

CORE OBJECTIVES (ENV)

1.0 Professional & General	Code	ES initials and Date of Assessment			
		G	K	E	C
<p>1.1 Fundamentals of environmental protection</p> <p>Develop basic understanding and general knowledge in major issues related to protection of the environment</p> <p>(a) History and development of the global environmental protection movement, including local green groups and relevant stakeholders</p> <p>(b) The ecological environment of Hong Kong and the immediate region. Its current status and development trend</p> <p>(c) The social context of environmental protection, and how it may affect engineering decisions such as site selection and technological options</p> <p>(d) The concept of Environmental Costs and Life Cycle Costs</p> <p>(e) The role of engineering and technology in the protection and enhancement of the natural and urban environment</p>	<p>K</p> <p>K</p> <p>K</p> <p>K</p> <p>G</p>				
<p>1.2 Quality Assurance</p> <p>Acquire experience in the application of quality assurance procedure(s)</p> <p>(a) Understand the principles and functions of commonly employed quality assurance and Environment Health and Safety systems and standards</p> <p>(b) Application of quality control and assurance in the execution of tasks for your employer</p>	<p>E</p>				

CORE OBJECTIVES (ENV)

2.0 Professional & General	Code	ES initials and Date of Assessment			
		G	K	E	C
<p>2.1 Environmental Legislation & Practices</p> <p>(a) Familiarity with the contents and the application of:-</p> <p style="margin-left: 20px;">(i) Environmental protection ordinances in Hong Kong, including supporting Technical Memoranda and relevant guidelines and best practice notes</p> <p style="margin-left: 20px;">(ii) Major international conventions, treaties, protocols or practices for the protection or improvement of the global environment</p> <p style="margin-left: 20px;">(iii) Hong Kong Planning Standards and Guidelines</p>	K				

CORE OBJECTIVES (ENV)

3.0 Environmental Engineering Practices, Design, Impact Assessment, Pollution Control and Prevention	Code	ES initials and Date of Assessment			
		G	K	E	C
<p>3.1 Common practices</p> <p>Gain understanding and practical experience on:-</p> <ul style="list-style-type: none"> (a) Use of Codes of Practice (b) Stages of design or design related investigations or modelling (c) Application of specific computer software in design and modelling, with clear awareness of limitations (d) Use of technical specifications (e) Methods of information retrieval 	E				
<p>3.2 Design or Design Related Investigations/Modelling</p> <p>Identify and define objectives of the design or design related investigations/modelling, and evaluate alternatives:-</p> <ul style="list-style-type: none"> (a) Use and application of Briefs (b) Reliability of data and source of information (c) Sampling and analysis (d) Evaluation criteria (e) Design calculations and reports (f) Interpretation of data (g) Identification and selection of solutions (h) Short and long term implications of solutions (i) Economic, financial, environmental aspects of solution formulation 	E				

CORE OBJECTIVES (ENV)

3.0 Environmental Engineering Practices, Design & Impact Assessment, Pollution Control and Prevention	Code	ES initials and Date of Assessment			
		G	K	E	C
<p>3.3 Environmental Impact Assessment and Management</p> <p>Examine environmental impact associated with design solutions, their control and prevention</p> <p>(a) Familiarity with stages of the EIA process (b) Use and application of Study Briefs (c) Collection & interpretation of Data (d) Mitigation of environmental impacts (e) Environmental Monitoring and Audit (f) Setting up or implementation of Environmental Management Systems</p>	E				
<p>3.4 Pollution Prevention and Control</p> <p>(a) Reduction or minimization of pollution at source (b) Use of natural /renewable resources (c) Understanding the concepts of Embodied Energy in construction materials (d) Avoidance of cross pollution or transformation from one form of pollution to another (e) Use of environmental assessment tools (f) Mitigation of environmental impact</p>	E				
<p>3.5 Presentation of Solutions</p> <p>(a) Preparation and presentation of reports (b) Use of drawings, charts, plates and diagrams (c) Use of visual aids (d) Awareness of professional appearance</p>	E				

CORE OBJECTIVES (ENV)

4.0 Engineering Administration & Management (*)	Code	ES initials and Date of Assessment			
		G	K	E	C
<p>4.1 Communication of Project Requirements</p> <p>Interpret, prepare and communicate design or design related details through:-</p> <ul style="list-style-type: none"> (a) Specifications (b) Conditions of Contract (c) Drawings 	C				
<p>4.2 Procurement Procedures</p> <p>Undertake elements of procurement procedures, including:-</p> <ul style="list-style-type: none"> (a) Tendering Procedures (b) Tender Evaluation (c) Award of Contract (d) Contract Administration 	E				
<p>4.3 Estimating</p> <p>Estimating the costs of solutions, including:-</p> <ul style="list-style-type: none"> (a) Project capital costs (b) Operational and maintenance costs 	C				
<p>4.4 Project/Work planning, budgeting, scheduling & management</p> <ul style="list-style-type: none"> (a) Undertaking work planning, budgeting, scheduling and management of an identifiable section of a study, survey or capital project (b) Understanding the characteristics of different forms of contracts commonly used for environmental facilities such as: conventional design, then build; Design-and-Build; BOT, BOO and EPC 	C				
<p><i>*N.B. "Engineering Administration & Management" is not restricted to Environmental Engineering</i></p>					

CORE OBJECTIVES (ENV)

5.0 Environmental Engineering Field (**) Experience	Code	ES initials and Date of Assessment			
		G	K	E	C
<p>5.1 Environmental Field Experience</p> <p>Undertake, supervise or assist in managing the implementation of an environmental engineering project, including:-</p> <ul style="list-style-type: none"> (a) Construction or installation or testing of mitigation measures of environmental impacts (b) Interpretation of data, design manuals, drawings & specifications (c) Keeping of site records 	C				
<p>5.2 Environmental Survey & Monitoring</p> <p>Undertake, supervise or assist in managing an environmental survey or monitoring program</p> <ul style="list-style-type: none"> (a) Planning, programming and control of the environmental monitoring work (b) Sampling and analysis (c) Quality control and data reliability (d) Maintenance of good site records (e) Data storage, retrieval and usage 	C				
<p>**N.B. <i>"Field" relates to the application of Environmental Engineering principles.</i></p>					