



Course Name:

Introduction to Civil Engineering Planning

Course Number: 20-0??	Credit: 3
Program: Undergraduate	Course Type: Technical required
Prerequisite: -	Corequisite: Project Management and Construction

Course Description (Objectives):

Planning of civil engineering projects during the 20th century was to design and construction. The principal problem faced by civil engineer was not what to do, but how to do it. Today, planning has emerged as a more important, complex and sophisticated part of the civil engineering profession. It has become multi objective and interdisciplinary, utilizing the sophisticated mathematical techniques of system analysis and the personal communications skills of public participation and conflict resolution. Civil engineers are called upon to present a full range of options: nonstructural, policy-oriented means as well as structural, construction-oriented means.

The main objective of this course is to set forth basic concepts, principles, and methods of civil engineering planning. It is blended of theory and practice, of what we think ought to be done under ideal conditions, and what can be done under real conditions. There are three parts. Part I describes the nature of planning: its history, institutions, types of studies, people involved, and some reasons for doing planning. Part II presents principal planning activities and a methodology for conducting study. In Part III students will be offered case studies in real world applications

Course Content (outline):

Part I. The Nature of Planning

- 1- Civil Engineering and Planning
- 2- Planning Institutions
- 3- Planning Studies
- 4- Planning Information
- 5- Public Participation
- 6- Analytical Techniques
- 7- Planning Theory

Part II. Planning Activities

- 8- Planning Overview
- 9-Goals and Objectives
- 10- Inventory



- 11- Forecasting
- 12- Plan Formulation
- 13- Plan Evaluation
- 14- Economic Evaluation
- 15- Environmental and Social Evaluation
- 16- Financing
- 17-Implementation: Politics, Planning, Decision-Making and Conflict resolution

Part III. Case Studies

References:

- Engineering Mechanics, Statics, 6th Edition, J. L. Meriam & L. G. Kraige. Goodman, Alvin S., Principles of Water Resources Planning, Prentice-Hall, 1984.
- Ortolano, Leonard, Environmental Planning and Decision Making, Wiley, 1984.
- US Army Corps of Engineers, Planning Manual, 1996.
- U S Army Corps of Engineers Institute of Water Resources, Planning Primer, 1997
- The Routledge Handbook of Planning Theory, Edited By Michael Gunder, Ali Madanipour, Vanessa Watson , 2017
- مقالات و گزارشات داخلی و خارجی متناسب با موضوع