation.

Actual samples of the material under discussion will be handled by each student in order that texture, heft, hardness or rigidity, and feel may be experienced. Literature, brochures, charts and tables will be made available to the student so he can begin to set up his own materials reference file. Slides, overheads, and films will be shown as they apply.

The text will be assigned reading and the weekly quizzes will be based on the text as well as points made in the seminar sessions.

IV. EVALUATION

The weekly quizzes will make up the greater portion of the grade for this course. A comprehensive quiz will conclude the study. Any lack of attendance or failure of the presentation as assigned will seriously affect the final grade.

Academic Integrity Statement:

Students are expected to comply with the college-wide requirements for academic integrity. Mercer County Community College is committed to Academic Integrity—the honest, fair, and continuing pursuit of knowledge, free from fraud or deception. This implies that students are expected to be responsible for their own work. Presenting another individual's work as one's own and receiving excessive help from another individual will qualify as a violation of Academic Integrity. The entire policy on Academic Integrity is located in the Student handbook and is found on the college website (http://www.mccc.edu/admissions_policies_integrity.shtml).

V. GENERAL REFERENCE MATERIAL

ARCHITECTURAL GRAPHIC STANDARDS
Ramsey & Sleeper, Wiley

TIME-SAVER STANDARDS
Callender, McGraw-Hill

MATERIALS FOR ARCHITECTURE
Caleb Hornbostel., Reinhold

CONSTRUCTION MATERIALS
W. J. Patton, Prentice Hall

MATERIALS AND METHODS OF ARCHITECTURAL CONSTRUCTIONS
PARKER, GAY, MacGUIRE, Wiley

SWEET'S CATALOG FILE