

CIVIL ENGINEERING – A Wide Range of Career Choices

STRUCTURAL ENGINEERING

Structural Engineers are planners and designers of buildings of all types; bridges, dams, power plants, supports for equipment and many other kinds of projects. They analyze the forces that a structure must resist (its own weight, wind forces, earthquake forces, etc.). Whenever concrete, steel, aluminum, or other metals and materials are required to carry a load, structural engineers do the planning and design and they visit the construction site to make sure the work is done properly. Structural engineers usually work within a team that includes architects, mechanical and electrical engineers, contractors and officials of local government.

- ✓ structural engineering = δομοστατική μηχανική
- ✓ power plant = σταθμός παραγωγής ενέργειας
- ✓ equipment = εξοπλισμός
- ✓ force = δύναμη
- ✓ concrete = σκυρόδεμα
- ✓ steel = χάλυβας
- ✓ construction site = εργοτάξιο
- ✓ contractor = εργολάβος
- ✓ local government = τοπική αυτοδιοίκηση

ENVIRONMENTAL ENGINEERING

Environmental engineers design and supervise systems to provide safe drinking water and to prevent and control pollution in water, on the land, and in the groundwater. Their efforts are vital to many areas of water resource management.

- ✓ provide = παρέχω
- ✓ drinking water = πόσιμο νερό

- ✓ pollution = μόλυνση
- ✓ groundwater = υπόγεια ύδατα
- ✓ water resource management = διαχείριση υδάτινων πόρων

PHOTOGRAMMETRY, SURVEYING AND MAPPING

These civil engineers are involved in the precise measurement of the earth's surface to obtain reliable information for locating and designing engineering projects. Current practice makes use of satellites, aerial and terrestrial photogrammetry and computer processing of photographic imagery.

- ✓ surveying = αποτύπωση, τοπογραφία
- ✓ mapping = χαρτογράφηση
- ✓ precise measurements = ακριβείς μετρήσεις
- ✓ surface = επιφάνεια
- ✓ satellite = δορυφόρος
- ✓ aerial photogrammetry = εναέρια φωτογραμμετρία / αεροφωτογραμμετρία
- ✓ terrestrial photogrammetry = επίγεια φωτογραμμετρία
- ✓ photographic imagery = φωτογραφική απεικόνιση

HYDRAULIC ENGINEERING / WATER RESOURCES

These civil engineers deal with all aspects of the physical control of water. They analyze and predict water demand, supply and run-off. They work to prevent floods, to supply water for irrigation projects, to protect beaches, to manage river flows. They construct and maintain hydroelectric power systems, canals, port facilities etc.

- ✓ water demand = ζήτηση
- ✓ water supply = παροχή
- ✓ run-off = απορροή (επίγεια ροή υδάτων που δεν έχουν απορροφηθεί από το έδαφος)
- ✓ flood = πλημμύρα

- ✓ port facilities = λιμενικές εγκαταστάσεις / λιμένας

GEOTECHNICAL ENGINEERING – ENGINEERING OF SOIL AND ROCK MECHANICS

Geotechnical engineers analyze the properties of soil and rock that support and affect the behaviour of structures, pavements and underground facilities. They evaluate the potential settlements of buildings, the stability of slopes and fills, and the seepage of groundwater as well as the effects of earthquakes.

- ✓ properties = ιδιότητες
- ✓ soil = έδαφος, χώμα , soil mechanics = εδαφομηχανική
- ✓ rock = λίθος, βράχος, rock mechanics = βραχομηχανική
- ✓ evaluate = αξιολογώ
- ✓ settlement = καθίζηση
- ✓ stability = σταθερότητα, ευστάθεια
- ✓ slope = πρανές / πλαγιά
- ✓ fill = επιχωμάτωση
- ✓ seepage = υπόγεια ροή

TRANSPORTATION ENGINEERING

Transportation engineers are involved with the safe and efficient movement of both people and goods. They design and maintain all types of transportation facilities, including highways and streets, mass transit systems, railroads and airfields, ports.

- ✓ transportation engineering = συγκοινωνιακή μηχανική
- ✓ efficient = αποδοτικό
- ✓ goods = αγαθά
- ✓ mass transit system = μέσα μαζικής μεταφοράς