HONG KONG INSTITUTE OF VOCATIONAL EDUCATION
(TSING YI NEXUS)

CIVIL AND STRUCTURAL ENGINEERING COURSE BOARD

COURSE DOCUMENT FOR FAST TRACK VALIDATION

VOLUME 1
COURSE DESCRIPTION

4½-YEAR HIGHER DIPLOMA IN CIVIL ENGINEERING

Part-time Day, 53301F
Part-time Evening, 55901F

May 2007
1st Revision – 2nd August 2010 (Implementation of SWPD Requirement), Exemption of Working Experience-related Modules
2nd Revision – 27th January 2011 (Guided Learning hours reviewed for L2, L3 and L4 modules)
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Volume 2  Syllabuses
Summary

Title (Code) Higher Diploma in Civil Engineering (53301F, 55901F)

Levels of Award Higher Diploma

Mode of Attendance Part-time Day (PTD)

Part-time Evening (PTE)

Duration of Course 4½ Years (9 semesters) # for Level 2 entry
3 Years (6 semesters) # for Level 3 entry
1½ Years (3 semesters) # for Level 4 entry

# shortest time of completion for students who are in relevant employment and have relevant modules exemption granted by the Course Team

Discipline Responsible for Course Operations Construction

Supporting Discipline / Centre Language Centre

Target Student Number in AY 2007/08 & Offering Campus

53301F (PTD)
Level 2 - 30 (TY Campus)
Level 3 - 40 (TY Campus)

55901F (PTE)
Level 2 - 120 (TY Campus)
Level 3 - 160 (TY Campus)
Level 4 – (To be offered in AY 08/09 onwards)

Student Class Contact Hours and Module Values

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<tr>
<th>Level</th>
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<tr>
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* Industrial Training-Related and SWPD modules excluded
1. **Preamble**

The proposed four and a half year part-time Higher Diploma in Civil Engineering Course (the Course hereafter, Course Code 53301F for Part Day mode and 55901F for Pat-time Evening mode) outlined under this Document (the Document hereafter) is exactly built upon the validated 4-year full-time MEME Higher Diploma in Civil Engineering Course (course Code 51301F). The course curriculum of the proposed Course comprises of modules, some of which bearing the same module title and module code of the respective modules in 51301F, will be identical to each other in terms of curriculum hours, module syllabuses and the respective assessment.

The Course retains the multi-entry and multi-exit flexibility of the full-time HD counterpart. That is, it will be intended for admitting entry in-service students of the local construction industry at different levels, namely applicants who are in possession of five or more passes in HKCEE (Level 2 entry), Certificate in Civil Engineering (Level 3 entry), and Diploma in Civil Engineering (Level 4 entry); and they, when on completion of various levels of the proposed Course, will be conferred with appropriate levels of academic awards: from Certificate, Diploma to Higher Diploma awards.

Essentially, once the proposed Course is validated and to be launched with effect from the AY 07/08 onwards, all existing already in placed 2-yr part-time Certificate, Diploma and Higher Diploma in Civil Engineering courses will be phased out in stages and to be replaced accordingly.
2. Aims and Objectives of the Course

2.1 General Aim
The proposed Course is specially designed to enable in-service technician students working in the local civil engineering and construction related industry to build and develop a sound academic foundation supporting and supplementing their career development through quality vocational education and training. The Course aims to provide students with a high quality education and training leading to satisfactory lifelong learning as well as their individual employment prospects.

2.2 Social and Professional Aims
The proposed Course is designed to enable students in general to analyze, assimilate and apply the knowledge acquired in respect of concepts, principles and know-how associated with various civil engineering processes and development in the construction industry. The graduates and students will better serve the industry and profession with improved knowledge and training at various levels and meet the different demand of technical competences, safety and quality of construction works as well as the high degree of integrity expected by their individual employers. It is expected the course will draw the students/graduates to play an active and important role in the industry of putting the better built environment of Hong Kong into shape. Higher Diploma graduates from the Course are eligible to obtain the mandatory “Green Card” to work in construction sites as well as, after obtaining the stipulated experience, be academically qualified for Grade T1 to T3 of the Technically Competent Person (TCP) in the Site Supervision Plan issued under the Buildings Ordinance of the HKSAR.

2.3 Academic Objectives
Graduates of this course should:

(a) have a sound appreciation of civil engineering from theories to practical applications;
(b) be able to apply the mathematical and IT skills, and the fundamentals of civil engineering in formulating rational solutions to real life problems;
(c) be able to think creatively, work independently and in a team, appreciate technical, managerial and social constraints in their working environment;
(d) be able to exercise sound judgment in familiar and unfamiliar situations, through a broad base of knowledge and application of specialized skills;
(e) be conversant with modern design and construction technology from conventional practices to specialised applications;
(f) be able to communicate logically and effectively through IT applications, drawings, calculations, written and verbal presentations to a general to specific audience;
(g) have an awareness of the technological, administrative, legal, economical, environmental and social constraints imposed in construction works;
(h) be conscientious of responsibilities in assurance of specifications, safety and quality compliance in construction works;
(i) be able to develop the managerial skills, be aware of environmental and other engineering constraints;
(j) be conversant of the statutory requirements, standards, codes of practice and administrative procedures in the construction industry and
(k) be able to understand the roles and relationships of various disciplines, statutory bodies and private organizations in the local construction industry.

It is expected graduates from the Course will be able to articulate to relevant degree programs offered by local or overseas universities.

2.4 Attainment of Aims and Objectives

The fulfilment of the general, social and professional aims of the proposed Course could only be accomplished by a careful curriculum design which addresses to the needs of different stakeholders in the industry, an accurate prediction of annual planned places for the Course, an effective course delivery and management across different course teams, and a reliable quality assessment of the exit standard of the graduates produced. The details will be described under appropriate sections of this document.

Apart from technical skills, students are encouraged to develop their creative, communication and other types of soft skills through case studies, design assignments and project works. In particular, a final year project will train students to learn independently which will also contribute to their success in further studies or career development.

To achieve the specified course objectives, a well-designed curriculum and the associated innovative teaching methods will be adopted as follows:

(i) Objective 2.3 (a), (b), (d), (e)
The objectives are primarily attained by the provision of science and technology modules. Basic modules on construction science and materials, and the various construction processes provide the students with the basic understanding in the concepts and theory behind basic civil engineering practices, their applications and limitations. More analytical and design modules in structural, computing and hydraulics are also offered for standard problem solving by students. Specialised modules at Level 4 such as more complex concrete and steel structure, highway projects, rock slopes demand a higher level of skill competence in formulating solutions to more complex and non-standard civil engineering problems. In particular each individual student will undertake on his/her own to complete a civil engineering related project assignment to meet the specified requirements within a prescribed time frame.
(ii) Objective 2.3 (c)
Creative thinking and independent work opportunities for students will be offered in many module teaching and learning activities across each course. Such occasions will arise during case study discussion, tutorial lessons, seminars, Group and Individual Project, team work in site surveying field practices and laboratory work. It is expected that throughout the delivery, awareness of physical and resources constraints in actual working environment will be appreciated by the students.

(iii) Objective 2.3 (f)
The objective is attained through the provision of modules on IT, Mathematics, and English. Students will have their mathematics and IT foundations strengthened with more complex and multi-stage calculations, and computer programming skills training. English classes will be held for students in small groups. These language modules will not only lay down an improved language foundation to the students but is vital for them when the English as the medium of instructions will be fully implemented in delivering senior levels of the HD Course. Students will be required to write, present their reports in verbal and appropriate IT formats to demonstrate the respective prescribed level of competence achieved by them.

(iv) Objective 2.3 (g), (k)
The objectives are met by the provision of contract and project management modules. Human and resources management elements of a civil engineering project will be taught under the Contract Administration modules in Level 3 and Project Management and Construction Management modules in Level 4. Case studies in the industry and real-life simulations will be introduced to students as much as possible which in return will present them with a complete run down of managing a construction project across a site and a headquarter office of a construction undertaking. At the same time students are introduced to the structure and organization of the civil engineering industry including various stakeholders and professional bodies. A high level of integrity and ethics of construction personnel required by the industry and the large local community will also be demonstrated in the delivery.

(v) Objective 2.3 (h)
Site safety and quality issues are incorporated in most core civil engineering technology and industrial training modules where safety and quality practices are demonstrated and duly described. Safety management and quality assurance delivered under management modules draw learners’ attention to the need and importance of establishing and implementing a proper safety and quality management system for a construction site where a high and complex level of the works and personnel are actively engaged.

(vi) Objective 2.3 (i)
The Individual Project modules offer a good opportunity for Level 4 students to appreciate and develop the managerial, social and environmental responsibilities of a higher technician when they individually go through different engineering processes in a typical civil engineering project and/or case study. Personal
responsibilities and management skills achieved by each individual student in these project module activities will be closely monitored and duly assessed.

(vii) Objective 2.3 (i)
The objective is met by the consistent and wide adoption of local standards and codes of practice currently practiced by the profession throughout the course delivery. The students will be instructed to follow closely in full compliance with the specified working procedures when they work on material selection and testing, civil engineering structures design or investigation. Under environmental and construction management modules, they will also have to observe relevant legal and statutory requirements imposed during various stages of a civil engineering project from inception to completion.
3. Community Need for the Course

3.1 Need for the Course

3.1.1 Manpower Need

According to the 2005 Manpower Survey Report of the Building and Civil Engineering Training Board, despite the building economic still remained in doldrums at the time of survey, the average annual projected training requirement for personnel at technologist/technician level was around 970 to 1110. Moreover, in the Chief Executive’s policy address in 2005, an expanding infrastructural development plan in the next few years was delineated by the HKSAR Government and it would come into shape to include a new Central Government Offices & Legislative Council Building, KCRC Lok Ma Chau Spur Line, Route 8, KCRC South Kowloon Line, Hong Kong – Shenzhen West Corridor and the Hong Kong-Zhuhai-Macao Bridge, the Second Passenger Terminal Building and the AsiaWorld-Expo Complex and the Integrated Cultural District Project in West Kowloon. These mega-scale civil engineering projects will impinge the current leveling construction activities with momentum and hence call for the increasing demand of both full-time and in-service civil engineering graduates from HD courses in the foreseeable years.

3.1.2 Social Demand

There is continuous demand for improved living environment from the local community. The proposed course is designed to enable students to acquire, assimilate and apply the knowledge acquired with respect to concepts, principles and techniques in civil engineering practices. The course also aims to produce students with a high level of technical competence as well as a high degree of integrity. It is expected they will participate actively and contribute significantly in improving the living environment of Hong Kong.
4. Level of the Course

4.1 Level

The award of a Higher Diploma is designed to achieve an exit standard that targets to equip graduates with the necessary knowledge and skills for a career in their respective fields at the technical professional, middle management and/or supervisory levels. They can be considered for advanced standing of a relevant degree programme and full or partial exemption from qualifying examinations of the related professional bodies, and academic institutions. The level is aimed at the designated HKCAA QF Level 4 under the Program Area/Sub-program Area: Architecture, Construction & Town Planning /Civil Engineering. On the other hand both intermediate Certificate and Diploma awards at the end of Level 2 and Level 3 respectively will be set at Level 3 under HKCAA QF. The Course will seek similar recognition from professional institutions such as HKIE, HKICM and other relevant professional bodies as the full-time HD counterpart.

4.2 Achieving and Maintaining the Level

Levels of award are achieved and maintained by:

i. using a well-designed course structure and integrated curriculum to provide students with a sound knowledge of principles, the ability to apply these principles, and a motivation for self development throughout their careers;

ii. using high-calibre teaching staff who are academically and professionally able to guide and educate students;

iii. using well-selected and well-presented teaching materials that stimulate and motivate students’ learning;

iv. using well-designed teaching and assessment methods that actively encourage and reinforce students’ learning to achieve an integration of knowledge;

v. using hardware and software that are up-to-date and technologically advanced to enhance students’ learning capabilities;

vi. using appropriate course management skills to monitor students’ progress and maintain standards;

vii. requiring students to demonstrate their ability to develop innovative solutions to real life problems; and

viii. maintaining close liaison with professional bodies and the industry.
5. Duration of the Course

The normal duration of the Higher Diploma is 4½ years (or 9 semesters) in the shortest for students who are in relevant employment (hence exempted in industry training specific modules) and the maximum number of years a student is allowed to complete the Course is 7 years.

**Part-time Day mode (PTD)**
Students enrolled under the PTD mode will normally be required to attend one day and on average one evening per week in each 15-week semester.

**Part-time Evening mode (PTE)**
Students enrolled under the PTE mode will be required to attend on average three evenings of classes normally and one evening of guided study session on student need basis per week in each 15-week semester.
6. Entry Requirements

6.1 Level 2 Entry

5 subjects at Grade E / Level 2 or above in the HKCEE including English, Chinese Language and Mathematics; or pass in the Foundation Diploma / Foundation Certificate; or pass in Project Yi Jin; or equivalent and Applicants should normally be in relevant employment. Preference will be given to registered apprentices and government trainees.

Level 3 Entry

Certificate in Civil Engineering; or Diploma holders in a relevant discipline may be given exemptions from some modules (Level 1 to Level 3); or equivalent; and Applicants should normally be in relevant employment. Preference will be given to registered apprentices and government trainees.

Level 4 Entry

Diploma in Civil Engineering; or Higher Certificate in Civil Engineering; or equivalent; and Applicants should normally be in relevant employment. Preference will be given to registered apprentices and government trainees.

6.2 Mature Applicants

An applicant who does not possess the minimum formal entry qualifications and whose age will be 23 or over by 1 September in the year of application may be considered for entry to year 1, provided that sufficient motivation, relevant work experience and proficiency in English and Mathematics can be substantiated; and Applicants should normally be in relevant employment.

6.3 Other Applicants

The following categories of applicants can be admitted based on the conditions specified under the General Admission Regulations:

(i) applicants with a disability

(ii) applicants with outstanding achievements in non-academic fields

(iii) applicants who are new arrivals from Mainland China
(iv) non-local applicants.

6.4 Selection

Selection of applicants for admission in general is mainly based on a Qualified Applicants List for Offer / Offer Priority List prepared by the Academic Secretariat, with reference to the composite scores computed on the candidates’ past academic achievements and the entrance qualification screening parameters specified by the Department.

Applicants may be invited to attend an interview to provide other relevant information not provided in their applications and / or to enable the Department to assess the applicants’ communication ability, motivation and commitment.
7. Course Structure and Curriculum

7.1 Course Structure

The course is structured to provide students with a balanced learning experience by adopting five major themes, namely, fundamental skills, language, general civil engineering areas, specialised civil engineering areas, and industrial training and projects.

The course structure is presented in Tables 7.1a, 7.1b and 7.1c and modules integration is shown in Diagram 7.1 respectively.

Level 2
All Level 2 students will establish a good foundation in engineering mathematics, mechanics and materials, hand and CAD drafting techniques, land surveying, and some basic construction processes. English language modules shall form an important component of the Course to support and prepare for students ready for the full implementation of English as the medium of instructions in later levels of their Course. Putonghua will also be included in the curriculum to address the increasing link of the construction business between Hong Kong and the Mainland China. IT module starts with a computer science briefing but offers adequate hands on training in general office software plus a snap shot of IT applications in local construction industry. Part-time students could apply for exemption of Civil Engineering in Society, and Industrial Training modules provided that they have submitted evidences or demonstrated to the satisfaction of the Course Team of the knowledge and skills acquired as per the requirements of these modules through their current and/or previous employments.

Part-time students could apply for exemption of working experience-related modules in Level 2 provided that they have submitted evidences or demonstrated to the satisfaction of the Course Team of the knowledge and skills acquired as per the requirements of this module through their current and/or previous employments. Students with at least one year of relevant employment in the construction industry will be considered as eligible for applying exemption of L2 practical/experience-related modules.

Upon satisfactory completion of Level 2, the students will be conferred with the Certificate in Civil Engineering award.

Level 3
The third level aims to deliver core civil engineering modules of higher technology and analytical content. Fluid and soil properties and their applications in civil engineering design will be deliberated. Analysis and design of reinforced concrete elements and their production will be introduced for this universal construction in Hong Kong. Environmental concerns, pollutant measurement and control, and the related legislation requirement will increase students’ awareness of the necessity and the ways to protect a built environment alongside with infrastructure development. The construction
technology and contract administration of civil engineering projects will be taught under the appropriate modules. Students engaged in this level will also have English language and computing skills further improved and strengthened but with civil engineering specific applications. Group Project is intended for students to work in team and requires them to be responsible for the others.

Part-time students could apply for exemption of working experience-related module in Level 3 provided that they have submitted evidences or demonstrated to the satisfaction of the Course Team of the knowledge and skills acquired as per the requirements of this module through their current and/or previous employments. Students with at least one year of relevant employment in the construction industry and in possession of a valid “Green Card” will be considered as eligible for applying exemption of L2 practical/experience-related modules.

Upon satisfactory completion of Level 3, the students will be conferred with the Diploma in Civil Engineering award.

**Level 4**

In the final Level 4, students will be getting involved in various areas of specialization in civil engineering including project management, analysis of structural systems, steelwork design and foundation design and construction. They will also be required to take part in modern practices with due considerations for environment and its sustainable development. Elective specialisation will be offered to Level 4 students for selection of four modules among highways and traffic engineering, tall building and structures, structural detailing, temporary works, public health, construction management, geotechnical engineering practice, and infrastructural planning & development but the final allocation will be subject to the availability of resources of the Department. It is expected that an elective module will normally be offered for a class size of more than 30 students. Each student will also need to undertake on his/her own an individual project to meet the specified requirement and complete it within the given time schedule.

Upon satisfactory completion of Level 4, the students will be conferred with the Higher Diploma in Civil Engineering award.

**Structured Whole Person Development Programme (SWPD)**

Starting from AY 09/10 onwards, the Structured Whole Person Development programme will be implemented in successive years for new intake students with a total 45-hour (Total MV 3.0) SWPD modules for a L2 exit award; plus a 15-hour (MV 1.0) SWPD module for a L3 exit award; and a final 15-hour (MV 1.0) SWPD module for the final L4 Higher Diploma award. Exemption could be granted for students by virtue of the appropriate years of working experience for each level of Higher Diploma Course according to the guidelines and criteria set out by the SWPD Office of IVE.

### 7.2 Course Curriculum and Assessment Schedules

Tables 7.1a, 7.1b and 7.1c present the module contact hours and the distribution of student timetable hours, assessment weighting, and module contribution for each individual module concerned.
7.3 Pre-requisite Requirements

Modules with pre-requisite requirements are listed in the Table 7.3.
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<th>Module Value N_i</th>
<th>Module Contribution C_i</th>
<th>Assessment Weighting</th>
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<th>Lecture</th>
<th>Tutorial</th>
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<td>2</td>
<td>0.4</td>
<td>0.6</td>
<td>45</td>
<td>45</td>
<td>30</td>
<td>15</td>
<td></td>
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<td>2/3</td>
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<td></td>
<td></td>
<td>510 h</td>
<td>477 h</td>
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<td>33</td>
<td>477 h</td>
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<td><strong>Bridging Modules</strong></td>
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</tr>
<tr>
<td>Course Description</td>
<td>Code</td>
<td>Credits</td>
<td>ECTS</td>
<td>Contact Hours</td>
<td>Assessment</td>
<td>Notes</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>---------------------------------------------------------</td>
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<tr>
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<td>CBE5028</td>
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<td>60</td>
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<td></td>
<td></td>
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</tr>
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<td>Basic Industrial Training B*</td>
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<td>60</td>
<td>60</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Civil Engineering in Society*</td>
<td>CBE5026</td>
<td>2</td>
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<td>15</td>
<td>9</td>
<td>6</td>
<td>15</td>
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<td>SWPD Modules (to be exempted by working experience)</td>
<td>WPD4052</td>
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<td>45</td>
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</tr>
</tbody>
</table>

*Bridging Modules for students who have not acquired the necessary knowledge and skills in the specific topic areas through their employment.
### Table 7.1b - 53301F/55901F (TD/PTE) Level 3 Module Curriculum Hours and Assessment Schedule – (Exit Award : Diploma in Civil Engineering)

<table>
<thead>
<tr>
<th>Module Title</th>
<th>Module Code</th>
<th>Module Value $N_i$</th>
<th>Module Contribution $C_i$</th>
<th>Assessment Weighting</th>
<th>Curriculum Hours</th>
<th>Class Contact Hours</th>
<th>Lecture</th>
<th>Tutorial</th>
<th>Lab/Practical</th>
<th>Guided Study hours</th>
<th>Year/ Semester</th>
<th>Class Contact Hr Semester Subtotal</th>
</tr>
</thead>
<tbody>
<tr>
<td>English &amp; Communication for Construction 2A</td>
<td>LAN2501</td>
<td>2</td>
<td>4</td>
<td>1.0</td>
<td>0.0</td>
<td>30</td>
<td>30</td>
<td>20</td>
<td>10</td>
<td>0</td>
<td>2/4</td>
<td>Semantic 4</td>
</tr>
<tr>
<td>Soil Mechanics &amp; Geology</td>
<td>CBE2021</td>
<td>3</td>
<td>4</td>
<td>0.4</td>
<td>0.6</td>
<td>45</td>
<td>45</td>
<td>30</td>
<td>9</td>
<td>6</td>
<td>0</td>
<td>2/4</td>
</tr>
<tr>
<td>RC Design &amp; Construction</td>
<td>CBE2022</td>
<td>4</td>
<td>4</td>
<td>1.0</td>
<td>0.0</td>
<td>60</td>
<td>60</td>
<td>40</td>
<td>14</td>
<td>6</td>
<td>0</td>
<td>2/4</td>
</tr>
<tr>
<td>Group Project</td>
<td>CBE2031</td>
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<td>4</td>
<td>1.0</td>
<td>0.0</td>
<td>30</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>0</td>
<td>2/4</td>
<td>150 h</td>
</tr>
<tr>
<td>Structural Analysis I</td>
<td>CBE2027</td>
<td>3</td>
<td>4</td>
<td>0.4</td>
<td>0.6</td>
<td>45</td>
<td>45</td>
<td>30</td>
<td>12</td>
<td>3</td>
<td>0</td>
<td>3/5 Semantic 5</td>
</tr>
<tr>
<td>Fluids Mechanics</td>
<td>CBE2023</td>
<td>4</td>
<td>4</td>
<td>0.4</td>
<td>0.6</td>
<td>60</td>
<td>60</td>
<td>37.5</td>
<td>14.5</td>
<td>8</td>
<td>0</td>
<td>3/5</td>
</tr>
<tr>
<td>Civil Engineering Construction II</td>
<td>CBE2024</td>
<td>2</td>
<td>4</td>
<td>0.4</td>
<td>0.6</td>
<td>30</td>
<td>30</td>
<td>22</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>3/5</td>
</tr>
<tr>
<td>Computing for Civil Engineering</td>
<td>CBE2020</td>
<td>2</td>
<td>4</td>
<td>1.0</td>
<td>0.0</td>
<td>30</td>
<td>30</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3/5 165 h</td>
</tr>
<tr>
<td>Environmental Engineering</td>
<td>CBE2029</td>
<td>2</td>
<td>4</td>
<td>0.4</td>
<td>0.6</td>
<td>30</td>
<td>30</td>
<td>20</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>3/6 Semantic 6</td>
</tr>
<tr>
<td>English &amp; Communication for Construction 2B</td>
<td>LAN2502</td>
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<td>4</td>
<td>1.0</td>
<td>0.0</td>
<td>30</td>
<td>30</td>
<td>20</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>3/6</td>
</tr>
<tr>
<td>CAD</td>
<td>CBE2028</td>
<td>3</td>
<td>4</td>
<td>1.0</td>
<td>0.0</td>
<td>45</td>
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<td>45</td>
<td>0</td>
<td>3/6</td>
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<td>Contract Administration</td>
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<td>45</td>
<td>45</td>
<td>30</td>
<td>15</td>
<td>0</td>
<td>3/6</td>
<td>150 h</td>
</tr>
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<td>Subtotal Hour/Module Value (Diploma)</td>
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<td>465 h</td>
<td></td>
<td></td>
<td></td>
<td>15 h</td>
<td>465 h</td>
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<tr>
<td>Bridging Modules*</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Safety &amp; Industrial Training*</td>
<td>CBE2025</td>
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Bridging Modules for students who have not acquired the necessary knowledge and skills in the specific topic areas through their employment.
Table 7.1c - 53301F/55901F (TD/PTE) Level 4 Module Curriculum Hours and Assessment Schedule – (Exit Award : Higher Diploma in Civil Engineering)

<table>
<thead>
<tr>
<th>Module Title</th>
<th>Module Code</th>
<th>Module Value N_i</th>
<th>Module Contribution C_i</th>
<th>Assessment Weighting</th>
<th>Curriculum Hours</th>
<th>Class Contact Hours</th>
<th>Lecture</th>
<th>Tutorial</th>
<th>Lab/Practical</th>
<th>Guided Study hours</th>
<th>Year/Semester</th>
<th>Class Contact Hr Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Management</td>
<td>CBE3025</td>
<td>3 8</td>
<td>0.4 0.6</td>
<td>45</td>
<td>30 26</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>15</td>
<td>4/7</td>
<td>Semester 7</td>
</tr>
<tr>
<td>Structural Analysis II</td>
<td>CBE3027</td>
<td>3 8</td>
<td>0.4 0.6</td>
<td>45</td>
<td>45 28</td>
<td>14</td>
<td>3</td>
<td>0</td>
<td></td>
<td>0</td>
<td>4/7</td>
<td></td>
</tr>
<tr>
<td>Advanced Civil Engineering Mathematics</td>
<td>CBE2026</td>
<td>3 8</td>
<td>0.4 0.6</td>
<td>45</td>
<td>45 30</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>4/7</td>
<td></td>
</tr>
<tr>
<td>Foundation Engineering</td>
<td>CBE3031</td>
<td>3 8</td>
<td>0.4 0.6</td>
<td>45</td>
<td>30 20</td>
<td>4</td>
<td>6</td>
<td>15</td>
<td></td>
<td>15</td>
<td>4/7</td>
<td>150 h</td>
</tr>
<tr>
<td>Steelwork Design</td>
<td>CBE3028</td>
<td>2 8</td>
<td>1.0 0.0</td>
<td>30</td>
<td>30 18</td>
<td>10</td>
<td>2</td>
<td>0</td>
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<td>0</td>
<td>4/8</td>
<td>Semester 8</td>
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<tr>
<td>Project I</td>
<td>CBE3030</td>
<td>2 8</td>
<td>1.0 0.0</td>
<td>30</td>
<td>15</td>
<td></td>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td>15</td>
<td>4/8</td>
</tr>
<tr>
<td>Geotechnical Engineering</td>
<td>CBE3026</td>
<td>3 8</td>
<td>0.4 0.6</td>
<td>45</td>
<td>45 30</td>
<td>9</td>
<td>6</td>
<td>0</td>
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<td>0</td>
<td>4/8</td>
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<tr>
<td>Elective Academic Module A*</td>
<td>3 8</td>
<td>0.4 0.6</td>
<td>45</td>
<td>30</td>
<td>20 4</td>
<td>6</td>
<td>15</td>
<td>4/8</td>
<td></td>
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<tr>
<td>Elective Academic Module B*</td>
<td>3 8</td>
<td>0.4 0.6</td>
<td>45</td>
<td>30</td>
<td>20 4</td>
<td>6</td>
<td>15</td>
<td>4/8</td>
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<td>Project II</td>
<td>CBE3039</td>
<td>4 8</td>
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<td>60</td>
<td>45</td>
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<td></td>
<td>15</td>
<td>5/9</td>
</tr>
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<td>Environment &amp; Sustainability</td>
<td>CBE3029</td>
<td>2 8</td>
<td>1.0 0.0</td>
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<td>30 5</td>
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<td></td>
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<td>5/9</td>
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<tr>
<td>Elective Academic Module C*</td>
<td>3 8</td>
<td>0.4 0.6</td>
<td>45</td>
<td>30</td>
<td>20 4</td>
<td>6</td>
<td>15</td>
<td>5/9</td>
<td></td>
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</tr>
<tr>
<td>Elective Academic Module D*</td>
<td>3 8</td>
<td>0.4 0.6</td>
<td>45</td>
<td>30</td>
<td>20 4</td>
<td>6</td>
<td>15</td>
<td>5/9</td>
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<tr>
<td>Subtotal Hour/Module Value (Higher Diploma)</td>
<td>37</td>
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<td>555 h</td>
<td>435 h</td>
<td>120 h</td>
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<td></td>
<td>Depends on student’s need</td>
<td></td>
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<td></td>
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</table>

**Bridging Modules**

**SWPD Module (to be exempted by)**

<table>
<thead>
<tr>
<th>Module Code</th>
<th>Module Value N_i</th>
<th>Module Contribution C_i</th>
<th>Assessment Weighting</th>
<th>Curriculum Hours</th>
<th>Class Contact Hours</th>
<th>Lecture</th>
<th>Tutorial</th>
<th>Lab/Practical</th>
<th>Guided Study hours</th>
<th>Year/Semester</th>
<th>Class Contact Hr Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>WPD4074</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>Depending on student’s need</td>
</tr>
<tr>
<td>working experience</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Grand Total Contact Hours/MV for the 9-semester HD (Excluding Bridging Module Hours)</td>
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<td>1377 h</td>
<td>168 h</td>
<td>1377 h</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

*Bridging Modules for students who have not acquired the necessary knowledge and skills in the specific topic areas through their employment.

#Select any four (4) Elective Modules from: Structures & Tall Building, Structural Detailing; Temporary Works; Highways & Traffic Engineering, Public Health Engineering; Construction Management, Infrastructure Planning & Management; Geotechnical Engineering Practice
Diagram 7.1 53301F/55901F (TD/PTE) Course Structure and Module Integration

**Exit Awards**
- **Higher Diploma Award**
  - *Elective B*
  - *Elective C*
  - *Elective D*
  - *Elective A*
  - Struct Analys II
  - Proj Managt
  - Steelwk Design

- **Diploma Award**
  - Eng Con 2A
  - Eng Con 2B

- **Certificate Award**
  - Eng Con 1B
  - Putong hua
  - Eng Con 1A

**Level/Subject Areas**
- **Fundamental Skills**
- **General Civil Engineering**
- **Language**
- **Specialised Civil Engineering**
- **Training & Project**

# Select any four (4) Elective Modules from: Structures & Tall Building (CBE3032), Structural Detailing (CBE3040); Temporary Works (CBE3033); Highways & Traffic Engineering (CBE3034), Public Health Engineering (CBE3035); Construction Management (CBE3036), Infrastructure Planning & Management (CBE3037); Geotechnical Engineering Practice (CBE3038).

* Soil Mechanics & Geology, CAD and Environmental Engineering are pre-requisites to Geotechnical Engineering Practice, Structural Detailing and Public Health Engineering respectively.

** Level 2 entry need to attend Elementary Surveying and Construction Drawing B in their first year.

*** Bridging Modules for students who have not acquired the necessary knowledge and skills in the specific topic areas through their employment.

Denotes Pre-requisite relationship between modules.
Table 7.3 – Module Pre-requisite Requirements

<table>
<thead>
<tr>
<th>Modules</th>
<th>Pre-requisite Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAN2501 English &amp; Communication for Construction II A</td>
<td>LAN1501 &amp; LAN1502 English &amp; Communication for Construction 1A &amp; 1B</td>
</tr>
<tr>
<td>LAN2502 English &amp; Communication for Construction II B</td>
<td>LAN1501 &amp; LAN1502 English &amp; Communication for Construction 1A &amp; 1B</td>
</tr>
<tr>
<td>CBE2026 Advanced Engineering Mathematics</td>
<td>CBE5023 Mathematics for Construction</td>
</tr>
<tr>
<td>CBE2028 Computer Aided Drafting</td>
<td>CBE5023 or CBE5024 Construction Drawing B or Basic CAD</td>
</tr>
<tr>
<td>CBE3040 Structural Detailing</td>
<td>CBE2028 Computer Aided Drafting</td>
</tr>
<tr>
<td>CBE2027 Structural Analysis I</td>
<td>CBE5029 Structural Mechanics</td>
</tr>
<tr>
<td>CBE3027 Structural Analysis II</td>
<td>CBE5029 Structural Mechanics</td>
</tr>
<tr>
<td>CBE3026 Geotechnical Engineering</td>
<td>CBE2021 Soil Mechanics &amp; Geology</td>
</tr>
<tr>
<td>CBE3031 Foundation Engineering</td>
<td>CBE2021 Soil Mechanics &amp; Geology</td>
</tr>
<tr>
<td>CBE3035 Public Health Engineering</td>
<td>CBE2029 Environmental Engineering</td>
</tr>
</tbody>
</table>
8 Commonalities with other IVE Courses

This 4½ year part-time Higher Diploma in Civil Engineering Course (53301F, 55901F) is built upon the validated 4-year full-time Higher Diploma in Civil Engineering Course (course Code 51301F) and hence have commonality with the level 2, 3 and 4 of 51301F. Apart from this, the proposed course will be a distinct subject area among all other courses under the Construction Discipline of IVE.
9. Exemption

9.1 Exemption Policy

Application for exemptions will be considered on individual merits and in accordance with the General Academic Regulations (GAR) in the Appendix A and the relevant regulations set by the Course Board.
10. Assessment

The academic regulations governing the enrollment, assessment and reassessment, marks and grades, progression, award, examinations, External Examiners, Board of Examiners and appeals of the courses are detailed in the IVE GAR. The relevant clauses of the IVE GAR are included in the Appendix A of this document.

The proportion of contribution to the Module Mark from each form of assessment and the weighting that each Module contributes to the assessment of the overall performance of a student are described in detail in the syllabuses contained in Volume 2 of this document. The information is also presented in Tables 7.2 of this document.

It is recognized that assessment and progression are as much a matter of collective judgement as of calculation. It is impossible to predict all of the exceptional circumstances that are likely to affect a small minority of the students and it is unrealistic to legislate for all such cases. In exceptional circumstances the Board of Examiners (BoE) is empowered to make decisions on special cases, provided that academic standards are not being jeopardized and students are not being unfairly treated. All BoE decisions require the ratification of The Vocational Education and Training Academic Board (VETAB) through the Nexus Board.
11. Relevant GAR Governing the course

The relevant clauses of the IVE GAR are included in the Appendix A of this document.
12. Resources Implication

The main resource requirements for the course, in terms of staff, space, library, computer facilities and support services, have been carefully considered and analyzed by management and course team in order to provide a well-supported environment for teaching and learning. There will be no additional capital resources incurred with the offer of the Course.

12.1 Academic and Supporting Staff Establishment

12.1.1 The Course is monitored and managed by the full-time academic and supporting staff from the Department of Construction in IVE (Tsing Yi).

12.1.2 The staff establishment of the Department of Constructions in IVE (Tsing Yi) for 2006/07 is shown in Table 12.1.

12.1.3 The staff members serving the Course are academically and professionally qualified. They possess good knowledge and experience in their specialist fields, as well as in teaching.

The existing staff can meet the demand in terms of knowledge and expertise required in the civil engineering aspect of the proposed course. The Department has a staff development programme which will provide necessary training for staff to enrich their knowledge necessary for the teaching of the course. The Department will also actively identify and invite guest speakers to lever their experience and expertise from the industries; and to establish industrial network to ensure healthy and continuous development of the Course.

Table 12.1: Academic and Supporting Staff Establishment for 2006/2007

<table>
<thead>
<tr>
<th>Academic Staff</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Head of Department</td>
<td>1</td>
</tr>
<tr>
<td>Principal Lecturer</td>
<td>0</td>
</tr>
<tr>
<td>Senior Lecturer</td>
<td>5</td>
</tr>
<tr>
<td>Lecturer/Assistant Lecturer</td>
<td>16</td>
</tr>
<tr>
<td>Teaching Associate</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Administrative / Support Staff</th>
<th>Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Officer II</td>
<td>0.5</td>
</tr>
<tr>
<td>Clerical</td>
<td>2</td>
</tr>
<tr>
<td>Workshop Instructor II</td>
<td>0</td>
</tr>
<tr>
<td>Senior Tech./Technician</td>
<td>8</td>
</tr>
<tr>
<td>Artisan/Works</td>
<td>3</td>
</tr>
<tr>
<td>Supervisor/Workshop Attendant/Workman</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>13.5</td>
</tr>
</tbody>
</table>
12.2 Staff Development Plan

12.2.1 A good tertiary education institution must see teaching as being of prime importance. Academic staff should also have considerable involvement in, and responsibility for, their own personal development, consistent with their needs and those of the Discipline. This process maintains and improves the performance of both the Discipline and the individual.

12.2.2 Staff development provides opportunities for staff to acquire higher academic qualifications, new expertise or area of development, and/or exposure to current practices and techniques.

12.2.3 Staff development also involves in-house training, particularly in the provision of training in computer applications and the use of other teaching and learning materials and activities.

12.2.4 Educational workshops and seminars are organized from time to time to facilitate the sharing of experience and training expertise, and enhance the overall quality of teaching and learning.

12.3 Service Teaching

12.3.1 The language modules in the full-time course, that is, English and Communications for Construction (2A), (2B) are taught by the full-time language specialists from the Language Centre. Life Skills and Key Skills modules will be delivered by Student Affairs Office (SAO).

12.4 Other Teaching / Learning Facilities and Support Services

Facilities in the Department of Construction of Tsing Yi Nexus

The Department of Construction in Tsing Yi Nexus is equipped with a good range of facilities for lectures, laboratory and project work to support the proposed Course under this Course Document. The range of equipment is extensive and covers all the relevant scientific, engineering, surveying, civil engineering and building studies fields. As needs arise, facilities in each department can be made available to students among the three campuses of the TY Nexus. This provides a more efficient use of resources and a better consistency in course delivery across campuses.

Department of Construction at Tsing Yi Campus

12.4.1 Laboratories

All laboratories in the Department of Construction at Tsing Yi Campus are equipped with adequate and up-to-date facilities for conducting the practical component of the course curriculum. Not only do they enrich the teaching process, they also provide students with hands-on experience of the practical aspect in the real work environment. Major laboratories are:

Concrete and Structure Laboratory (HOKLAS accredited)
Building Inspection and Maintenance Training Centre
Geotechnical and Highway Engineering Laboratory
Architectural Studio
12.4.2 Specialist Computing Room

The specialist Computing Room is specially equipped with the following facilities for students' easy access to facilitate their learning:

- PCs fully loaded with latest Auto-CAD release and popular drafting software
- Plotters
- Printers
- Digitizing tablet
- Computer software for civil engineering, structural engineering and building engineering applications

12.4.3 Construction Technology Development Centre (CNTDC)

The CNTDC provides the students with a real workplace environment which simulates the working environment of local consultant's or contractor's design office. It is equipped with the necessary modern IT facilities, engineering documentation materials including both hardware and softwares commonly practised in the industry. Students can be working independently and/or with guidance and support from the teaching and technical staff. The CNTDC also serves as an important window of the Department to liaise externally with the industry in organizing mutually beneficial activities such as: seminars, CPD events and training courses.

12.4.4 Model Technology Centre & Architectural Studio

A new model building centre and an architectural studio have been established to facilitate delivery of the new course in architectural design and technology. The centre will be equipped with modern model building facilities and will also serve as a studio type student learning centre.

Facilities at IVE (Tsing Yi) Campus

12.4.5 Library / Learning Resources Centre (LRC)

The campuses have good library facilities with adequate study places, a good stock of books and a variety of non-printed materials such as CD-ROMs and laser discs. They subscribe to a number of international journals, have specialist staff, and computerized indexing acquisition systems, and provide other supporting services.

12.4.6 Language Learning Facilities

The campus is equipped with multi-media language laboratories dedicated to language learning. Fitted with a wide range of AV equipment, these laboratories are ideal places for learning English, Putonghua and other languages. Audio and video teaching packages are used to provide student-centred activities on pronunciation and other specific language skills.

The Language Learning Resource Centre in Tsing Yi is designed to create an inviting and comfortable atmosphere in which students can work, in their own time and at their own pace, to develop those aspects of their language skills, both English and Chinese, that they would like most to improve. The centre contains a range of modern multi-media facilities and language
learning materials.

12.4.7 Educational Technology Services

The Educational Technology Unit (ETU) offers a wide range of services to academic departments. These services include audio-visual production, graphic design, photography, photo typesetting, and numerous other audio / visual facilities. The role of the ETU is to provide the necessary support to academic courses in the form of audio / visual lecture materials, and services related to audio / visual equipment used in lecture theatres and tutorial rooms.

12.4.8 Student Services and Facilities

The campus has well-equipped sports facilities including a swimming pool, a fitness centre, gymnasiums, basketball courts, and tennis courts. The Sports and Recreation Service of the SAO aims to create a complete programme of events to maintain and improve the physical well-being of both students and staff.

Those students, who have completed their courses in the IVE but wish to pursue further their studies, can obtain advice from the SAO on local and overseas education institutions and / or courses.

Students form their own (Departmental) Society; the Society organizes functions, talks and events relevant to their course of study.

12.4.9 Central Computer Services

Computing information technology is considered to be a primary element of business education today. Students are encouraged to use these facilities at every opportunity.

Students are given formal courses in computing and the use of software relevant to their field of study and likely employment. Centralized computer rooms are provided to ensure open access for all students.

A networked system of computer equipment and personal computers is available throughout the campus, providing students with the use of popular word processing, databases and spreadsheet software, as well as high quality workstations. The network also provides connection to appropriate peripherals such as printers and plotters.

Internet access is provided on many of the computing outlets. Students are encouraged to make use of this facility to aid and develop their computing, communication skills and projects.

A user support service is available to advise students on all aspects of the computing facilities.
13. Link with Industry, Educational and Professional Bodies

The proposed HD in Civil Engineering Courses is designed to be built exactly upon the existing 4-year HD curriculum framework, which in turn is designed based on a phasing out 3-yr HD framework. The latter has been widely accepted and recognized by the construction industry for many years and has been granted full accreditation by, namely The Hong Kong Institution of Engineers (the largest local professional body in Hong Kong) and The Hong Kong Institute of Construction Managers.

Upon completion of the Course, the HD graduates could be admitted to Year 1 or 2 (depending on subjects exempted) of the 3-year Full-time B Eng in Civil Engineering at the University of Hong Kong, or first year of Bachelor Degree in Civil Engineering programmes at the Hong Kong Polytechnic University (Full-time/Part-time) or the Hong Kong University of Science & Technology (Full-time). For overseas, they may choose to enroll as third or second year under a M Eng and B Eng respectively (depending on their HD academic merits attained) in Civil Engineering Degree programme at the University of Wales, Swansea of United Kingdom.

The following Table 13.1 shows the various grades of Technically Competent Persons as defined in the Technical Memorandum for Supervision Plans under Section 39A of the Buildings Ordinance and the minimum academic qualifications and experience requirements:

Table 13.1

<table>
<thead>
<tr>
<th>Grade of TCP</th>
<th>Minimum Qualifications and Experience for Each Grade of TCP</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>A Certificate or Diploma holder of any recognized examining body in a recognized subject with total relevant working experience of not less than 2 years.</td>
</tr>
<tr>
<td>T2</td>
<td>A Higher Certificate or Higher Diploma holder of any recognized examining body in a recognized subject with total relevant working experience of not less than 3 years.</td>
</tr>
<tr>
<td>T3</td>
<td>A Higher Certificate or Higher Diploma holder of any recognized examining body in a recognized subject with total relevant working experience of not less than 5 years; or a Degree holder of any specified examining body in a recognized subject with total relevant working experience of not less than 3 years.</td>
</tr>
</tbody>
</table>

The holders of the proposed HD in Civil Engineering awarded by the Construction Discipline of IVE will be continually recognized by the context of the above-mentioned Ordinance and they will be eligible to work as TCP for the appropriate building projects under the Supervision Plan currently enforced by the building Department of HKSAR Government.

The Course Team will continue to seek same recognition of the proposed HD course from external bodies as the existing 3-year HD course.
14. Course Organization and Management

To ensure quality, the IVE has a well-organized committee structure to govern the courses under its auspices. All courses have clear lines of accountability to their relevant course boards, discipline boards, nexus boards and ultimately the VETAB.

The following teams and individuals play a significant role at the operational level of managing the course.

14.1 Course Leaders

14.1.1 A Course Leader, appointed by the Course Board on the recommendation of the Chairman of the Course Board, provides the academic and organizational leadership for a course. The Course Leader assumes full responsibility for the management of the course through the Course Team.

14.1.2 With the support of the Chairman of the Course Board, the Course Leader takes up the following responsibilities:

- to advise on the need and make recommendation for revision of the course curriculum and entry requirement;
- to advise on the requirements and any other resources, such as laboratories, required for the effective operation of the course;
- to execute any actions agreed by the relevant Committees on the course curriculum and other academic matters of the course;
- to consolidate the production of the necessary documentations for the course;
- to monitor the operation of the course and to prepare an annual report on the progress of the course;
- to oversee the operation of the student feedback mechanisms for the course;
- to coordinate, in conjunction with the Examination Officer, the moderation of relevant examination papers with the external examiner;
- to consider applications for exemptions and make recommendations in accordance with the guideline set by relevant Course Board; and
- to coordinate any necessary tasks to facilitate dealings with professional and external validating bodies.
14.2 Course Board

14.2.1 The Course Board is formally established as an executive committee for the conduct of the courses. It reports to the Discipline Board then the Nexus Board the progress, problems encountered, remedies recommended and any changes proposed to the courses. The Chairman of the Course Board is responsible for presenting the Board's considerations and deliberations to the VETAB via the Nexus Board.

14.2.2 The composition of the Course Board is as follows:

<table>
<thead>
<tr>
<th>Role</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chair:</td>
<td>An academic staff appointed by the Principal of the Head Campus</td>
</tr>
<tr>
<td>Deputy Chair:</td>
<td>An ex-officio member elected among themselves</td>
</tr>
<tr>
<td>Ex-officio Members:</td>
<td>All relevant Course Leaders</td>
</tr>
<tr>
<td></td>
<td>Discipline Leader</td>
</tr>
<tr>
<td>Members:</td>
<td>Relevant academic stream or group leaders, including service subjects</td>
</tr>
<tr>
<td>Co-opted Members:</td>
<td>Other teaching staff invited at the discretion of the Course Board</td>
</tr>
<tr>
<td>Secretary:</td>
<td>Appointed by the Chairman</td>
</tr>
</tbody>
</table>

The Course Board meets a minimum of two times a year. It exercises the overall academic and operational responsibility for the courses and their development within defined policies, procedures and regulations of the IVE. Details of the terms of reference of the Course Board are as follows:

- to implement academic policies and procedures adopted by the VETAB;
- to maintain regular review and evaluation of courses within the CB's ambit, as approved by the relevant Discipline Board, to ensure the continuous development, improvement and relevance of courses, including the views of students and employers;
- to appoint Course Leaders for the courses under its purview;
- to set academic standards and maintain the academic quality of the courses in accordance with the course planning and validation guidelines and the academic quality policies adopted by the VETAB;
- to establish procedures for the effective management of the courses;
- to ensure the personal and professional development of the students;
- to establish and oversee the work of Course Teams responsible for the courses or linked group of courses as appropriate within the CB's ambit;
• to set up Boards of Examiners to endorse the examination results and to recommend special cases for consideration by NB;

• to establish and oversee the work of Course Teams to formulate course procedures, within the General Academic Regulations (GAR), with respect to the design, delivery and development of the curricula, including teaching and learning strategies and recommendations for benchmarking;

• to formulate guidelines governing the courses, within the GAR;

• to liaise and collaborate with other Course Boards within the same Discipline on matters related to the delivery, quality and development of courses and the assessment/progression of students;

• to report their activities to the Nexus Board and the relevant Discipline Board;

• to oversee the implementation and continuous updating of syllabuses to ensure that they maintain relevance, including Servicing requirements;

• to maintain regular and effective contact with external bodies in the promotion, evaluation and development of courses, including professional accreditation;

• to generate validation and course documentation and reports as required by the academic quality policies adopted by the VETAB; and

• to advise on staff development and the provision of teaching and learning resources required for the delivery of the courses.
14.3 Course Management

14.3.1 The following diagram illustrates the organization and management of the course:

Diagram 14.1 Course Organization and Management

*Institute / Discipline Level:*

```
The Vocational Education and Training
Academic Board (VETAB)
```

```
Discipline Board
(Construction)
```

```
Nexus Board
(TY)
```

```
Course Board
(TYN)
```

*Course Level:*

```
Course Leaders
```

```
Course Co-ordinators
```

```
Subject Stream Co-ordinators
```

```
Course Co-ordinators
```

```
Module Co-ordinators
```

```
Year Tutors
```

```
Module Lecturers
```

```
Module Lecturers
```

```
Year Tutors
```

14.4 Duties of each member of the Course Management Team at course level

14.4.1 A **Course Leader** is responsible for the course under his/her charge in the following regards:

- To oversee the management of the course by the Course Co-ordinators;
- To advise on the need and make recommendation for revision of the course curriculum and
entry requirement;

- To advise on the requirements and any other resources, such as laboratories, required for the effective operation of the Course;
- To execute any actions agreed by the relevant Committees on the course curriculum and other academic matters of the course;
- To consolidate the production of the necessary documentations for the course; and
- To coordinate any necessary tasks to facilitate dealings with professional and external validating bodies.

14.4.2 A Course Co-ordinator is responsible for the course under his/her charge in the following regards:

- To assist the Course Leader in the management of the course;
- To liaise with other Course Co-ordinators to ensure consistency and uniformity of the standard and quality of the course;
- To monitor and report to the Course Leader the operation of the course including admission, curriculum registration, and student progress per the requirement of the validated Course Document and to prepare a report on the progress of the course at the end of each semester;
- To oversee the operation of student feedback mechanisms for the course;
- To consider applications for exemptions and make recommendations in accordance with the guideline set by relevant Course Board;
- To coordinate, in conjunction with the Examination Officer, the moderation of relevant examination papers with the external examiner and make recommendations to BoE; and
- To carry out other duties as deemed necessary by the Course Leader.

14.4.3 A Year Tutor is responsible for each stage of a course under his/her charge in the following regards:

- To arrange an Induction Programme (particularly year 1), and to arrange special timetable for week 1 where applicable;
- To take charge of all routine class management;
- To coordinate assessment schedule and notify students as early as possible;
- To collect “Student Particulars” data (including photograph) for students concerned before October 31st, and update them as required;
- Around week 14, to ensure all modules have some marks entered into SRS spreadsheets and provisional results uploaded, and from CMS, to identify weak students and schedule an individual interview before the end of week 17;
- To monitor the assessment schedule, student workload, and coordinate necessary updates;
- To coordinate the checking of completeness and irregularity of mark sheets prior to BoE;
- To make recommendations on individual student performance / progression prior to BoE;
- To provide a summary of the performance of the year for inclusion in the progress report for the course;
- To make recommendations for student awards / scholarships;
- To liaise with students to help resolve any grievances that may arise;
- To send warning letters to students (copy to P file and Course Co-ordinator) where appropriate; and
- To carry out other duties as deemed necessary by the Course Leader.

14.4.4 A Subject Stream Coordinator representing distinct areas of the curriculum (including projects and industrial training) is responsible for the following duties:
● To monitor each module syllabus within the areas of specialization;
● To develop each module syllabus within the areas of specialization;
● To advise the Course Leader new areas of specialization in related field; and
● To carry out other duties as deemed necessary by the Course Leader.

14.4.5 A Module Coordinator's duties include the following:

● To assist the Course Co-ordinator in the general administration needed and coordinate servicing lecturers involved with a particular module of the course;
● To coordinate and monitor assignment schedules and student workload in respect of the designed programme for his/her particular module;
● To coordinate the preparation and moderation of examination papers;
● To carry out academic supervision on module lecturers of part-time courses and complete a report of his/her observations; and
● To carry out other duties as deemed necessary by the Course Leader.

14.4.6 A Module Lecturer takes up the overall responsibility for the academic activities, students’ progress and development of the modules. The duties include the following:

● To deliver lectures and recommend readings for the modules;
● To prepare scheme of work, teaching materials and handouts etc.;
● To prepare and mark assessments;
● To record results of assessments;
● To revise syllabuses and curricula, as appropriate;
● To prepare module reports at the end of each semester to the Course Co-ordinator as inputs for course review by the Course Leader;
● To prepare quality grades for the module; and
● To carry out other duties as deemed necessary by the Course Leader.

14.5 Student Representatives Meeting

14.5.1 Formal communications with class representatives via course team and/or course board meetings, year tutors’ meetings etc. are established.

14.5.2 Informal meetings with students on an ongoing basis serve as a friendly and effective channel, whereby students may address and convey comments concerning course conduct to course team members informally.

13.5.3 Student Feedback Questionnaires on module experience, course experience and on-campus experience completed by students provide an opportunity for students to express their comments on various aspects of the conduct of the course and modules studied. This also serves as an additional source of information for the purposes of course monitoring and review.

14.6 Review Policy and Procedures

14.6.1 Course review is an important component in ensuring the currency and standard of the course. Relevant documents are included in the 4-year HD course document. The review is coordinated by the Course Leader to obtain and consider the views of students, graduates, external examiners, staff and other concerned parties on the functioning of the course. Review reports, with emphasis on audit of the quality control of course
management, are prepared by the Course Team and formally endorsed by the Course Board and submitted to the Nexus Board (NB).

14.6.2 Items that would normally be covered in the review include:

(a) points of concern raised in previous year and a brief summary of how they have been addressed;
(b) appropriateness and achievement of the course aims and objectives;
(c) appropriateness of the curricula, syllabuses, teaching and assessment methods;
(d) adequacy of staff and resources support;
(e) staff development;
(f) arrangements for the course (e.g. timetable, class size...etc.);
(g) comments from teaching staff and external examiners;
(h) feedback from employers and professional bodies;
(i) feedback from students;
(j) analysis of admission statistics and policy;
(k) analysis of examination statistics;
(l) analysis of graduates statistics; and
(m) summary of current developments in the structure, content and operation of the course.

14.6.3 The information collected may form the basis for review and validation of the course as deemed necessary.
15. Teaching and Learning

15.1 Introduction

As the orientation of the course is to enhance independent learning, students are required to take an active role in all course activities.

15.2 Teaching and Learning Methods

15.2.1 Teaching Methods

Teaching is done basically in the form of lectures, tutorials, practical work and workshop sessions.

15.2.1.1 Lectures

Lectures provide the vehicle for the dissemination of empirical knowledge, the exemplification and explanation of principles, methods and theories. The subjects delivered will be supplemented by the use of non-print materials such as slides, transparencies, videos, and digital media.

15.2.1.2 Tutorials

Tutorials will be held in groups up to 30 students and will provide the opportunity for students to acquire practical problem-solving skills, assimilate the topics discussed in lectures, and develop the ability to communicate to the class. Comments and feedback on assignments are given during tutorial sessions and students will be asked to critically evaluate their own and others’ works. Quizzes will also be held to monitor students’ academic progress and shall form part of the formal assessment of student performance under each individual module.

15.2.1.3 Practical Work

Practical work includes laboratory work, field work, and case studies are also held in small groups of not more than 30 students. Laboratory work is essential in providing students with the opportunity to appreciate and understand the behaviour of different materials as well as to verify the theories learnt from lectures. The field work will allow students to get familiar in using engineering equipment and instrumentation for site data collection, recording, interpretation and reporting. On the other hand, case studies will provide students with the opportunity to put theory into practice in dealing with familiar to unfamiliar situations.

15.2.1.4 Guided Study

There is a growing trend of offering HD courses with reduced course duration among all other disciplines of both IVE and non-IVE institutes for which this new proposed Course is of no exception. Most of our in-service Construction employee students if not all are often working in locations remote from town centers which make the construction posting becoming less attractive than other professions in terms of employees’ long working hours and the less satisfactory physical environment despite of its good employment opportunities. This factor together with the declining number of new intakes of part-time Construction courses recruited
in the past few years concluded that there is a general concern and thus a genuine need of class contact hours to be reduced if the part-time course like the proposed MEME HD Course is to sustain its popularity among its prosperous students who are currently working in the industry. In order to make this time reduction materialized, more student-centred learning activities are therefore encouraged to replace part of the class room teaching throughout the Course. This implementation could result in a C/HC/HD in Civil Engineering course of 6-year duration reduced to a 4.5 year (or 9 semesters) in the shortest time span by “5E” HKCEE Form 5 graduate students upon joining the proposed MEME HD course. Lecturers are encouraged to use Problem Based and Guided Learning as the teaching methodology in parallel to the conventional lecturing. Full guided study sessions however will be scheduled to offer help to students who are in need for personal consultation with module lecturers on any academic subject matters. Close monitoring of individual students’ performance will still be undertaken by the module lecturers.

15.2.2 Learning Method

The vocational nature of the course lends itself to the use of Problem Based Learning and seminars for students to learn through solving problems particularly in senior levels of the HD course. Lecturers will be encouraged to employ these techniques in their teaching.

15.2.3 Medium of Instruction (MOI)

English will be the Medium of Instruction in all lectures. All notes and assignments will be prepared in English.

15.3 Projects

15.3.1 Individual Project

Each student will take up and work on an individual project which consists of Project I and Project II which are in fact two phases of a single project, namely the preliminary proposal and the detail design/investigation formulation. It is a core element in the final year of the HD course. It allows students to develop the abilities of independent problem-solving, the integration and application of engineering knowledge obtained from the course. By getting the project done on time, students also have to acquire the necessary management skills in order to complete the project, from conceptual stage to final report. To increase the awareness of the specialized aspects in the civil engineering industry particularly related to the course, the nature of the project has to be more advanced in level and more subject areas integrated in breadth than the materials taught in the course. They will also be required to make verbal and written presentation of their findings and proposal at the end in front of an assessment panel and a general audience at the end of the Project II module.

15.3.2 Group Project

This module requires full-time students to work as a team to complete projects from conception to final reporting within a given time frame. Each student will play his/her role and be responsible to the team for the work done by him/herself. The completion of the group project will require the team effort as well as the project team’s own planning and subsequent management skills. The performance of the team work and individual member’s contribution will be monitored continuously and duly assessed by the designated
project supervisor. The project could be of investigative or design nature related to civil engineering studies.

15.3.3 Project supervisor

Each project is overseen by a project supervisor who will advise students on the choice of the topic and the preparation of the project. While regularly meeting students to monitor progress, the project supervisor normally remains in the background, but watches out any major deviation in the students’ project development and keeps himself/herself available and accessible to students to advise and to counsel, as well as to share the experience and expertise. It is strongly advisable that each project student/team keeps a logbook to record their project work activities throughout and the logbook will be regularly endorsed by the project supervisor.

15.4 Teaching Aids

Audio-visual facilities such as transparencies, video tapes, films and slides, and slide presentations are used to augment lectures, seminars and tutorials.

The Department is equipped with advanced equipment for students’ practice enabling them to master their skills in the inspection and diagnostic of building defects.

15.5 External Inputs

Trade practitioners and professionals will be invited to share with students their specialities and practical experience.

15.5.1 Incorporating recent industry changes and requirements is essential to the survival and the dynamic growth of the course. The course team fully recognizes this fact and is encouraged to establish closer links with industry and professional bodies by:

- inviting practitioners in the industry and representatives of professional bodies to provide input to course development;
- inviting guest speakers regularly to conduct lectures and share experiences with students;
- sending students on industrial attachments to relevant organizations to sharpen their hands-on skills;
- providing mentorship to the students with industrial practitioners;
- encouraging staff and students to participate in seminars and professional activities organized by professional bodies; and
- participating in various industry and government related committees.