

As a civil or environmental engineer, it might be difficult to study abroad and still take the required courses for your major. However, there are a variety of host institutions that allow you to fulfill course requirements and experience the cultural diversity of studying in Britain, Ireland, South Africa or Botswana. The following is just a sample of courses available. You can contact Interstudy for a complete listing and more information at 800.663.1999.

BRITAIN

Swansea University

EG321 Geomechanics

This module builds upon the Geomechanics module taught in Level 2. It is designed to strengthen the knowledge on the behaviour of soils and to give basic understanding of some geotechnical structures. The theories of lateral earth pressure (Mohr-Coulomb and Rankine) will be explained in detail as well as their implications into the design of earth retaining structures and the stability of slopes.

Other Courses Offered:

EG120 Strength of Materials

EG222 Reinforced Concrete Design

EGA209 The Built Environment

EGA208 Engineering for Sustainability

University of Warwick

ES3D1 Concrete Structures

The design of concrete structures is a mainstream activity of professional civil engineers. The subject, therefore, forms a principal part of civil engineering courses and is essential for professional accreditation. Structural engineering is a substantial economic activity; many concrete structures are of such a scale and complexity that they require extensive management for their procurement, maintenance and later reuse, or demolition.

Other Courses Offered:

ES3D5 Water Engineering for Civil Engineers

ES386 Dynamics of Vibrating Systems

ES177 The Aesthetics of Design

ES3B6 Geotechnical Engineering

IRELAND

National University of Ireland, Galway

CE322 Design of Concrete Structures

Reinforced concrete is concrete in which reinforcement bars ("rebars"), reinforcement grids, plates or fibers have been incorporated to strengthen the concrete in tension. The term Ferro Concrete refers only to concrete that is reinforced with iron or steel. Other materials used to reinforce concrete can be organic and inorganic fibres as well as composites in different forms. Concrete is strong in compression, but weak in tension, thus adding reinforcement increases the strength in tension. In addition the failure strain of concrete in tension is so low that the reinforcement has to hold the cracked sections together.

Other Courses Offered:

CE107 Fundamentals of Civil Engineering

CE109 Fundamentals of Environmental Engineering

CE323 Design of Steel Structures

CE414 Geotechnical Engineering

Trinity College Dublin

CE3A5 Soil Mechanics

The course covers the following topics: geological origins; description and classification; index properties; phase relationships; compaction; seepage in isotropic materials; effective stress concept; shear strength; bearing capacity; consolidation; lateral earth pressures.

Other Courses Offered:

CE3A7 Transportation and Highway Engineering

CE3A8 Geology for Engineers

CE3A2 Structural Design

CE3A6 Construction Technology

SOUTH AFRICA

Nelson Mandela Metropolitan University

CGE2311/2 Geotechnical Engineering II

Formation of soils; Classification of soils; Soil properties; Soil compaction; California Bearing Ratio; Site investigation; Mineralogy and Petrology; Physical and Structural Geology; Laboratory.

Other Courses Offered:

CME1111/2 Construction Methods I

CDOA341/2 Civil Engineering Documentation III

CWEA231/2 Hydraulics II

CWEA341/2 Stormwater Design III

University of Cape Town

CIV4042F Waste Water Treatment

Objectives of wastewater treatment; wastewater test methods for organic, nitrogen and phosphorus content; physical characterization of wastewater, settleable, non-settleable and dissolved constituents; unit operations in wastewater treatment, primary sedimentation; biodegradable and nonbiodegradable organics, biological growth and death behaviour; reactor kinetics; biological process kinetic equations; the steady state activated sludge model; oxygen demand, sludge production, nutrient requirements; sewage sludge stability and disposal, selection of sludge age.

Other Courses Offered:

CIV2011F Mechanics of Materials

CIV3047S Urban Water Services

CIV3043F Hydraulic Engineering

CIV2040S Fluid Mechanics

University of KwaZulu-Natal, Howard College Campus, Durban

ENCV4GS H1 Ground and Structural Engineering

Bearing capacity analysis, Limit State Design using Partial Factors, retaining structures, prestressed concrete, selected advanced structures topics such as yield line analysis, plastic analysis of frames.

Other Courses Offered:

ENCV4WE H1 Water and Environmental Engineering

ENCV3G2 H2 Geotechnical Engineering Studies 2

ENCV2MT H1 Civil Engineering Materials

ENCV3CW H2 Civil CADD Workshop

University of the Witwatersrand

CIVN1003 Civil Engineering in Relation to Planning

Overview of engineering, civil engineering, development and infrastructure as they relate to the activities of planners. Relationship between infrastructure provision and country income level and investment. Description and application of civil engineering infrastructure (e.g. water resources, water quality and supply, transportation and land use, soils/geotechnical aspects of development and stormwater management) to planning. Overview of existing South African guideline books to infrastructure provision.

Other Courses Offered:

CIVN2004 Engineering Planning and Design

CIVN2000 Earth Materials and Processes

CIVN3010 Structural Steel Design

CIVN3012 Hydrology

Stellenbosch University

214(15) Mass and Energy Balances

One of the fundamental laws of physics states that mass can neither be produced nor destroyed---that is, mass is conserved. Equally fundamental is the law of conservation of energy. Although energy can change in form, it can not be created or destroyed. These two laws of physics provide the basis for two tools which are used routinely in environmental engineering and science---the mass balance and the energy balance. This portion of the course deals with these tools. Mass balances are developed and applied in some detail in the following section, after which the concept of the energy balance is presented and applied.

Highlights of Other Courses Offered:

143(14) Introduction: Mechanics of Deformable Bodies

254(15) Analysis of Truss and Frame Structures

224(15) Stress Analysis

214(15) Surveying

ENGINEERING (CIVIL)



BOTSWANA

University of Botswana

CCB314 Engineering Geology

Investigate and provide geologic and geotechnical recommendations, analysis, and design associated with human development. The realm of the engineering geologist is essentially in the area of earth-structure interactions, or investigation of how the earth or earth processes impact human made structures and human activities.

Other Courses Offered:

CCB322 Fluid Mechanics and Hydraulics

CCB413 Traffic and Highway Engineering

CCB411 Structural Design

CCB512 Construction Management