

CE111 INTRODUCTION TO CIVIL ENGINEERING

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COURSE OBJECTIVE:

This course introduces students to civil engineering and its sub-domains. Students are expected to learn about scope, current and future trends in infrastructure industry, jobs, innovations & research opportunities in the field of civil engineering. Course content will be covered through lectures, assignments, case-studies, presentations, documentaries and field visits.

COURSE CONTENT:

Overview of Civil Engineering, types of Infrastructures, Effect of infrastructure facilities on economy and environment, Role of Civil Engineers in the infrastructural Development Introduction to sub-domains of Civil Engineering, Size of Infrastructure Industry, emerging trends in infra spending through public and public-private partnership (PPP), talent shortage, and global trends in workforce mobility and skill- demands.

Stages in the life of construction: Design, Construction, Maintenance, Repair, Demolition/Recycling; an overview of Indian Standards, units and conversion factors for Lengths, Areas, Volumes and Weights; Opportunities and challenge of India's Infrastructure, Interdisciplinary nature of Civil Engineering Projects.

Roads: Types of Roads, Nagpur Road Plan, Components of Road and their function; Bridges: Important parts of bridges, classification of bridges; Types of Dams.

Properties and classification of common building materials – Stones, Bricks, Sand, Limes, Cement, Mortar, Concrete, Steel.

Overview of Indian Road Congress, National Highway Authority of India (NHAI) and American Society of Civil Engineers (ASCE), Emerging areas and new technologies in the field of civil engineering.

COURSE OUTCOMES

After successful completion of course, Students are expected to possess an in-depth understanding and knowledge about the scope, current and future trends in infrastructure industry, elementary terminologies, learning resources and career-opportunities in the field of civil engineering and its allied domains.

EVALUATION

Evaluation will be continuous an integral part of the class only through internal assessment

REFERENCES

Elements of Civil Engineering by MD Saikia, B Mohan Das, MM Das, PHI Learning Private Limited, 2015

Prakash M.N. Shesha, Ganesh B., A Textbook on Elements of Civil Engineering, PHI Learning Pvt. Ltd. Study material provided by the instructor