

# Abertay University, UK

<https://www.abertay.ac.uk/>



## BENG IN CIVIL ENGINEERING



### *Social Resources Development Institute Hong Kong & Macau Programme*

Study Mode: Face-to-Face lecture + Tutorial  
Intake: 03  
Entry Requirement: Holders of BTEC Level 5 HND in Civil Engineering, or eqv.  
Tuition Fee: HK\$45,000 (by 2 installments) + HK\$20,000 Registration Fee  
Class Commencement: 1<sup>st</sup> September 2023

### **PRELIMINARY ENROLLMENT FORM**

Name:	
SRDI course finished	
Other Qualification	
Working Experience in construction (years)	
Company	
Post	
Tel:	
Email:	



Award: BEng in Civil Engineering  
 Learning Mode: Purely Distance Learning  
 Year: 2023-2024  
 No. of Modules: 4  
 Total Credit: 120

Semester	2023								2024							
	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8
Intake-03*					EEM302 (20 credits)				EEM303 Placement (60 credits)							
					EEM304 (20 credits)											
					EEM305 (20 credits)											

Taught Modules

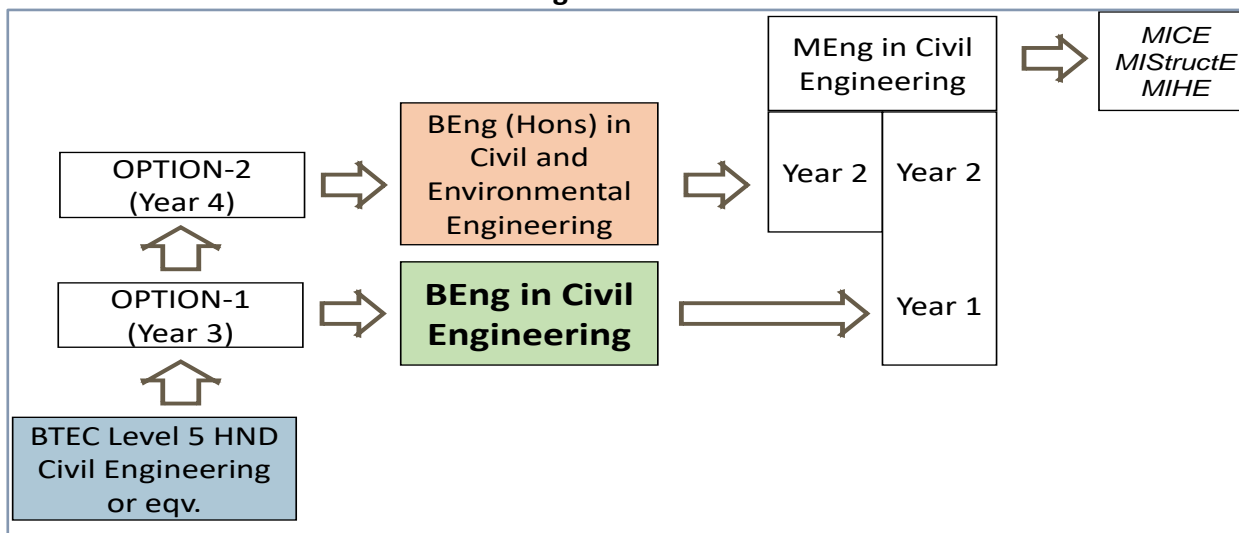
EEM302 Civil and Environmental Engineering Practice  
 EEM304 Geotechnical Engineering  
 EEM305 Structural Engineering

Industrial Workbase Module

EEM303 Placement

[ \* subject to the University's arrangement ]

**Progression Route**



**Refund Policy of the Tuition Fee, if Paid**

Fully refund:	Candidate's enrollment application is rejected by the University.
Fully refund:	Successful enrolled candidate to withdraw from the course at least 1 month before class commencement.
90% refund:	Successful enrolled candidate to withdraw from the course at the 16 <sup>th</sup> to 30 <sup>th</sup> days before class commencement.
No refund:	Successful enrolled candidate to withdraw from the course within 15 days before class commencement.

## **Modules**

### **Civil and Environmental Engineering Practice - EEM302 [ 20 credit ]**

#### Brief description

- ♦ Prepare for the diverse opportunities provided within the engineering profession. Develop essential knowledge and skills in order to contribute to the organisation and management of engineering projects.

#### Indicative content:

- ♦ Health and Safety: CDM and other current health and safety regulations, roles obligations and responsibilities under legislation for health and safety.
- ♦ Procurement strategies, tendering and construction contracts: Management of the design process, estimating and tendering, pre-tender planning, construction contracts; contract formation, contractual problems. Topical procurement issues.
- ♦ Project control tools: Planning and programming tools and techniques, strategies for managing uncertainty, PERT and related techniques. Cost control systems, quality management.
- ♦ Economic and sustainability assessment: Economic evaluation: life Cycle costing, CEEQUAL and BREEAM. Cost benefit analysis Sustainability assessment approaches. Sustainability indicators, Multi-criteria analysis.
- ♦ Professional employability skills: Employer/employee relationship. Interview skills and techniques. Presenting a professional CV. Equality and diversity. Professional codes of conduct (such as ICE) and specific issues including resolving ethical dilemmas through case studies.

### **Geotechnical Engineering - EEM304 [ 20 credit ]**

#### Brief description

- ♦ Initial development of geotechnical analysis and design, and their application in civil engineering. Gain an understanding of soils physical and mechanical properties in theory and practice, and an introduction into geotechnical engineering problems.

#### Indicative content:

- ♦ Physical properties of soil: Factors controlling the weathering of rock and the formation of soils. Moisture content, density, void ratio, porosity, air content and saturation.
- ♦ Soil compaction and re-use: The compaction of soils – theory and practise. Suitability criteria and the re-use of fill for engineering purposes.
- ♦ Effective stress: The concept of total and effective stress and pore water pressure.
- ♦ Soil shear strength: The theory of soil shear strength, Mohr Coulomb failure criterion. Determine shear strength parameters for design purposes from shear box, undrained triaxial.
- ♦ Consolidation of soils: Measurement of the consolidation of cohesive soils in the laboratory, theoretical consideration of amount and rate of settlement, over-consolidation ratio and the application of the  $e/\log p'$  graph.
- ♦ Seepage: Flow net construction, seepage into excavations, seepage forces and piping.
- ♦ Laboratory work: Determine moisture content, Atterberg Limit and shear strength of sand and saturated clay. Safe working practices in a laboratory situation.

### **Structural Engineering 2 - EEM305 [ 20 credit ]**

#### Brief description

- ♦ Structural design in reinforced concrete and steel. Learn to investigate and solve geotechnical and structural problems related to the built environment.

#### Indicative content:

- ♦ Design loads: Wind loading and snow loading.
- ♦ Reinforced concrete: Material properties, limit state design requirements, loads and partial safety factors, failure mechanism and criteria Design of structural elements including singly and doubly reinforced beams, one-way and two-way slabs, axially loaded columns, foundations and cantilever retaining walls.
- ♦ Design of steel structures: Material properties and grading, partial safety factors, section properties and classification, Design of beams subject to uniaxial bending, Design of columns and base plates, Design of steel connections.
- ♦ Plastic collapse of steel structures: Plastic hinge formation, plastic moment capacity, plastic section modulus, shape factor, failure criterion, upper and lower bound theorems, plastic analysis of statically indeterminate beams and single storey, single bay portal frames.
- ♦ Use of computer packages and design.
- ♦ Laboratory work: Concrete lab. Safe working practices in a laboratory situation.

### **Placement - EEM303 [ 60 credit ]**

#### Brief description

- ♦ Gain structured and practical experience of working in the world of Civil Engineering through a work placement. As a planned part of your education and training, a placement is a complement to and an extension of the work you undertake while at university. It provides an opportunity for you to accept responsibility for your own personal and professional development, learning and training.

#### Indicative content:

- ♦ Briefing: Final preparation for placement building on Civil Engineering Practice module.
- ♦ Placement: Individual learning experiences will vary depending on the organisation to which you are attached. The work placement is unpaid and for the whole of the term. You are visited at least once during the placement period by your university supervisor.
- ♦ Debriefing: Follows immediately upon completion of the period of work placement and is designed to offer guidance to better enable able you to transfer your learning experience back into the university-based setting and for consideration for future learning.