

### Module Syllabus

<b>Module Title</b>	Statutory Requirements and Procedures of Plumbing Works in Hong Kong	
<b>Module Code</b>	MBS3025X	
<b>QF Credits</b>	12	
<b>QF Level</b>	3	
<b>Notional Learning Hours</b>	122	Contact Hours: 36
		Self-study Hours: 84
		Assessment Hours: 2 <i>(Outside Contact/Self-study Hours)</i>
<b>Pre-requisite</b>	Nil	
<b>Co-requisite</b>	Nil	
<b>Anti-requisite</b>	Nil	
<b>Exemption Criteria</b>	Nil	

#### Module Intended Learning Outcomes:

On completion of the module, learners are expected to be able to:

1. acquire the general knowledge in the statutory requirements of water supply systems;
2. adopt proper procedures for the submission of plumbing proposals; and
3. differentiate the categories of special water supplies and relevant regulations.

**Learning Contents and Indicative Contact Hours:**

Learning Contents	Indicative Contact Hours
<p>A. Waterworks Regulations and Standard Requirements</p> <ul style="list-style-type: none"> <li>• <i>Role and responsibility of a Licenced Plumber (LP)</i></li> <li>• <i>Waterworks Ordinance Cap. 102 and Waterworks Regulations</i></li> <li>• <i>Requirements in the installation of fresh water supply to new buildings</i></li> <li>• <i>Requirements and regulations of installation in water supply system, e.g. fresh/salt water supply, water tanks, hot water system, water flushing supply, fire services, etc.</i></li> <li>• <i>Requirements of separate metering system on direct/indirect fresh water supply</i></li> <li>• <i>Waterworks Forms</i></li> <li>• <i>Current policy concerning approval of water supply fittings</i></li> <li>• <i>Water Meter Installation</i></li> <li>• <i>Point Penalty System</i></li> </ul>	15 hours
<p>B. Application Procedures for Water Supplies</p> <ul style="list-style-type: none"> <li>• <i>Procedures in the submission of plumbing proposals</i></li> <li>• <i>Procedures for partial completion of work and rectification of plumbing defects</i></li> <li>• <i>Application for refixing of water meters (domestic/trade supply and others)</i></li> <li>• <i>Application for separate meters</i></li> <li>• <i>Change of consumership</i></li> <li>• <i>Application for approval of water supply pipes and fittings</i></li> </ul>	12 hours
<p>C. Special Water Supplies and Regulations</p> <ul style="list-style-type: none"> <li>• <i>Categories of shipping supply</i></li> <li>• <i>Construction site supply</i></li> <li>• <i>Supply for cooling/air-conditioning/ humidification purpose</i></li> <li>• <i>Concessionary usage of mains water</i></li> <li>• <i>Mixed flushing supply system</i></li> <li>• <i>Types of domestic appliances, e.g. purifiers, sterilizers, waste disposers, washing machines, etc.</i></li> </ul>	9 hours

### Mapping of Learning Contents with Module Intended Learning Outcomes:

	Learning Contents	Module Intended Learning Outcomes		
		1	2	3
A.	Waterworks Regulations and Standard Requirements	✓	✓	✓
B.	Application Procedures for Water Supplies	✓	✓	
C.	Special Water Supplies and Regulations	✓		✓

### Learning and Teaching Strategies:

- *Lectures are to develop students' critical thinking and an analytical mind to rationalize the theoretical aspects of the covered topics and to elaborate important and difficult areas, providing a meaningful framework and a focus for text reading and the corresponding tutorials.*
- *Tutorials are to encourage students to apply and extrapolate the knowledge they learn through various activities, including group discussions, case studies, and presentations.*
- *Through assignments and tutorial exercises, students can interact with tutors to develop solutions and/or solve or deal with trade situations in an interactive and pleasant learning atmosphere.*

### Assessment Scheme:

<b>Continuous Assessment (CA)</b>	
<i>Assignment</i>	<b>30%</b>
<b>End-of-Module Assessment (EA)</b>	<b>70%</b>
<b>Total</b>	<b>100%</b>

## References:

1. 第 102 章《水務設施條例》 *Cap. 102 Waterworks Ordinance*  
<https://www.elegislation.gov.hk/hk/cap102>
2. 第 102A 章《水務設施規例》 *Cap. 102A Waterworks Regulations*  
<https://www.elegislation.gov.hk/hk/cap102A>
3. 香港水務標準規格(樓宇內水管裝置) *Hong Kong Waterworks Standard Requirements for Plumbing Installation in Buildings*  
[https://www.wsd.gov.hk/filemanager/tc/content\\_1350/hkwsrsrc.pdf](https://www.wsd.gov.hk/filemanager/tc/content_1350/hkwsrsrc.pdf)
4. 水務署通函 *WSD Circular Letters*  
<https://www.wsd.gov.hk/tc/plumbing-engineering/requirements-for-plumbing-installation/wsd-circular-letters/index.html>
5. 樓宇水管工程技術要求 *Technical Requirements for Plumbing Works in Buildings*  
<https://www.wsd.gov.hk/tc/plumbing-engineering/requirements-for-plumbing-installation/technical-requirements-for-plumbing-works-in-bldgs/index.html>
6. 樓宇水管裝置手冊 *Handbook on Plumbing Installation*  
[https://www.wsd.gov.hk/filemanager/sc/content\\_1369/HBonPIBc.pdf](https://www.wsd.gov.hk/filemanager/sc/content_1369/HBonPIBc.pdf)
7. 水喉工程的良好作業指引 *Good Practice Guide on Plumbing Works*  
[https://www.wsd.gov.hk/filemanager/tc/content\\_1668/Good Practice Guide on Plumbing Works-c.pdf](https://www.wsd.gov.hk/filemanager/tc/content_1668/GoodPracticeGuideonPlumbingWorks-c.pdf)
8. 樓宇內部供水設備防銹蝕喉管物料一般資料 *General Information on the Use of Different Types of Corrosion Resistant Pipe Materials as Inside Service in Buildings*  
[http://www.thomson-group.com/faq/pdf/2\\_GenInfoEng\(062000\)chi.pdf](http://www.thomson-group.com/faq/pdf/2_GenInfoEng(062000)chi.pdf)  
[https://www.wsd.gov.hk/filemanager/en/content\\_1367/GenInfoEng.pdf](https://www.wsd.gov.hk/filemanager/en/content_1367/GenInfoEng.pdf)
9. 樓宇內部供水設備防銹蝕喉管物料安裝須知 *Installation Notes of Different Types of Corrosion Resistant Pipe Materials as Inside Service in Buildings*  
[https://www.wsd.gov.hk/filemanager/tc/content\\_1368/InstallNotesChn.pdf](https://www.wsd.gov.hk/filemanager/tc/content_1368/InstallNotesChn.pdf)
10. *BS 6700 Design, installation, testing and maintenance of services supplying water for domestic buildings and their cartilages – Specification, Latest Edition.*
11. *R. H. Garrett (Robert H.), Hot and cold water supply, BSI Group Latest Edition*
12. *Institute of Plumbing (Great Britain), Plumbing engineering services design guide, Institute of Plumbing and Heating Engineering Latest Edition*

**Creation/Revision Record:**

<b>Version</b>	<b>Date</b>	<b>Created/Revised by</b>
1	22 March 2019	CHANG Yiu Chung, Kelly
2	23 April 2019	CHANG Yiu Chung, Kelly

### Module Syllabus

<b>Module Title</b>	Project Management in Plumbing Services	
<b>Module Code</b>	MBS3026X	
<b>QF Credits</b>	10	
<b>QF Level</b>	3	
<b>Notional Learning Hours</b>	102	Contact Hours: 30
		Self-study Hours: 70
		Assessment Hours: 2 <i>(Outside Contact/Self-study Hours)</i>
<b>Pre-requisite</b>	Nil	
<b>Co-requisite</b>	Nil	
<b>Anti-requisite</b>	Nil	
<b>Exemption Criteria</b>	Nil	

#### **Module Intended Learning Outcomes:**

On completion of the module, learners are expected to be able to:

1. apply critical path method in project scheduling;
2. estimate the budget of the work tasks and control the cost effectively;
3. apply supervisory skills for manpower management; and
4. apply quality control in plumbing projects.

**Learning Contents and Indicative Contact Hours:**

Learning Contents	Indicative Contact Hours
<p>A. Site organization and project management</p> <ul style="list-style-type: none"> <li>• <i>Organization chart</i></li> <li>• <i>Role and responsibility of different parties, e.g. Client/Owners Representative, Architect, Consultant (E&amp;M/structure), Contractors (Main-contractor, Sub-contractor, Domestic Sub-contractor, Nominated Sub-contractor NSC), etc.</i></li> <li>• <i>Project planning, project scheduling and job allocation</i></li> <li>• <i>Principles and the application of Critical Path Method</i></li> <li>• <i>Investigation of site requirements</i></li> <li>• <i>Principles in allocating temporary facilities; temporary works, materials storages and equipment</i></li> <li>• <i>Progress monitoring and programme updating</i></li> <li>• <i>Project life cycle and scope of works</i></li> <li>• <i>Tender specification</i></li> <li>• <i>Essential elements for the formation of a valid contract, termination of contracts, damages, limitation of actions</i></li> </ul>	<p>12 hours</p>
<p>B. Finance control and insurance</p> <ul style="list-style-type: none"> <li>• <i>Estimation of income and expenditure of a project</i></li> <li>• <i>Introduction of operations management</i></li> <li>• <i>Basic measurement principles for plumbing works installation</i></li> <li>• <i>Basic cost control for engineering project</i></li> <li>• <i>Insurance arrangements for engineering project</i></li> </ul>	<p>6 hours</p>
<p>C. Supervisory management &amp; problem solving</p> <ul style="list-style-type: none"> <li>• <i>Functions and roles of a supervisor, qualities and skills needed by a supervisor, verbal and nonverbal communications</i></li> <li>• <i>Effective communication with head office, external bodies and local authorities</i></li> <li>• <i>Site meetings and site administration</i></li> <li>• <i>Effective written and on-site verbal instructions</i></li> <li>• <i>Problems identification, generating new and innovative ideas, problem solving techniques, decision making</i></li> </ul>	<p>6 hours</p>
<p>D. Quality management</p> <ul style="list-style-type: none"> <li>• <i>Concept of quality management, goals of organizational quality management culture</i></li> <li>• <i>Materials purchasing, inspection, testing and control</i></li> <li>• <i>Safety awareness, risk assessments</i></li> <li>• <i>Managing outsource works</i></li> <li>• <i>Commissioning and adjustment</i></li> <li>• <i>Jobs handover</i></li> <li>• <i>Defect Liability Period / routine maintenance</i></li> </ul>	<p>6 hours</p>

**Mapping of Learning Contents with Module Intended Learning Outcomes:**

	Learning Contents	Module Intended Learning Outcomes			
		1	2	3	4
A.	Site organization and project management	✓			
B.	Finance control and insurance		✓		
C.	Supervisory management & problem solving			✓	
D.	Quality management				✓

**Learning and Teaching Strategies:**

- *Lectures are to develop students' critical thinking and an analytical mind to rationalize the theoretical aspects of the covered topics and to elaborate important and difficult areas, providing a meaningful framework and a focus for text reading and the corresponding tutorials.*
- *Tutorials are to encourage students to apply and extrapolate the knowledge they learn through various activities, including group discussions, case studies, and presentations.*
- *Through assignments and tutorial exercises, students can interact with tutors to develop solutions and/or solve or deal with trade situations in an interactive and pleasant learning atmosphere.*

**Assessment Scheme:**

<b>Continuous Assessment (CA)</b>	
<i>Assignment</i>	<b>30%</b>
<b>End-of-Module Assessment (EA)</b>	<b>70%</b>
<b>Total</b>	<b>100%</b>

**References:**

1. *Martyn J. Hills, Building contract procedures in Hong Kong, Longman Latest Edition*
2. *Rory Burke, Project management : planning and control, New York : J. Wiley Latest Edition*
3. *Harold Kerzner, Project management : case studies, John Wiley & Sons, Inc. Latest Edition*
4. *Abdul Razzak Rumane, Quality management in construction projects, CRC Press Latest Edition*

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1	22 March 2019	CHANG Yiu Chung, Kelly
2	23 April 2019	CHANG Yiu Chung, Kelly

### Module Syllabus

<b>Module Title</b>	Plumbing Practical	
<b>Module Code</b>	MBS3027X	
<b>QF Credits</b>	2	
<b>QF Level</b>	3	
<b>Notional Learning Hours</b>	25	Contact Hours: 6
		Self-study Hours: 14
		Assessment Hours: 5 <i>(Outside Contact/Self-study Hours)</i>
<b>Pre-requisite</b>	Nil	
<b>Co-requisite</b>	Nil	
<b>Anti-requisite</b>	Nil	
<b>Exemption Criteria</b>	Nil	

#### **Module Intended Learning Outcomes:**

On completion of the module, learners are expected to be able to:

1. acquire skills in the proper use of tools and equipment;
2. acquire technical skills in pipe works and fittings;
3. apply proper and good practices in pipe connection so as to achieve the standard workmanship required in the trade.

**Learning Contents and Indicative Contact Hours:**

<b>Learning Contents</b>	<b>Indicative Contact Hours</b>
A. Tools and equipment  <ul style="list-style-type: none"> <li><i>Proper use of tools and equipment</i></li> </ul>	1 hours
B. Simple pipe works with fittings  <ul style="list-style-type: none"> <li><i>Pipe works: measuring, cutting, threading, bending and jointing</i></li> <li><i>Valves and taps: fixing, rewashing and repairing</i></li> </ul>	2 hours
C. Pipe connection  <ul style="list-style-type: none"> <li><i>Revision of proper and good practices in common types of pipe connection</i></li> </ul>	3 hours

**Mapping of Learning Contents with Module Intended Learning Outcomes:**

	<b>Learning Contents</b>	<b>Module Intended Learning Outcomes</b>		
		<b>1</b>	<b>2</b>	<b>3</b>
1	Tools and equipment	✓		
2	Simple pipe works with fittings	✓	✓	
3	Pipe connection	✓	✓	✓

**Learning and Teaching Strategies:**

*This module aims to examine the learners' technical skills for carrying out the plumbing works installation. Class will be conducted in workshop. Lecturer will provide demonstrations on how to carry out the hands-on skills for pipe connection.*

**Assessment Scheme:**

<b>Continuous Assessment (CA)</b>	-
<b>End-of-Module Assessment (EA)</b>	<b>100%</b>
<b>Total</b>	<b>100%</b>

## References:

1. 第 102 章《水務設施條例》 *Cap. 102 Waterworks Ordinance*  
<https://www.elegislation.gov.hk/hk/cap102>
2. 第 102A 章《水務設施規例》 *Cap. 102A Waterworks Regulations*  
<https://www.elegislation.gov.hk/hk/cap102A>
3. 香港水務標準規格(樓宇內水管裝置) *Hong Kong Waterworks Standard Requirements for Plumbing Installation in Buildings*  
[https://www.wsd.gov.hk/filemanager/tc/content\\_1350/hkwsrsrc.pdf](https://www.wsd.gov.hk/filemanager/tc/content_1350/hkwsrsrc.pdf)
4. 水務署通函 *WSD Circular Letters*  
<https://www.wsd.gov.hk/tc/plumbing-engineering/requirements-for-plumbing-installation/wsd-circular-letters/index.html>
5. 樓宇水管工程技術要求 *Technical Requirements for Plumbing Works in Buildings*  
<https://www.wsd.gov.hk/tc/plumbing-engineering/requirements-for-plumbing-installation/technical-requirements-for-plumbing-works-in-bldgs/index.html>
6. 樓宇水管裝置手冊 *Handbook on Plumbing Installation*  
[https://www.wsd.gov.hk/filemanager/sc/content\\_1369/HBonPIBc.pdf](https://www.wsd.gov.hk/filemanager/sc/content_1369/HBonPIBc.pdf)
7. 水喉工程的良好作業指引 *Good Practice Guide on Plumbing Works*  
[https://www.wsd.gov.hk/filemanager/tc/content\\_1668/Good\\_Practice\\_Guide\\_on\\_Plumbing\\_Works-c.pdf](https://www.wsd.gov.hk/filemanager/tc/content_1668/Good_Practice_Guide_on_Plumbing_Works-c.pdf)
8. 使用於內部供水系統或消防供水的喉管及裝置 *Pipes and Fittings to be used in Inside Service or Fire Service*  
<https://www.wsd.gov.hk/tc/plumbing-engineering/pipes-and-fittings-to-be-used-in-inside-service-or/index.html>
9. Roy. Treloar, **Plumbing**, Wiley-Blackwell Latest Edition
10. Warren Breese, **Basic plumbing services skills : water supply**, Pearson Australia Latest Edition

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