

Course syllabus

Department of Civil Engineering, Indian Institute of Technology Madras

CE3410: Construction Materials Laboratory

Credit Distribution: C:4 L:0 T:0 P:3 E:0 O:1 TH:0

Course Type: Lab

Description: Study of various properties of construction materials such as aggregates, brick, concrete, steel, bitumen, and soil and learn various methods to test these properties to facilitate applications in the field and ensure quality. To enable understanding of the concepts and issues in the design of various steel structural systems.

Course Content:

1. Tests on aggregates, cement, concrete, steel reinforcement, bricks, and tiles.
2. Test on soil (sand and clayey) materials and systems
3. Test on asphalt materials and systems

Text Books

- Bureau of Indian Standards (BIS).
- American Society of Testing and Materials (ASTM) standards.
- Handbook of Material Testing, Indian Railways Institute of Civil Engineering, Pune, 2006.
- Building Materials, Varghese P.C., Prentice-Hall, 2005.
- Materials for Civil and Construction Engineers, Michael S. Mamlouk and John P. Zaniewski, Addison Wesley Longman Inc., USA, 1999.
- Civil Engineering Materials, Shan Somayaji, 2nd ed., Prentice Hall, New Jersey, 2008.
- Highway Materials and Pavement Testing, Khanna S.K., Justo C.E.G and Veeraragavan A, Revised Fifth Edition, Nem Chand and Bros., 2009.

Reference Books: NIL

Prerequisite: NIL