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HKIQEP
香港環專會

Professional Assessment (Part I)
Syllabus

Hong Kong Institute of Qualified Environmental Professionals Limited

PROFESSIONAL ASSESSMENT (PART I) SYLLABUS

The HKIQEP Professional Assessment (Part I)* is a 3-hour multiple-choice examination in 6 areas: (i) Air, (ii) Environmental Science, Management & Policy (ESMP), (iii) Environmental Impact Assessment and Health Impact Assessment (EIA & HA), (iv) Noise, (v) Waste, and (vi) Water.

To pass Professional Assessment (Part I), candidates must achieve passing scores in each of the six areas (Air, ESMP, EIA & HA, Noise, Waste, and Water) as well as obtain an overall pass.

After passing Professional Assessment (Part I), candidates may apply for HKIQEP Professional Membership. Professional Assessment (Part II) will be arranged for eligible candidates. Candidates who have passed both parts of the Professional Assessment process will be considered for election as Professional Members by the HKIQEP Executive Committee.

This is the syllabus for Professional Assessment (Part I) along with recommended readings and will be reviewed and amended from time to time. Candidates are advised to check that they have the latest version prior to taking the Professional Assessment (Part I).

*Professional Assessment (Part I) is formerly known as Qualification Examination.

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I. Air

1. NATURE OF ATMOSPHERIC POLLUTION

- 1.1** Physical Structure and Composition of the Troposphere and Stratosphere
 - 1.1.1 Temperature, Pressure, Density, Spatial and Temporal Relationship
 - 1.1.2 Radiation
- 1.2** Natural Composition of the Atmosphere (*gases, particulates, aerosols, moisture*)
 - 1.2.1 Typical Concentrations of Common Species in the Natural Background
 - 1.2.2 Typical Concentrations of Common Pollutants in Polluted Environments
- 1.3** Air Pollutants
 - 1.3.1 Definitions & Characteristics (*physical & chemical*)
 - 1.3.2 Particulates
 - 1.3.3 Gaseous Pollutants
 - 1.3.4 Toxic Air Pollutants
 - 1.3.5 Threshold and Non-Threshold Pollutants
 - 1.3.6 Radionuclides
 - 1.3.7 Biological Contaminants
 - 1.3.8 Odour
- 1.4** Physical and Chemical Pollutant Processes
 - 1.4.1 Transport, Dispersion, Dilution, Transformation, Scavenging and Atmospheric Lifetimes
 - 1.4.2 Meteorological Effects: Influence of Solar Radiation and Wind Fields, Lapse Rate and Stability Conditions
 - 1.4.3 Spatial and Temporal Variation of Air Pollutant Concentrations
- 1.5** Local, Regional and Global Air Pollution
 - 1.5.1 Photochemical Air Pollution
 - 1.5.2 Acid Rain
 - 1.5.3 Long Range Transportation
 - 1.5.4 Global Scale Pollutants (*greenhouse gases and climate change; stratospheric ozone depletion and ozone depleting substances; persistent organic pollutants*)
- 1.6** Indoor Air Pollution

2. AIR POLLUTION SOURCES AND IMPACTS

- 2.1** Anthropogenic Sources of Air Pollution
 - 2.1.1 Stationary
 - 2.1.2 Mobile
 - 2.1.3 Fugitive and Non-Fugitive
- 2.2** Natural Sources of Air Pollution
 - 2.2.1 Volcanoes, Wild Fires, Earthquakes, Etc.

- 2.3** Receptors (*human, animal, plant, materials, atmospheric processes*)
- 2.4** Source/Receptor Relationships (*spatial & temporal*)
- 2.5** Adverse Effects
 - 2.5.1 Health Effects (*mortality, morbidity, respiratory illness, sub-clinical effects*)
 - 2.5.2 Ecological Impacts, Vegetation and Forest Deterioration
 - 2.5.3 Materials Corrosion
 - 2.5.4 Lake Acidification
 - 2.5.5 Others
- 2.6** Health Impact Assessments, Economic Impact Assessments, Air Toxics and Risk Assessments (*e.g. cancer burden, acute, chronic*)

3. AIR POLLUTION MODELLING

- 3.1** Purposes of Air Quality Modelling (*environmental impact analysis, plant siting, emergency response planning, accidental release, public relations, economic impacts*)
- 3.2** Levels of Modelling Effort (*screening, planning, compliance*)
- 3.3** Types of Air Pollution Models
 - 3.3.1 Box, Gaussian Dispersion
 - 3.3.2 Photochemical
 - 3.3.3 Physical, CPD Models
 - 3.3.4 Receptor Models
- 3.4** Emission Inventory and Emission Modelling
- 3.5** Model Limitations, Assumptions, Accuracy
- 3.6** Source/Receptor Relationships
- 3.7** Air Quality Forecasting

II. Environmental Science, Management and Policy

1. ENVIRONMENTAL SCIENCE FUNDAMENTALS

- 1.1 Types of Pollution
- 1.2 Sources and Types of Environmental Contaminants
- 1.3 Fate and Transport of Pollutants in the Environment (*air, water, land*)
- 1.4 Ecology, Health and Ecological Effects of Pollutants
- 1.5 Data Collection, Analysis and Interpretation
 - 1.5.1 Numerical Calculations
 - 1.5.2 Statistics
 - 1.5.3 Modeling and Uncertainty Analysis
- 1.6 Pollution Control Technologies (*physical, chemical, and biological processes and their applications*)
- 1.7 Characterization of Contaminated Sites
- 1.8 Remediation and Restoration Technologies

2. GLOBAL AND MULTI-MEDIA ENVIRONMENTAL ISSUES

- 2.1 Atmospheric Ozone Depletion
- 2.2 Global Climate Change
- 2.3 Indoor Air Quality
- 2.4 Nutrient Enrichment of Waters
- 2.5 Habitat Degradation/Destruction, Biodiversity, Endangered Species
- 2.6 Bioaccumulative Substances
- 2.7 Unconventional Pollutants (*e.g. endocrine disruptors, pharmaceuticals*)

3. ENVIRONMENTAL IMPACT, SITE ASSESSMENT AND RISK ASSESSMENT PROCESSES

- 3.1 Environmental Impact Assessment Processes
- 3.2 Site Assessment Process
- 3.3 Risk Assessment Process

4. ENVIRONMENTAL MANAGEMENT SYSTEMS

- 4.1 Organizational Environmental Policy
- 4.2 Identification of Environmental Aspects

- 4.3 Establishing Goals and Objectives
- 4.4 Environmental Performance Indicators (*e.g. metrics*)
- 4.5 Reporting Environmental Performance
- 4.6 Operational Controls (*e.g. processes, procedures*)
- 4.7 Emergency Response Planning and Implementation
- 4.8 Incident Investigation and Corrective/Preventive Action
- 4.9 Environment and Health
- 4.10 Environmental Auditing and Corrective Action
- 4.11 Environmental Due Diligence Related Acquisitions and Divestitures
- 4.12 Total Quality Environmental Management
- 4.13 Financial Aspects of Environmental Management (*e.g. environmental cost accounting, cost-benefit analysis*)

5. POLLUTION PREVENTION, DESIGN FOR ENVIRONMENT, AND SUSTAINABILITY

- 5.1 Elements of Pollution Prevention (*e.g. source control, recycle/reuse, green chemistry, green procurement*)
- 5.2 Life-Cycle Assessment
- 5.3 Industrial Ecology
- 5.4 Elements of Sustainable Development
- 5.5 Land Use and Watershed Issues
- 5.6 Product and Environmental Stewardship

6. DEVELOPMENT AND IMPLEMENTATION OF ENVIRONMENTAL PUBLIC POLICY

- 6.1 Role of the Public and Other Stakeholders in Policy Development
- 6.2 Geopolitical Considerations (*local, regional, provincial, international*)
- 6.3 Role of Science in Public Policy Formulation
- 6.4 Command-and-Control Regulatory Framework & Mechanisms
- 6.5 Market-Based Regulatory Framework & Mechanisms

7. INTERNATIONAL ENVIRONMENTAL CONVENTIONS

Note: In addition to the above, Professional Assessment (Part I) may include questions addressing professional ethics.

III. Environmental Impact Assessment and Health Impact Assessment

1. EIA LEGAL SYSTEM
1.1 Definition of Designated Project
1.2 Preparation Procedures – Project Profile, EIA Study Brief (EIA SB), Environmental Permit (EP), Variation of Environmental Permit (VEP), Apply Directly for an Environmental Permit (DIR)
1.3 EIA Ordinance Statutory Time Limits
1.4 Function of the Environmental Study Management Group
1.5 Definition of Material Change
1.6 Vetting Authorities
1.7 Offences, Penalties & Appeal, Judicial Review Process
2. ALTERNATIVE AND OPTIONS EVALUATION
2.1 Factors for Consideration in Project Planning Throughout Project Life Cycle
2.2 Evaluation Criteria for Options Development
2.3 Environmental Benefits of Projects
2.4 Scenario with and without the Project
2.5 Evaluation of the Seriousness of Residual Environmental Impacts
3. EVALUATION OF IMPACT
3.1 Air Quality Impact
3.1.1 Statutory Control
3.1.2 Baseline Review Approaches
3.1.3 Understanding of Impacts Identification, Assessment Methodologies, Mitigation Measures and Residual Impact Handling
3.2 Noise Impact
3.2.1 Statutory Control
3.2.2 Baseline Review Approaches
3.2.3 Understanding of Impacts Identification, Assessment Methodologies, Mitigation Measures and Residual Impact Handling
3.3 Water Quality Impact
3.3.1 Statutory Control
3.3.2 Baseline Review Approaches

3.3.3	Understanding of Impacts Identification, Assessment Methodologies, Mitigation Measures and Residual Impact Handling
3.4	Sewerage/Sewage Impact
3.4.1	Statutory Control
3.4.2	Baseline Review Approaches
3.4.3	Understanding of Impacts Identification, Assessment Methodologies, Mitigation Measures and Residual Impact Handling
3.5	Waste Management
3.5.1	Statutory Control
3.5.2	Baseline Review Approaches
3.5.3	Understanding of Impacts Identification, Assessment Methodologies, Mitigation Measures and Residual Impact Handling
3.6	Land Contamination
3.6.1	Statutory Control
3.6.2	Baseline Review Approaches
3.6.3	Understanding of Impacts Identification, Assessment Methodologies, Mitigation Measures and Residual Impact Handling
3.7	Ecology (Terrestrial)
3.7.1	Statutory Control
3.7.2	Baseline Review Approaches
3.7.3	Understanding of Impacts Identification, Assessment Methodologies, Mitigation Measures and Residual Impact Handling
3.7.4	Wetland Establishment/Compensation
3.8	Ecology (Marine)
3.8.1	Statutory Control
3.8.2	Baseline Review Approaches
3.8.3	Understanding of Impacts Identification, Assessment Methodologies, Mitigation Measures and Residual Impact Handling
3.8.4	Wetland Establishment/Compensation
3.9	Fisheries
3.9.1	Statutory Control
3.9.2	Baseline Review Approaches
3.9.3	Understanding of Impacts Identification, Assessment Methodologies, Mitigation Measures and Residual Impact Handling
3.10	Landscape and Visual Impact Assessment (LVIA)
3.10.1	Statutory Control
3.10.2	Understanding of Assessment Framework and Approaches
3.10.3	Understanding of Baseline Study
3.11	Cultural Heritage
3.11.1	Statutory Control
3.11.2	Baseline Review Approaches

3.11.3	Understanding of Impacts Identification, Assessment Methodologies, Mitigation Measures and Residual Impact Handling
3.12	Hazard to Life
3.12.1	Statutory Control
3.12.2	Baseline Review Approaches
3.12.3	Understanding of Impacts Identification, Assessment Methodologies, Mitigation Measures and Residual Impact Handling
3.13	Health Impact
3.13.1	Statutory Control
3.13.2	Baseline Review Approaches
3.13.3	Understanding of Impacts Identification, Assessment Methodologies, Mitigation Measures and Residual Impact Handling
4. ENVIRONMENTAL MONITORING AND AUDIT (EM&A)	
4.1	Role of Independent Environmental Checker / Environmental Team / Certified Arborist
4.2	Understanding of EP Deliverables Preparation
4.3	Design Changes / VEP
4.4	Understanding of Implementation Schedule and Recommended Mitigation Measures
4.5	Understanding of Permit & Licensing (<i>e.g. Construction Noise Permit, Specified Process License, Form NA, Chemical Waste Producer, Trip Ticket System</i>)
5. STAKEHOLDERS ENGAGEMENT	
5.1	Statutory Control
5.2	ACE Composition
5.3	Consultation Technics
6. STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA)	
6.1	Statutory Requirements
6.2	Form and Approach of SEA

IV. Noise

1. FUNDAMENTAL OF ENVIRONMENTAL NOISE	
1.1	Sound and Noise, Perception of Sound, Response of the Human Ears to Noise
1.2	Characteristics of Sound and the Decibel Scale (<i>sound pressure, A-weighting</i>)
1.3	Noise Descriptors for Environmental Noise (<i>e.g. Leq, Ldn, Lden, Lnight, L10, L50, L90, Lmax, Lden, Lnight, Noise Exposure Forecast</i>)
1.4	Sound Propagation (<i>e.g. point, line, area sources, reflection, refraction, diffraction</i>)
1.5	Soundscape
1.6	Mathematics (<i>e.g. logarithm</i>)
2. NOISE POLLUTION SOURCES AND IMPACTS	
2.1	Typical Environmental Noise Sources (<i>e.g. domestic premises, public places, construction, industrial, commercial, railway, lightrail, tram, road traffic, aircraft, helicopter, marine traffic, music, entertainment, crowd, nature</i>)
2.2	Noise Receivers (<i>e.g. residential uses, all domestic premises including temporary housing, institutional uses, educational institutions including kindergarten and nurseries, hospitals, medical clinics, homes for the aged, convalescent homes, places of public worship, libraries, courts Of law, performing arts centres, auditoria, amphitheatres, hostels, country parks</i>)
2.3	Noise Standards (<i>e.g. domestic premises, public places, construction, industrial, commercial, railway, lightrail, tram, road traffic, aircraft, helicopter, marine traffic, music, entertainment, crowd, nature</i>)
2.4	Auditory Effects (Hearing Impairment) and Non-Auditory Effects of Noise (<i>e.g. stress, annoyance, social and behavioral effects, speech interference, sleep disturbance, cognitive and cardiovascular and physiological effects</i>)
2.5	Exposure-Response Relationships (<i>annoyance and sleep disturbance</i>)
3. NOISE PREDICTION MODELING	
3.1	Reasons for Modeling (<i>e.g. assessing noise impact from a noise source, assessing noise receiver affected by noise sources</i>)
3.2	Basic Modelling Concepts (<i>e.g. analytic model, engineering model, noise emission model, noise propagation model, numerical model, finite element model, boundary element model, Ray Tracing Model</i>)
3.3	Noise Prediction Methodologies (<i>e.g. construction, industrial & commercial, railway, road traffic, aircraft, helicopter, music, entertainment, crowd, marine traffic</i>)
3.4	Computation Software (<i>e.g. construction, industrial & commercial, railway, road traffic, aircraft, helicopter, music, entertainment, crowd, marine traffic</i>)

3.5 Large Scale Model for City Noise Mapping (*e.g. noise source data, topographic data, prediction model, computational software, presentation of results*)

3.6 Methodologies and Software Limitations

4. ENVIRONMENTAL NOISE MANAGEMENT

4.1 Prevention of Noise Problem (*planning of noise sources, planning of noise receivers, noise impact assessment for Environmental Impact Assessment Ordinance submission, noise impact assessment for S16 Or S12 applications under Town Planning Ordinance*)

4.2 Control (*Noise Control Ordinance: domestic premises and public places, construction noise, construction noise permits, industrial and commercial places, noise abatement notice, noise labels, vehicle 1st registration*)

4.3 Abatement (*noise control measures, acoustics insulation, retrofitting noise barriers on road, low noise road surface*)

4.4 Noise Mitigation Measures (*at noise sources: quiet equipment; at transmission path: barrier, enclosure; at receivers: insulation, special provided glazing*)

4.5 Soundscape

5. NOISE MONITORING AND MEASUREMENT

5.1 Subjective Assessment for Noise from Domestic Premises or Public Place

5.2 Construction Works Noise Monitoring for EM&A Purpose

5.3 Industrial and Commercial Noise Measurement for Investigation and Compliance Check to Respond Noise Abatement Notice

5.4 Road Traffic Noise Measurement and Monitoring

5.5 Railway Noise Measurement and Monitoring

5.6 Aircraft Noise Monitoring

5.7 Musical Event Noise Measurement and Monitoring for Investigation and Compliance Check to Respond Noise Abatement Notice

5.8 Verification Measurement for Special Designed Glazing for Industrial Noise

5.9 Verification Measurement for Acoustic Window, Balcony, Special Architecture Features, etc. for Traffic Noise

5.10 Product Noise and Vehicle Noise Measurement

6. RELEVANT GUIDELINES

6.1 Hong Kong Planning Standards and Guidelines

6.2 Technical Memorandum of Environmental Impact Assessment Ordinance

6.3 Guidance Notes for Construction and Road Traffic Noise Assessment

6.4 Professional Persons Environmental Consultative Committee Practice Notes (ProPECCPNs)

V. Waste

1.	WASTE SOURCES AND CLASSIFICATION
1.1	Sources and Problems of Waste
1.2	Waste Classification
1.2.1	Municipal Solid Waste (MSW)
1.2.2	Overall Construction Waste
1.2.3	Special Waste (<i>e.g. chemical waste, clinical waste, livestock waste, treatment plant residues, dredged mud and excavated material, radioactive waste</i>)
2.	MSW COMPOSITION AND PROPERTIES
2.1	Composition Analysis and Field Surveys
2.2	Analysis of Properties
2.2.1	Physical Properties
2.2.2	Chemical Properties
2.2.3	Biological Properties
3.	MSW MANAGEMENT
3.1	Functional Elements of Waste Management System
3.2	Waste Management Hierarchy
3.3	Integrated Waste Management
3.4	Life Cycle Assessment
3.5	Economic Tools for Waste Management: Back-End Charges, Front-End Charges, Deposit-Refund System
3.6	Waste Management Law
4.	MSW SOURCE SEPARATION, COLLECTION AND TRANSPORTATION
4.1	Source Separation
4.2	Collection: Stationary Container System, Hauled Container System
4.3	Transportation
4.3.1	Refuse Collection Vehicles
4.3.2	Transfer Station
5.	MSW REDUCTION AND RECYCLING
5.1	Chain and Levels of Recycling Operations
5.2	Types of Recyclables

- 5.3 Recyclables Segregation, Material Recovery Facility
- 5.4 Recycling Processes
- 5.5 Market and Outlet of Recyclables
- 5.6 Government Support to Recycling (*e.g. recycling fund, land and infrastructure support, statutory measure*)

6. MSW TREATMENT

- 6.1 Treatment Objectives
- 6.2 Mechanical Treatment: Size Reduction, Sorting, Separation, Compaction
- 6.3 Thermal Process
 - 6.3.1 Incineration
 - 6.3.2 Other Thermal Process (*e.g. co-combustion, gasification, pyrolysis*)
- 6.4 Biological Treatment
- 6.5 Composting
- 6.6 Anaerobic Digestion

7. MSW DISPOSAL

- 7.1 Landfill Disposal: Disposal Operation, Waste Degradation Process Environmental Issues: Landfill Gas, Leachate, Design and Operation Considerations
- 7.2 Landfill Monitoring
- 7.3 Landfill Restoration and Aftercare

8. FOOD WASTE

- 8.1 Sources
- 8.2 Characteristics and Disposal Problems
- 8.3 Food Waste Reduction
- 8.4 Collection, Recycling, Treatment and Disposal

9. CONSTRUCTION WASTE

- 9.1 Sources
- 9.2 Composition and Characteristics
- 9.3 Storage, Collection and Transportation
- 9.4 Construction Waste Charging
- 9.5 Reuse, Treatment and Disposal: Public Fill Reception Facilities, Sorting Facilities, Fill Bank and Recycling

10. HAZARDOUS WASTE

- 10.1** Sources: Households, Commerce, Industry, Shipping (MARPOL Waste)
- 10.2** Classification and Characterisations: Ignitability, Corrosivity, Reactivity, Toxicity, Carcinogenicity
- 10.3** Storage, Collection and Transportation
- 10.4** Treatment and Disposal: Physical Treatment, Chemical Treatment, Oil/Water Separation, Incineration, Stabilization

11. CLINICAL WASTE

- 11.1** Sources
- 11.2** Classification
- 11.3** Storage, Collection and Transportation
- 11.4** Treatment and Disposal

12. SLUDGE

- 12.1** Sources: Water Works, Sewage Treatment Plants
- 12.2** Characteristics
- 12.3** Storage and Transportation
- 12.4** Treatment and Disposal

13. LIVESTOCK WASTE

- 13.1** Source
- 13.2** Characteristics
- 13.3** Collection, Treatment and Disposal

14. DREDGED MUD AND EXCAVATED MATERIAL

- 14.1** Source
- 14.2** Classification and Characterisation: Uncontaminated and Contaminated
- 14.3** Collection, Treatment and Disposal
- 14.4** Management, Treatment and Disposal: Beneficial Reuse, Open Water Disposal, Confined Disposal, Treatment to Reduce Contaminant Levels

15. RADIOACTIVE WASTE

- 15.1 Characteristics
- 15.2 Source and Classification: Very Low Level, Low Level, Intermediate Level, High Level Wastes
- 15.3 Collection, Transportation and Storage

16. CONTAMINATED SITE REMEDIATION

- 16.1 Causes and Hazards of Land Contamination
- 16.2 Contaminant Fate and Transport
- 16.3 Site Characterization
- 16.4 Investigation Methodologies
- 16.5 Remediation Standard and Technologies: Ex-Situ Treatment, In-Situ Treatment, Containment

17. FACILITIES SITING AND DEVELOPMENT

- 17.1 Facility Siting: Controversies, NIMBY Attitude
- 17.2 Siting Considerations
- 17.3 Preferred Site Identification
- 17.4 Design, Build and Operate Contract

18. OCCUPATIONAL HEALTH AND SAFETY

- 18.1 Health and Safety Risks of Waste Management Activities
- 18.2 Means for Up-Keeping Occupational Health and Safety: Safety and Health Management System
- 18.3 Safety and Health Legislations

VI. Water

1. WATER RESOURCES
1.1 Hydrological Cycle
1.2 Types of Water Systems
1.2.1 General
1.2.2 Water system in Hong Kong
1.3 Components of Water Systems
1.3.1 Water Quality
1.3.2 Hydrology
1.3.3 Bottom Sediment
1.3.4 Aquatic Ecology
2. WATER QUALITY STANDARDS
2.1 Beneficial Uses and Water Quality Requirement
2.2 Water Quality Objectives
3. WATER QUALITY IMPACT ASSESSMENT
3.1 Assimilative Capacity and Water Pollution
3.1.1 Pollution due to Inorganic Solids
3.1.2 Organic Pollution
3.1.3 Microbial Pollution
3.1.4 Eutrophication
3.1.5 Toxicants: Metals, Pesticides and Industrial Organic Chemicals
3.1.6 Oil and Related Chemicals
3.1.7 Debris and Litter
3.1.8 Thermal Pollution
3.2 Sources of Impact
3.3 Assessment and Prediction of Impact
3.4 Impact Prevention and Mitigation
3.5 Impact Monitoring
4. WATER QUALITY MONITORING
4.1 General
4.2 Ambient Monitoring
4.3 Specific Monitoring

4.4	Quality Assurance and Control
5.	COLLECTION, TREATMENT, REUSE AND DISPOSAL
5.1	Objectives of Prevention, Control and Treatment
5.2	Pollution Prevention Methods
5.3	Pollution Control and Treatment Methods
5.3.1	Wastewater Collection
5.3.2	Wastewater Treatment
5.3.3	Common Treatment Processes
5.3.4	Sludge Management and Disposal
5.3.5	Effluent Reuse
6.	POLICY AND LEGISLATION
6.1	Policy, Strategy and Plans
6.2	Water Pollution Control Related Regulations
6.3	Total Water Management

VII. Recommended Study Materials and Resources List for HKIQEP Professional Assessment

The following is a list of recommended readings that candidates may find helpful when preparing for HKIQEP Professional Assessment. Candidates should be aware that this list is advisory rather than definitive, and it may be updated from time to time to maintain currency.

1. AIR

- Thad Godish, Wayne T. Davis, Joshua S. Fu, *Air Quality*, 5th Ed., CRC Press, 2015
- Noel De Nevers, *Air Pollution Control Engineering*, 2nd Ed., Waveland Pr Inc., 2010
- Richard C. Flagan And John H. Seinfeld, *Fundamentals of Air Pollution Engineering*, Dover Publications, Inc., 2012
- Environmental Protection Department, HKSAR (Air Quality Related Webpages)
 - https://www.epd.gov.hk/epd/english/environmentinhk/air/air_maincontent.html
- European Commission – Environment (Air Quality Related Webpages)
 - https://ec.europa.eu/environment/air/index_en.htm
- US Environmental Protection Agency (Air Quality Related Webpages)
 - <https://www.epa.gov/environmental-topics/air-topics>
- US Environmental Protection Agency (Air Pollution Training Institute)
 - <http://www.apti-learn.net/LMS/epahomepage.aspx>
- World Health Organization (Air Webpages)
 - http://www.who.int/phe/health_topics/outdoorair/en/
- A Clean Air Plan for Hong Kong, Environment Bureau, HKSAR
 - http://www.enb.gov.hk/en/files/New_Air_Plan_en.pdf
- Recommended Study Materials, Textbooks & Resources of Qualified Environmental Professional (QEP) Certification, The Institute of Professional Environmental Practice

2. ENVIRONMENTAL SCIENCE, MANAGEMENT AND POLICY

- Richard T. Wright and Dorothy F. Boorse, *Environmental Science: Toward a Sustainable Future*, Pearson Education, Recent Editions
- William Cunningham, *Environmental Science: A Global Concern*, Mcgraw-Hill Higher Education, Recent Editions
- Robert K. Kaufmann And Cutler J. Cleveland, *Environmental Science*, Mcgraw-Hill Higher Education, 2008
- Recommended Study Materials, Textbooks & Resources of Qualified Environmental Professional (QEP) Certification, The Institute of Professional Environmental Practice

3. ENVIRONMENTAL IMPACT ASSESSMENT AND HEALTH IMPACT ASSESSMENT

- Environmental Impact Assessment Ordinance
 - <https://www.epd.gov.hk/eia/english/guid/index1.html>
- Step-By Step Guide on EIAO Process
 - <https://www.epd.gov.hk/eia/hb/step/index.htm>
- A Guide to the Environmental Impact Assessment (Appeal Board) Regulation
 - <https://www.epd.gov.hk/eia/english/guid/appealgu/content.html#3>
- Environmental Impact Assessment Ordinance Guidance Note 1 “Basic Principles of the Environmental Impact Assessment Process”, 2010
 - <https://www.epd.gov.hk/eia/hb/materials/GN1.pdf>
- Guidelines on Assessing the “TOTAL” Air Quality Impacts
 - https://www.epd.gov.hk/epd/english/environmentinhk/air/guide_ref/guide_aqa_model_g2.html
- Air Pollution Control in Hong Kong
 - https://www.epd.gov.hk/epd/english/environmentinhk/air/air_maincontent.html
- Air Pollution Control Ordinance
 - <https://www.elegislation.gov.hk/hk/cap311>
- Air Pollution Control (Construction Dust) Regulation
 - <https://www.elegislation.gov.hk/hk/cap311R>
- Guidelines for Development Projects In Hong Kong
 - <https://www.epd.gov.hk/eia/hb/materials/guidelines.htm>
- Technical Memorandum of Environmental Impact Assessment Ordinance
 - <https://www.epd.gov.hk/eia/english/legis/index3.html>
- Environmental Protection Department, “Guidance Manual for Use of Risk-Based Remediation Goals for Contaminated Land Management”, 2007
 - https://www.epd.gov.hk/epd/sites/default/files/epd/english/environmentinhk/waste/guide_ref/files/gme.pdf
- Environmental Protection Department, “Practice Guide for Investigation and Remediation of Contaminated Land”, 2011
 - https://www.epd.gov.hk/epd/sites/default/files/epd/gn_pdf/GN2014P244-2011c-e.pdf
- Hong Kong Construction Waste Disposal Charging Scheme
 - <https://www.epd.gov.hk/epd/misc/cdm/scheme.htm>
- Hong Kong Construction Waste Disposal Charging Scheme Leaflet
 - https://www.epd.gov.hk/epd/misc/cdm/info/Leaflet2_E.pdf
- Guidelines for Control on Marine Dumping
 - https://www.epd.gov.hk/epd/english/environmentinhk/waste/guide_ref/daso_gr.html
- Planning Department, “Miscellaneous Planning Standards and Guidelines, Potentially Hazardous Installations”
 - https://www.pland.gov.hk/pland_en/tech_doc/hkpsg/sum/pdf/sum.pdf
- Environment, Transport and Works Bureau Technical Circular (Works) N.34/2002 Management of Dredged/Excavated Sediment
 - <http://www.devb.gov.hk/filemanager/technicalcirculars/en/upload/124/1/C-2002-34-0-1.pdf>

- Environmental Impact Assessment Ordinance Guidance Note 8 “Preparation of Landscape and Visual Impact Assessment Under the Environmental Impact Assessment Ordinance”, 2010
 - <https://www.epd.gov.hk/eia/hb/materials/GN8.pdf>
- Recommended Study Materials, Textbooks & Resources of Qualified Environmental Professional (QEP) Certification, The Institute of Professional Environmental Practice

4. NOISE

- ISO 9613 Acoustics – Attenuation of Sound During Propagation Outdoors
- Soundscape Planning – Environmental Noise Control, Noise/News by I-INCE and INCE/USE Vol 23, Number 2, 2015 June
- European Environment Agency, Good Practice Guide on Noise Exposure And Potential Health Effects
- Calculation of Road Traffic Noise
- Calculation of Railway Noise
- International Civil Aviation Organisation Doc 9911
- European Environment Agency, Guidance Note for Strategic Noise Mapping
- Research into the Practical and Policy Applications of Soundscape Concepts and Techniques in Urban Areas, Department for Environment, Food and Rural Affairs, UK 2007
- Environmental Noise
 - https://www.epd.gov.hk/epd/noise_education/web/ENG_EPD_HTML/index/index.html
- Technical Memorandum on Noise from Construction Work other than Percussive Piling
 - https://www.epd.gov.hk/epd/english/environmentinhk/noise/guide_ref/tm_nonpp.html
- Technical Memorandum for the Assessment of Noise from Places other than Domestic Premises, Public Places or Construction Sites
 - https://www.epd.gov.hk/epd/english/environmentinhk/noise/guide_ref/tm_nondomestic.html
- Environmental Protection Department, Noise Guidelines & References
 - https://www.epd.gov.hk/epd/english/environmentinhk/noise/guide_ref/noise_guidelines.html
- Environmental Protection Department, Noise Guidelines & References-Archive
 - https://www.epd.gov.hk/epd/english/environmentinhk/noise/guide_ref/noise_guidelines_archive.html
- Recommended Study Materials, Textbooks & Resources of Qualified Environmental Professional (QEP) Certification, The Institute of Professional Environmental Practice

5. WASTE

- Thomas Christensen, "Solid Waste Technology and Management", 2010
- George Tchobanoglous And Frank Kreith, "Handbook of Solid Waste Management", 2002
- John Pichtel, "Waste Management Practices: Municipal, Hazardous and Industrial", 2005
- P Aarne Vesilind, William Worrell And Debra Reinhard, "Solid Waste Engineering", 2002
- Environmental Protection Department, "Monitoring of Solid Waste in Hong Kong: Waste Statistics for 2019", 2020

- Environmental Protection Department, "Environment Hong Kong 2020", 2021
- Environment Bureau, "Hong Kong Blueprint for Sustainable Use of Resources 2013-2022", 2013
- Environment Bureau, "Waste Blueprint for Hong Kong 2035", 2021
- Environment Bureau, "A Food Waste and Yard Waste Plan for Hong Kong 2014-2022", 2014
- Environmental Protection Department, HKSAR
 - <https://www.epd.gov.hk/epd/english/top.html>
- Recommended Study Materials, Textbooks & Resources of Qualified Environmental Professional (QEP) Certification, The Institute of Professional Environmental Practice

6. WATER

- Metcalf & Eddy, Wastewater Engineering, Mcgraw Hill, Recent Editions
- Water Supplies Department, HKSAR
 - <https://www.wsd.gov.hk/en/home/index.html>
- Drainage Services Department, HKSAR
 - <https://www.dsd.gov.hk/EN/Home/index.html>
- Environmental Protection Department, HKSAR
 - <https://www.epd.gov.hk/epd/english/top.html>
- Recommended Study Materials, Textbooks & Resources of Qualified Environmental Professional (QEP) Certification, The Institute of Professional Environmental Practice

VIII. Contact Information

Hong Kong Institute of Qualified Environmental Professionals Limited (HKIQEP)

Address: GPO Box 12309, Central, Hong Kong

Email: general@hkiqep.org

Website: www.hkiqep.org

