

CIVIL ENGINEERING MAJOR OPTIONS (8 Specializations)

CONSTRUCTION

This entails the scheduling of building jobs, estimating of labor and material costs, determining the equipment to be used and erection methods, plus determining the proper quality controls to be used.

ENVIRONMENTAL

Environmental Engineering covers the design of natural and used water treatment-plants and distribution and collection systems, the modeling and analysis of environmental quality, the management of solid and hazardous waste, and environmental planning and resource conservation.

GEOTECHNICAL

Besides evaluating the potential settlement of buildings, this involves studying slope stability, foundation design, groundwater seepage, soils used in the containment of hazardous wastes, and checking the foundation stability of offshore oil platforms.

HYDRAULICS

In this area we deal with the development, control, and management of our water resources. It includes the study of fluid mechanics, optimization for the best use of our water systems, prediction of surface water run-off, ground water supplies, future water demand, as well as determining the best reservoir sites. It also involves the planning of river and coastal areas for the controlling of water damage and the improvement of navigation.

REMOTE SENSING

Remote Sensing includes monitoring and measuring land and water resources using aircraft and satellite sensors, surveying, satellite photogrammetry, computer processing of satellite data, mapping, and water quality monitoring.

STRUCTURES

This area involves the planning, analyzing, and designing of bridges and high-rises as well as other large structures such as dams, offshore platforms, and space gantries/launching pads.

TRANSPORTATION

Most Transportation majors study traffic studies, geometric design, public transportation, airport design, and some will also take traffic engineering.

GENERALIST

The Generalist option covers a part of the other areas. Topics covered would include, among other things, facilities design, construction management, and environment impact analysis.