Admission Requirements for the Fire Discipline
(Normal Route)

(Candidates must read this leaflet in conjunction with M3 Routes to Membership)

Item	Description	Remarks
Academic requirements (either (a), (b), (c) or (d))	The academic requirement for Member in the Fire Engineering Discipline is to satisfy either one of the following:-	
	Normally	
	(a) a first engineering degree (Honours) accredited by the Institution relevant to the Discipline; or	- Section 2 of "M3 Routes to Membership" is relevant.
	(b) an accredited first engineering degree as listed in the Washington Accord relevant to the Discipline and maintained by the Institution; or	- See also Items 1 & 2 in the "Supplementary Information
	Topping up	
	(c) other recognised Honours degree level qualifications in engineering with "top up" by extra academic study during the training period or working experiences as approved by the Discipline Advisory Panel (DAP).	- See item 3, 4 & 5 in the "Supplementary Information"
	Individual Assessment	
	(d) other non-recognised Honours degree level qualifications may be considered for the class of Member based on an individual assessment.	- Candidates are required to provide information in the Assessment of Academic Qualifications for consideration by the DAP

Item	Description	Remarks
Professional Training & Experience	For Candidates satisfying academic requirements in (a) and (b) above:	
	(a) Applicants, having completed the formal training (Scheme "A" Training) and acquired adequate responsible experience to manage engineering activities and can demonstrate their experience compliance with the HKIE Competence Standards, should be allowed to sit for Professional Assessment. In general, it would take no less than three years after graduation to satisfy these; or	- Section 3 of "M3 Routes to Membership" is relevant.
	(b) 5-year General Experience training followed by 1-year responsible experience	- See item 6 in the "Supplementary Information"
	Topping up	
	(c) Candidates may undertake topping-up by extra academic studies during the training experience or extra 2-year working experience in addition to the above training and experience requirements.	- See items 4 and/or 5 in the "Supplementary Information"

Item	Description	Remarks
Professional Assessment	(a) Training & Experience Report (b) Drawings and Documents (c) Logbooks (if Scheme "A") (d) Continuing Professional Development (CPD) Record (e) Interview (f) Essay	Section 5 of "M3 Routes to Membership" is relevant

Supplementary Information
To Satisfy Admission Requirements of
Fire Discipline

1. Engineering degree programmes accredited by HKIE relevant to the Discipline:

A City University of Hong Kong

(i) BEng (Hons) in Building Engineering (Building Services Engineering) (UGC-Funded Full-time)
(ii) BEng (Hons) in Building Engineering (Building Services Engineering) (Self-financing Part-time)
(iii) BEng (Hons) in Building Engineering (Building Services Engineering) (Law Minor) (UGC-Funded Full-time)
(iv) BEng (Hons) in Building Services Engineering (UGC-Funded Full-time)
(v) BEng (Hons) in Architectural Engineering (UGC-Funded Full-time)
(vi) BEng (Hons) in Building Engineering (Modern Structural Engineering) (UGC-Funded Full-time)
(vii) BEng (Hons) in Building Engineering (Structural and Geotechnical Engineering) (UGC-Funded Full-time)
(viii) BEng (Hons) in Building Engineering (Structural and Geotechnical Engineering) (Self-financing Part-time)
(ix) BEng (Hons) in Civil and Structural Engineering (UGC-Funded Full-time)

For programmes (i) to (v), graduates who completed successfully (a) the two courses: Fire Engineering Elective I and Fire Engineering Elective II or (b) the two courses: Fire Science and Modelling and Fire Engineering Approach, top up is not required. Otherwise, topping up studies comprising a total contact hours of not less than 96 will be required. Suggested top up modules are Fire and Built Environment (FV2003) and Enclosure Fire Dynamics (FV3001) from SCOPE of City U.

B Hong Kong Polytechnic University

(i) BEng (Hons) in Building Services Engineering (UGC-funded Full-time and Sandwich)
(ii) BEng (Hons) in Building Services Engineering (2-Year Self-financed Full-time)
(iii) BEng (Hons) in Building Services Engineering (4-Year Self-financed Part-time)
(iv) BEng (Hons) in Building Services Engineering (with specialism in Fire Engineering) (Self-financed Full or Part-time)
(v) BEng (Hons) in Civil and Structural Engineering (UGC-Funded Full-time and Sandwich)
(vi) BEng (Hons) in Civil and Structural Engineering (Self-financed Part-time)
(vii) BEng (Hons) in Civil and Environmental Engineering (UGC-Funded Full-time)
(viii) BEng (Hons) in Civil Engineering (UGC-Funded Full-time and Sandwich)
(ix) BEng (Hons) in Civil Engineering (Self-financed Part-time)

For programmes (i) to (iii), topping up studies comprising a total contact hours of not less than 96 will be required. Suggested top up modules are Fire and Built Environment (FV2003) and Enclosure Fire Dynamics (FV3001) from SCOPE of City U.

For course (iv), top up is not required.

For programmes (v) to (ix), topping up studies comprising a total contact hours of not less than 240 will be required. Suggested top up modules are Introduction to Combustion and Fire (FV1001), Fire and Built Environment (FV2003), Enclosure Fire Dynamics (FV3001), Fire Protection Engineering (FV3002) and Engineering Design Project (FV3201) from SCOPE of City U.

C Hong Kong University of Science and Technology

(i) BEng (Hons) in Civil and Structural Engineering (including Civil and Environmental Engineering) (Full time)
(ii) BEng (Hons) in Mechanical Engineering (Full time)

For programme (i), topping up studies comprising a total contact hours of not less than 240 will be required. Suggested top up modules are Introduction to Combustion and Fire (FV1001), Fire and Built Environment (FV2003), Enclosure Fire Dynamics (FV3001), Fire Protection Engineering (FV3002) and Engineering Design Project (FV3201) from SCOPE of City U.

For programme (ii), topping up studies comprising a total contact hours of not less than 192 will be required. Suggested top up modules are Fire and Built Environment (FV2003), Enclosure Fire Dynamics (FV3001), Fire Protection Engineering (FV3002) and Engineering Design Project (FV3201) from SCOPE of City U.

D University of Hong Kong

(i) BEng (Hons) in Mechanical Engineering (Building Services Engineering) (Full-time and Sandwich) [formerly named BEng (Hons) in Building Services Engineering (Full-time and Sandwich)]
(ii) BEng (Hons) in Mechanical Engineering (Full –time and Sandwich)

For programme (i), topping up studies comprising a total contact hours of not less than 96 will be required. Suggested top up modules are Fire and Built Environment (FV2003) and Enclosure Fire Dynamics (FV3001) from SCOPE of City U.

For programme (ii), topping up studies comprising a total contact hours of not less than 192 will be required. Suggested top up modules are Fire and Built Environment (FV2003), Enclosure Fire Dynamics (FV3001), Fire Protection Engineering (FV3002) and Engineering Design Project (FV3201) from SCOPE of City U.

2. Accredited engineering degree listed in the Washington Accord relevant to the Discipline

A University of Central Lancashire (UCLan), through the School of Continuing and Professional Education (SCOPE), City University of Hong Kong (CityU)*

Remark:* The course ceased admission in 2026.
(i) BEng (Hons) in Fire Engineering (3-years Part-time) plus MSc in Fire Safety Engineering (2-years Part-time)

B University of Central Lancashire (UCLan), through the Hong Kong College of Technology (HKCT) Institute of Higher Education

(i) BEng (Hons) in Fire Engineering (3-years Part-time) plus MSc in Fire Safety Engineering (2-years Part-time)

Other Degrees listed on the Washington Accord will be considered on a case by case basis by the Discipline Advisory Panel.

3. Other honours degrees in engineering recognized by HKIE

The HKIE maintains a list of recognized Engineering Degree Programmes that may be considered as meeting the academic requirement of the Discipline, subject to topping up studies or extra working experience as may be required, as detailed in the following Items 4 and 5. Full details of an applicant's academic qualifications shall accompany his application for consideration by the Discipline Advisory Panel.

4. Top- Up Courses in Fire Engineering

For admission into the Fire Discipline, an applicant should have completed fire electives or modules in the respective programmes as mentioned in Items 1 and 2 above. For those Candidates with Honours Engineering Degrees recognized by HKIE, as mentioned in Item 3, who have not completed or only have completed part of these academic programmes, they would need to take relevant top up studies. As the specific top up requirements depend on the curriculum of the respective degree(s) undertaken by the Candidates it is difficult to generalize, the following indicative topics can be taken as a general guidance: **

- Concepts of fire safety engineering
- Combustion and fire science
- Enclosure fire dynamics
- Active fire protection
- Passive fire protection
- Smoke control
- Interaction between fire and people (including psychological and physiological)
- Fire and evacuation modeling
- Fire safety legislation and statutory control

Top up courses can be at undergraduate or postgraduate level, a list of programmes and modules (subjects) at Bachelor or higher degree level is provided in Appendix I & II for reference. It should be noted that the availability of courses or modules in local universities are subject to changes, and they will be reviewed from time to time by the Discipline Advisory Panel.

** prior to taking up top up studies, the Fire Discipline Advisory Panel should be consulted.

5. Extra Working Experience In Lieu of Top Up Studies

As an alternative to top up studies as detailed in Item 4, Candidates can opt for two extra years (on top of the normal minimum requirements of either 4 years for Formal Training Route or six years combined training/experience for General Experience Route) of relevant work experience in Fire Engineering for fulfilling the requirement for admission in the Fire discipline, this is more clearly shown in the Chart in Appendix III.

Candidates should note that for an application through Formal Training route (Scheme

"A") or General Experience route, responsible experience towards Corporate Membership would only be counted after top-up requirements have been fulfilled.

6. General Experience Route

Candidates who are academically qualified but have not followed recognized Scheme "A" training are required to accumulate a minimum of 5 years (post-degree) experience in Fire Engineering. Such experience must be vouched for by one or more of the Candidate's supporters for membership. Full documentary evidence of his employment history and the nature of experience shall accompany his application for consideration. The Candidate shall also submit proof that he had held a minimum of one year of responsible experience, which would be counted after the fulfillment of 5-year training requirement described above.

Candidates with other recognized engineering degrees wishing to pursue a General Experience Route will need an extra 2 years on-job top up, this is more clearly shown in the Chart in Appendix III.

7. Additional information for Applicants of Additional Discipline

7.1 Current Corporate Members of HKIE in other disciplines may also be admitted adopting the principles as elaborated above and depicted by the Chart in Appendix III.

These Corporate Members of HKIE normally would have a recognised engineering degree as detailed in Section 3 and have acquired certain years of training and professional experience. They may not have undertaken an Approved Scheme "A" training and have to follow the General Experience Route as elaborated in Section 6, that is, 5-year post-degree training plus 1-year responsible experience. They may not have a recognised Fire Engineering Degree and have to adopt the top-up requirements as detailed in Sections 4 and 5.

If they have already completed a study of top-up courses as detailed in Section 4 above, the only outstanding requirements will be 5-year training plus 1-year responsible experience, (that is totally 6 years of relevant working experience in Fire Engineering). If not, they may choose the alternative of two extra years as detailed in Section 5 above (that is, totally 8 years of relevant working experience in Fire Engineering). The relevance of the working experience will be benchmarked against the six domains of Fire Engineering (namely, Fire Science, Human Psychology & Physiology, Active Fire Protection, Passive Fire Protection, Laws and Regulations, Risk Assessment and Management). For instance, relevant fire engineering practice against the Codes of Practice issued by the Buildings Department and/or the Fire Services Department may serve as good yardsticks. It is not reasonable to expect a candidate to be fully conversant in the entire scope of the six domains, one must however have broad based experience and responsibility in one or more fields, as well as a good understanding of other related aspects.

7.2 As an example, Corporate Members in Structural Discipline normally have a recognised Structural Engineering degree. For those who have been qualified as Registered Structural Engineer or for the experienced Structural Engineering Employees in the Building Authorities (such as Senior Engineer rank or above),

their fire engineering experience will be considered relevant against some of the six domains. However, it is recommended to strengthen their knowledge and experience in the domains which have not been covered in their first degrees (such as Active Fire Protection, Human Psychology & Physiology) by the CPD activities organized by Fire Division or other qualified services providers.

7.3 By the same token, Corporate Members in Building Services and Mechanical Disciplines with extensive fire engineering experience working as Consultant firm, Contractor company,Developers and/or Statutory Authorities and preferably in the capacity of Registered Professional Engineer and/or Registered Contractor's Representative may justify the eligibility on their fire engineering experience against the six domains and apply through this Route. It is recommended to strengthen their knowledge and experience in some domains which have not been covered in their first degree (such as Passive Fire Protection, Human Psychology & Physiology), through CPD activities organised by Fire Division or other qualified services providers.

7.4 For Corporate Members in other disciplines, they will be further evaluated on individual basis owing to the widely varying nature.

Appendix I

Programmes in Fire Engineering at BEng (Hons) and MSc Levels

For candidates who do not have a degree qualification yet, or their degree awards are not recognised by the HKIE, they may wish to pursue a first degree or MSc degree in Fire Engineering operated by local universities, the followings are opportunities of study:

1.	Programme:	BEng (Hons) Degree in Building Services Engineering (with specialism in Fire Engineering)
	University:	The Hong Kong Polytechnic University
	Mode of study:	Full-time / Part-time
	Normal period of study:	3 years / 4 years
	Accreditation /Recognition	Recognition by HKIE (for Fire Discipline)
2.	Programme:	MSc in Fire and Safety Engineering
	University:	The Hong Kong Polytechnic University
	Mode of study:	Full-time / Part-time
	Normal period of study:	1 year / 2.5 years
	Accreditation /Recognition	Recognition as top-up programme by HKIE (for Fire Discipline)
3.	Programme:	BEng (Hons) in Fire Engineering
	University:	University of Central Lancashire (UCLan), through the School of Continuing and Professional Education (SCOPE), City University of Hong Kong (CityU) * Remark: the course ceased admission in 2026.
	Mode of study:	Part-time
	Normal period of study:	3 years
	Accreditation /Recognition	BEng (Hons) Fire Engineering plus MSc in Fire Safety Engineering satisfies the current academic requirements for Membership of the Hong Kong Institution of Engineers (Fire Discipline)
4.	Programme:	MSc in Fire Safety
	University:	University of Central Lancashire (UCLan), through the School of Continuing and Professional Education (SCOPE), City University of Hong Kong (CityU)
	Mode of study:	Part-time
	Normal period of study:	2 years
	Accreditation /Recognition	Recognition as top-up programme by HKIE (for Fire Discipline)
5.	Programme:	BEng (Hons) in Fire Engineering
	University:	University of Central Lancashire (UCLan), through the Hong Kong College of Technology (HKCT) Institute of Higher Education
	Mode of study:	Part-time
	Normal period of study:	3 years

	Accreditation /Recognition	BEng (Hons) Fire Engineering plus MSc in Fire Safety Engineering satisfies the current academic requirements for Membership of the Hong Kong Institution of Engineers (Fire Discipline)
6.	Programme:	MSc in Fire Safety
	University:	University of Central Lancashire (UCLan), through the Hong Kong College of Technology (HKCT) Institute of Higher Education
	Mode of study:	Part-time
	Normal period of study:	2 years
	Accreditation /Recognition	Recognition as top-up programme by HKIE (for Fire Discipline)

Appendix II

List of Fire Engineering Modules (Subjects) available for Fire Engineering Top Up

List of Fire Engineering-oriented subjects/modules at first degree available to candidates for Fire Engineering Top Up on part-time study basis, offered by University of Central Lancashire, UK (through the SCOPE of CityU / Hong Kong College of Technology (HKCT) Institute of Higher Education

Module Code	Module Name	Contact Hours	Brief Syllabus[+]
FV1001	Introduction to Combustion and Fire	48	Chemical reactions of combustion, Thermal explosion and Ignition, Flames, Combustion of liquids and solids, Fire dynamics, Introduction to enclosed fires, Fires and explosion hazards, Human factors, Principles of firefighting and fire protection
FV2003	Fire and Built Environment	48	Impact of fire on environment, Design, Law, Regulations and Standards, Introduction to modelling of compartment fires and fire protection engineering, Fire and explosion hazards
FV3001	Enclosure Fire Dynamics	48	Review of chemistry of combustion, Review of physics of combustion, Compartment conditions in fire, Compartment fire dynamics, Fire modelling, People and fire, Fighting fire
FV3002	Fire Protection Engineering	48	Guidance documents and technical standard test, Passive protection, Automatic fire detection and alarm systems, Active fire protection systems
FV3201	Engineering Design Project	48	The design projects will be drawn from the full range of building and infrastructure applications relevant to the course. Students will be expected to analyse, synthesise and evaluate construction, legal, health and safety and development factors and consider aesthetic, environmental, production and performance criteria.

[+] Refer to syllabus/ Module Descriptor for details

Please note that the module codes specified in this leaflet may change from time to time by the Universities.

List of Fire Engineering-oriented subjects/modules at first degree or higher degree level, available to candidates on part-time study basis, offered by the Department of Building Services Engineering, Hong Kong Polytechnic University:

Name of Subject/Module	Pre-requisite	Contact Hours	Brief Syllabus
Fire Dynamics	Thermodynamics, heat transfer and fluid mechanics as normally covered in BSc/BEng courses	42	Fire processes; Premixed and non-premixed flames; Fire plumes; Fire properties of materials; Ignition; Spread of flame; Smoke; Compartmental fire; Active protection systems; Building fire modeling; Use of fire engineer's calculator, e.g. FPETOOL.
Computational Fire Modeling for Building Design	Thermofluids and engineering mathematics as normally covered in BSc/BEng courses	42	Zone modelling techniques: modelling of heat release rate, fire plume, ceiling jet; Field modelling techniques: turbulence and turbulent modelling, solution of velocity-pressure coupled equations, boundary conditions and wall functions, use of commercial computational fluid dynamics packages; Application of fire modelling results: simulation of compartmental fire, atrium fire, tunnel fire, sprinkler-plume interaction, evaluation of fire engineering systems.
Fire Engineering Systems	Knowledge of thermodynamics, hydraulics and electronics normally covered in BSc/BEng courses	42	Basic engineering science of water-based / gas / dry power fire engineering systems; Pedestal fire hydrant system, sprinkler system, water spray/deluge system, drencher system, fixed foam system, dry pipe foam system; Halon gas system, CO2 system and dry powder system; Computer programmes for system design; Smoke control systems; Fire safety control in HVAC systems; Fire detection systems, fire communication systems and false alarm.
Design Considerations for Fire Safety Management	Nil	42	Fire safety management by design: rationale of fire safety design, system approach to fire safety design, NFPA decision tree, basic science of fire, fire hazards; Risk analysis and assessment: fire risk ranking, risk assessment model, response and performance of fire systems, human responses; Fire safety administration in the building industry: principles and techniques of

Please note that the module codes specified in this leaflet may change from time to time by the Universities.

List of Fire Engineering-oriented subjects/modules at first degree or higher degree level, available to candidates on part-time study basis, offered by the Department of Building Services Engineering, Hong Kong Polytechnic University:

Name of Subject/Module	Pre-requisite	Contact Hours	Brief Syllabus
			fire safety management, planning for emergencies, fire insurance, fire investigation, security; Case studies.
Legislation Aspects of Fire Safety Management	Nil	42	Fire safety management by legislation: principles and philosophy of fire safety legislation, legal systems, code of practice, fire services installations inspection and testing, fire safety practice, self-regulation; Insurance; Fire safety and the community: community fire losses, fire statistics, fire safety provisions and management strategies, public fire safety education; Performance based fire codes; Case studies.

Please note that the module codes specified in this leaflet may change from time to time by the Universities.

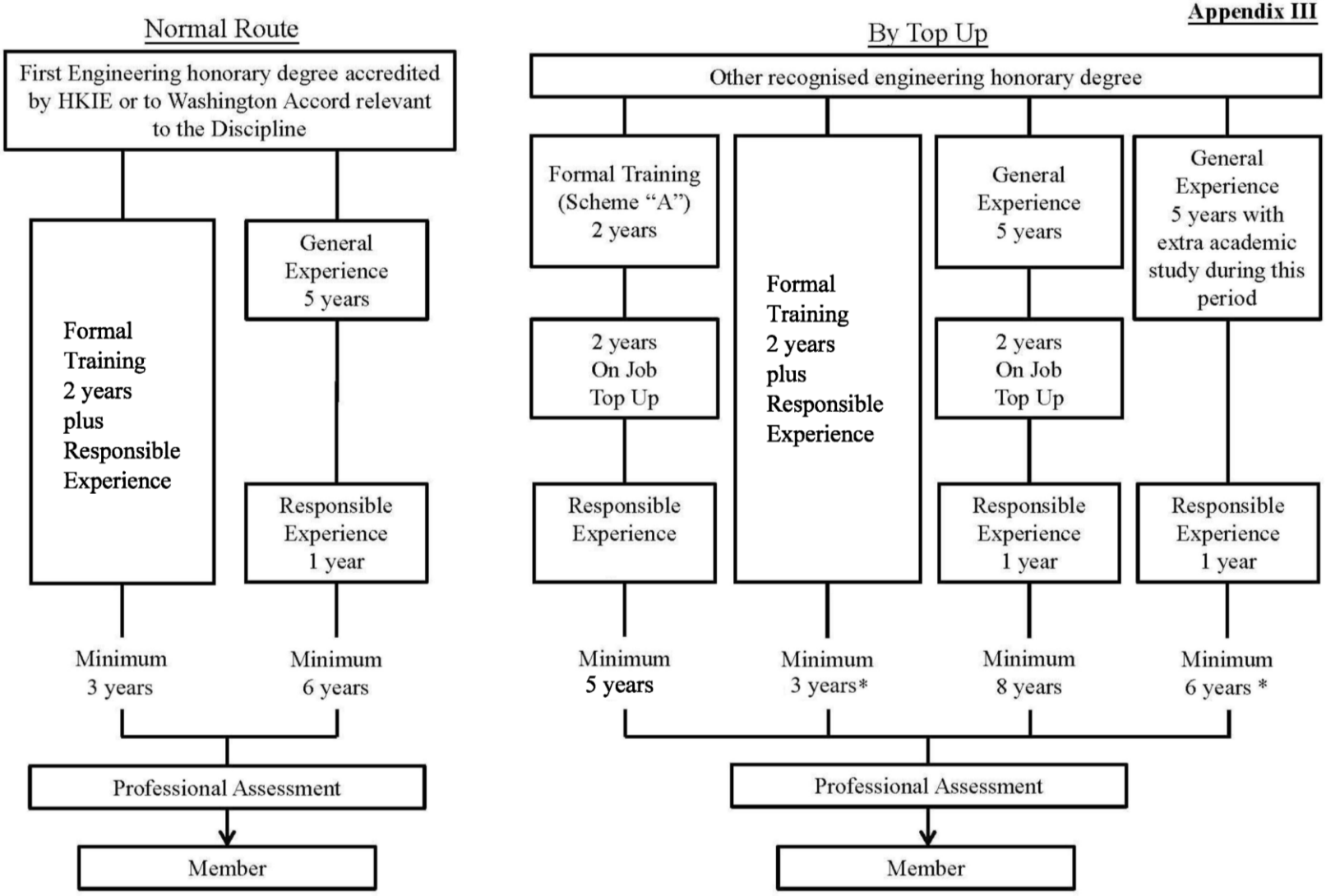
List of Fire Engineering-oriented subjects/modules at first degree or higher degree level, available to candidates on part-time study basis, offered by the Department of Civil Engineering, The University of Hong Kong:

Name of Subject/Module	**Pre-requisite**	**Contact Hours**	**Brief Syllabus**
Fire Engineering Design of Structures *CIVL6080*	This is a post-graduate taught course of the Dept of Civil Engineering, HKU. Interested applicants are advised to apply to the Department for details.	30	Fire behavior, fire safety engineering, active and passive fire control, prescriptive and performance-based design, *t*-square fire curve, temperature prediction of compartment, fire severity and fire resistance, material properties at elevated temperatures, behavior of structures in fire conditions, design of steel, concrete and composite structures in fire as per relevant Hong Kong codes and Eurocode, practical case studies, fire protection, assessment and repair of fire-damaged structures.

Please note that the module codes specified in this leaflet may change from time to time by the Universities.

ROUTES TO MEMBERSHIP

Appendix III



* The minimum period of 3 years or 6 years may be extended if the academy top up study occurs after the 2-year Formal Training Period for Scheme "A" or 5-year General Experience Period for General Experience Route