Bachelor of Engineering (Hons) Civil Engineering  
KP/JPS(KA6168)07/10

Civil engineering is the scientific study of the planning and construction of buildings, industrial infrastructures, roads and bridges. This programme concentrates on the practical application of technical knowledge (i.e. in mathematics and physical sciences, and their applications to all areas of civil engineering) to real-life and societal problems. Fieldwork is mainly related to planning, designing, constructing and maintaining public infrastructure or systems. It aims to produce graduates who demonstrate capabilities to acquire and apply knowledge of science and engineering fundamentals, possess in-depth technical competence in the civil engineering discipline to undertake problem identification, formulation and solution, and possess the ability to utilise a systems approach to design and evaluate operational performance.

Programme Objectives

The Programme Objectives describe the career and professional accomplishments that the Civil Engineering programme would prepares the graduates to achieve in a few years after their graduation. Programme of Civil Engineering should be able to:

1. Provide students with a solid foundation of technical knowledge ranging from fundamental principles to state-of-the-art technologies and the skills and abilities they will need in engineering practice and higher educational level.
2. Ensure students acquire good communication and leadership skills.
3. Foster an intellectually stimulating environment for professional development.

Programme Outcomes

Upon completing this programme, the student is expected to attain the following:

i. Ability to acquire and apply knowledge of mathematics, science and engineering fundamentals in civil engineering system;
ii. Acquired comprehensive technical competence in civil engineering to design and conduct experiments, as well as to analyse and interpret data;
iii. Ability to identify, formulate, and solve civil engineering problems;
iv. Ability to use systems approach to civil engineering design and evaluate operational performance;
v. Ability to apply the civil engineering principles of design for sustainable development;
vi. Understanding of professional and ethical responsibilities and commitment to them;
vii. Ability to communicate effectively in written, oral, and visual form, with engineers and the community at large;
viii. Ability to function effectively as an individual and in a group with the capacity to be leader or manager;
ix. Understanding of the social, cultural, global and environmental responsibilities of a professional engineer; and
x. Recognising the need to undertake life-long learning, and possessing /acquiring the capacity to do so.
Careers

Graduates are able to find employment as planners, construction managers, administrators, designers, investigation & research engineers and consultants.

Subjects

Year 1
- English for Engineering
- Statics
- Survey I
- Fluid Mechanics I
- Mathematics for Engineering I & II
- Dynamics
- Soil Mechanics
- Circuit Theory
- Structural Analysis I
- Structural Analysis II

Year 2
- Hydrology
- Solid Mechanics I
- Geotechnical Engineering
- Numerical Methods and Statistics
- Computer Aided Design and Programming
- Fluid Mechanics II
- Engineering Thermodynamics I
- Civil Construction Materials
- Reinforced Concrete Design I
- Reinforced Concrete Design II
- Environmental Science and Engineering
- Structural Steel Design
- Basic Economics, Accounting and Management

Year 3
- Construction Project Management
- Highway and Transportation
- Water Supply and Wastewater Treatment
- Hydraulic Systems and Design
- Engineering Analysis
- Law for Engineers
- Industrial Training

Year 4
- Integrated Design Project
- Engineer in Society
- Project
Elective Engineering Subjects* (Choose 4 subjects)
  Water Resource System
  Environmental Chemistry
  Concrete Structure Analysis and Design
  Concrete Technology
  Traffic Engineering and Transportation System Analysis
  Geoenvironmental Engineering
  Survey II
  Advanced Structural Steel Design II

Elective Engineering Related Subjects* (Choose 1 subject)
  Entrepreneurship
  Engineering Economics

*Subject to change/availability

MQA Subjects

  Bahasa Kebangsaan/Foreign Language
  Pengajian Malaysia
  Pendidikan Moral/Pengajian Islam

University Subjects

  Co-Curriculum
  Sun Zi’s Art of War and Business Strategies