

Master of Science in Engineering Management

Student Handbook (2014-2015)

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August, 2014

1. **PROGRAMME AIMS**

Programme Aim:

This programme aims to equip students with analytical, managerial, and behavioural skills / knowledge in aspect of contemporary engineering management in order to prepare them to meet the educational needs of engineers transiting into practising engineering managers.

Programme Intended Learning Outcomes (PILOs):

Upon successful completion of this Programme, students are expected to:

1. reflect on extensive knowledge in engineering management in supporting problem solving, decision making and undertaking projects of discovery and innovation;
2. apply managerial skills, including, behavioural and communication skills, needed in the effective transition from the role of an engineer to that of an engineering manager;
3. integrate and apply engineering and managerial knowledge in the management of engineering projects, operations, products and services in engineering/manufacturing enterprises and departments;
4. be able to generate innovative ideas, to undertake engineering management projects/research and turn the discovery & innovative ideas into practical implementation;
5. reflect on responsibility and sensitivity for environmental and societal concerns, inter-cultural issues and global development.

Streams Aim:

Engineering Asset Management (EAM) stream:

After completing the four courses in EAM stream, a student has possessed the required fundamental knowledge and skills to become a qualified practitioner in engineering asset management.

Stream Intended Learning Outcomes (SILOs):

- S1. recognize the importance of engineering asset management in manufacturing, public utilities, transportations and building services,
- S2. understand the philosophies and international compliance on engineering asset management,
- S3. apply all essences of engineering asset management, including the needs, the design, the investment appraisal, purchase, installation, commissioning, operation, quality inspection, maintenance and replacement, disposal of asset etc., into routine practices of asset and maintenance management, and
- S4. formulate reliable and cost-effective engineering asset management in selected equipment/process operating in a particular kind of public utility and industry.

Quality Engineering and Management (QEM) stream:

This stream aims to provide a broad understanding of the principles and practice of modern quality management strategies, and the approaches and techniques to assess and improve process and/or product quality and reliability. The objectives to develop the students' ability to integrate and apply the knowledge in the formulating, planning, implementing, and evaluating the

product/system/organization in performance, quality and safety aspects to enhance the organisation-wide competitiveness.

Stream Intended Learning Outcomes (SILOs):

- S1. Define various dimensions of quality in product and service delivery systems, with emphasis in customer orientation.
- S2. Beware of some basic techniques for quality improvement, and fundamental knowledge of statistics and probability.
- S3. Apply statistical techniques to assess and improve product/service quality in a manufacturing/service organization.
- S4. Apply the concepts and principles of quality systems in developing organization wide quality management systems.
- S5. Integrate and apply key elements of Total Quality Management (TQM): strategic quality management, leadership, customer focus and satisfaction, supplier partnership, employee involvement, performance measures, etc. in developing organization wide quality improvement programs.

2. PROGRAMME OF STUDY

Required Core Courses (6 CUs)

Course Code	Course Title	Level	Units Worth
SEEM5006	Operations Management	P5	3
SEEM5010	Engineering Management Principles and Concepts	P5	3

Elective Courses (24 CUs)

A minimum of 12 CUs from SEEM is required in which 6 CUs must be selected from SEEM6009, SEEM6012, SEEM6014, SEEM6017 & SEEM6037.

Course Code	Course Title	Level	Units Worth
MBE6051	Sustainable Green Manufacturing	P6	3
MGT5313	International Organisational Behaviour	P5	3
MGT5510	International Business and the Global Business Enterprise	P5	3
MGT6314	Global Human Resource Management	P6	3
MGT6503	Comparative Management: Asian Perspectives	P6	3
MGT6511	Emerging Issues in Multinational Strategic Management	P6	3
MS5212	Statistical Methods I	P5	3
MS5220	Management Science	P5	3
MS6215	Forecasting Methods for Business	P6	3
SEEM5009	Industrial Marketing Management for Engineers	P5	3

SEEM6009	Project Management	P6	3
SEEM6012	Technological Innovation and Entrepreneurship	P6	3
SEEM6014 [#]	Asset and Maintenance Management	P6	3
SEEM6015	Supply Chain Management	P6	3
SEEM6017	Integrative Engineering Management	P6	3
SEEM6018	Dissertation	P6	9
SEEM6037 [^]	Managing Strategic Quality	P6	3
SEEM6043 ^{#^}	Quality and Reliability Engineering	P6	3
SEEM6044	China Engineering Enterprise Management	P6	3
SEEM6045	Industrial Case Study	P6	3
SEEM6047 [^]	Quality Improvement: Systems and Methodologies	P6	3
SEEM6048	Marketing Strategy for Engineers	P6	3
SEEM6050	Engineering Economic Analysis	P6	3
SEEM6052	Organization Learning	P6	3
SEEM6053 [^]	Business Process Improvement and Innovation	P6	3
SEEM6101	Estimation and Control of Random Dynamic Systems	P6	3
SEEM6102 [#]	Managerial Decision-making Systems with Artificial Intelligence	P6	3
SEEM6103 [#]	Financial Engineering for Engineering Managers	P6	3
SEEM6104	Theoretical Underpinnings of Decision Making Under Uncertainty	P6	3
SEEM6105	Risk and Decision Analysis	P6	3
SEEM8011 [^]	Statistical Modeling and Design of Experiments	R8	3
SEEM8012 [#]	Data Mining and Statistical Modeling	R8	3
SEEM8102	Forecasting and Control Using Regression, Time Series, and Dynamic Models	R8	3
SEEM8103 [^]	Advanced Design of Experiments and Taguchi Method	R8	3

#Required electives for EAM stream

[^]Required electives for QEM stream

Remark: These elective courses will be offered subject to availability of resources and may not be offered in Summer Term.

3. ASSESSMENT AND AWARD CLASSIFICATIONS

Students should observe the University's related regulations and guidelines on assessment at all times. More information can be available by referring to the websites maintained by Chow Yei Ching School of Graduate Studies.

http://www.cityu.edu.hk/qac/assessment_policy/university_assessment_policy.htm

Commencing from 2010/11 intake, students will be awarded the following classifications based on their CGPA attained upon completion of all appropriate graduation requirements.

Master's Degree	CGPA
Distinction	3.50 or above
Credit	3.20 – 3.49
Pass	2.00 – 3.19

4. TUITION FEES AND PROGRAMME DURATION

Tuition fees : HK\$3,180 per credit (local students)
HK\$4,030 per credit (non-local students)

Credits required : 30 CUs

Full time students who are not sure whether they will take up the MSc Dissertation (9 cus) in Semester B, can study 15 cus in semester A, i.e. 6 cus required core courses + 9 cus elective courses.

For those who complete 15 cus in Semester A, they can still register for 9 cus of elective courses and 9 cus of Dissertation giving a total of 33 cus in Semester B and Summer Term. All the 33 cus will be used to calculate the overall CGPA.

Duration of study :

Normal Period	Maximum Period
Full-time (1 year)	FT (2.5 years)
Part-time (2 years)	PT / combined mode (5 years)

5. ACADEMIC REGULATIONS AND GUIDELINES

Students should observe the University's academic regulations and guidelines at all times. More information can be available by referring to the websites maintained by Chow Yei Ching School of Graduate Studies.

<http://www.sgs.cityu.edu.hk/student/TPg/regulation>

6. ACADEMIC HONESTY

Academic honesty is central to the conduct of academic work. Students are responsible for knowing and understanding the Rules on Academic Honesty. To enhance students' understanding on academic honesty, all students are required to complete a tutorial on academic honesty and make a declaration on their understanding of this core academic principle online on or before **30 November 2014** in order to access their course grade.

http://www.cityu.edu.hk/provost/academic_honesty/

7. COMMUNICATIONS

In general, students are encouraged to discuss freely any of their problems with the Programme Leaders, Year Tutors and Course Lecturers.

Specifically, the following communication channels between students and the department are recommended:

- i) Students who are having academic difficulties with a course should speak directly to the Lecturer of that course.
- ii) A student who wishes to discuss issues on a particular part of the programme should speak to the Year Tutors.
- iii) A student who wishes to discuss the overall organization of the programme should speak to the Programme Leader or his/her deputy.
- iv) A formal consultative process between students and staff exists in the department in the form of a Joint Staff & Student Consultative Committee (JSSCC). One student from each year will be elected to sit in the JSSCC Committee.
- v) One part-time student from each year of the programme and two full-time students will be elected to sit in the Programme Committee.

8. PROGRAMME LEADER AND YEAR TUTORS

<u>Position</u>	<u>Staff Name</u>	<u>Tel.</u>	<u>Email</u>
Programme Leader	Dr. Richard Yam	3442-8417	mery@cityu.edu.hk
Deputy Programme Leader	Dr. Alan Chan	3442-8439	meachan@cityu.edu.hk
FT Year Tutor			
2014-2015 Cohort	Dr. Richard Yam	3442-8417	mery@cityu.edu.hk
PT Year Tutors			
2014-2015 Cohort	Dr. K. S. Chin	3442-8306	mekschin@cityu.edu.hk
2013-2014 Cohort	Prof. C. Y. Dang	3442-8429	mecdang@cityu.edu.hk
Dissertation Tutor	Dr. K. B. Chuah	3442-8437	mebchuah@cityu.edu.hk

9. INFORMATION TO NEW STUDENTS

9.1 How to access your Personal Class Schedule

- i) Go to www.cityu.edu.hk from any terminal on campus or off campus.
- ii) Click “Students” and then log onto “e-Portal/Blackboard”.
If you have problems in logging in, please follow the instructions in “Having problems logging in?”.
- iii) Select “View Student Schedule” under the “Courses I am taking” box.
- iv) Press the “View Detail Schedule” button at the bottom of your timetable to display details of your class schedule.

9.2 How to get Instructors’ Handouts through Blackboard

- i) Log onto the CityU e-Portal from any terminal on campus or off campus.
- ii) Enter the course under “My Courses”
- iii) Click “Current Semester Courses” or “Other Courses”.

9.3 How to check Programme Requirements and Course Syllabus

Log onto the CityU home page and click “Academic Programme”.

9.4 Course Registration for Semester A 2014-2015

For Semester A 2014-2015, students will be pre-registered in required courses and programme electives in most cases if possible.

- i) The date for release of your class schedule is **29 July 2014**. Please check your curriculum requirements, review your study plan and then make appropriate adjustments to your pre-registered courses.
- ii) Add/Drop of courses can be made through AIMS for web-enabled courses during the web registration period. For non-web-enabled courses, approval is required from the major department and you can submit your change request by using the Add/Drop Form.

How to do the Add/ Drop:

- Go to <http://www.cityu.edu.hk> from any terminal on campus or off campus and click “Students”.
- Log onto “AIMS” and then click “Course Registration”.
- Choose “Add or Drop Classes”.

- iii) Web registration begins on **18 August 2014** but you need to check your time ticket first from “AIMS”.
- iv) All add/drops end on **8 September 2014**.
- v) Detailed arrangements on Course Registration for Semester A 2014-2015 will be posted by **4 August 2014**. For details, please refer to SGS website: <http://www.sgs.cityu.edu.hk/student/tpg/coursereg> .

9.5 How to access your Student Email Account

- i) Go to <http://www.cityu.edu.hk> from any terminal on campus or off campus, then point to “**Quick Links**” at the top and click “**Email**”.
- ii) In the Email Services home page, click “**@my.cityu.edu.hk**” under “**Student**” to go to CityU “**Office 365**” Sign In page.
- iii) At the “**Account:**” field in the Sign In screen, enter your Office 365 account in the form of “*YourEID-c*”, where *YourEID* is your CityU Electronic ID.
- iv) At the “**Password:**” field, enter your Office 365 Account password, then click “**Log On**”.
- v) Then you can read and compose mail after signing in.

Important note:

For email communication:
please state your *student name, number and contact telephone number*.

9.6 How to check your Course Grade and GPA

Log onto the CityU home page and click “AIMS” and then
Student Record - My academic record - grade detail - select programme - GO

9.7 Credit Transfer

Applications for credit transfer must be made before a semester begins. For Semester A 2014-2015, the application period is from **14 July 2014 to 30 August 2014**. For details, please refer to SGS website:

<http://www.sgs.cityu.edu.hk/student/TPg/record/credittransfer>

9.8 Administrative Support from General Office

Normal

Mon to Fri	8:30am to 5:30 pm
<i>Lunch Break</i>	<i>12:30pm to 1:45pm</i>
Sat	Closed

Extended Office Hours to Facilitate ADD/DROP

(During the Web Registration Periods of Semester A & B)

Mon to Fri	8:30 am to 6:30 pm
<i>Lunch Break</i>	<i>12:30 pm to 1:45 pm</i>
Sat	9:00 am to 12:00 noon

Inquiry:	3442-9321
Fax:	3442-0173
Email:	seemgo@cityu.edu.hk

9.9 The Application and Reimbursement Procedures for Continuing Education Fund Application (CEF)

- i) Please read carefully the guidelines and regulations under the government website www.sfaa.gov.hk/cef/ or call 3142 2277 and website www.cityu.edu.hk/seem/std-cef.htm
- ii) Send the application form to the General Office to get it certified by placing our official stamp. The applicants must complete the application form, submit the required documents and return them to the CEF office before the commencement of the semester.

Semester A, commences on September 1, 2014

Semester B, commences on January 12, 2015

Summer Term, commences on June 8, 2015

- iii) Please note the references to be quoted on your documents to CEF:
Name of Institution/Course Provider : City University of Hong Kong
CEF Institution Code : 005
CEF Course Title : Supply Chain Management (**sample**)
CEF Course Code : 25Z03874-6 (**sample**)
- iv) For seeking CEF reimbursement, students **must not** hold any other publicly-funded financial assistance for the same programme or course/ modules/ units of study.
- v) If you enroll in more than one course, you are only required to submit your application in respect of the first commencing course. Please fill in the details of the first commencing course in the Application Form only.

Model Study Path for MScEM 2014-2015 Entry

Path of study:

1. completing taught courses only, or
2. taught courses plus the dissertation project.
 - To opt for Dissertation, the student must achieve a GPA ≥ 2.7 .
 - Students opting for the dissertation should work out his / her study path in consultation with the Programme / Dissertation Coordinator.

Programme Structure**-Required Core Courses (6 credit units)**

Course Code	Course Title	Credit Units
SEEM5006	Operations Management	3
SEEM5010	Engineering Management Principles and Concepts	3

-Programme Electives (24 credit units)

A minimum of 12 CUs from SEEM is required in which 6 CUs must be selected from SEEM6009, SEEM6012, SEEM6014, SEEM6017 & SEEM6037.

SEEM Electives:

Course Code	Course Title	Credit Units
SEEM5009	Industrial Marketing Management for Engineers	3
SEEM6009	Project Management	3
SEEM6012	Technological Innovation and Entrepreneurship	3
SEEM6014 [#]	Asset and Maintenance Management	3
SEEM6015	Supply Chain Management	3
SEEM6017	Integrative Engineering Management	3
SEEM6018	Dissertation	9
SEEM6037 [^]	Managing Strategic Quality	3
SEEM6043 ^{#^}	Quality and Reliability Engineering	3
SEEM6044	China Engineering Enterprise Management	3
SEEM6045	Industrial Case Study	3
SEEM6047 [^]	Quality Improvement: Systems and Methodologies	3
SEEM6048	Marketing Strategy for Engineers	3
SEEM6050	Engineering Economic Analysis	3
SEEM6052	Organization Learning	3
SEEM6053 [^]	Business Process Improvement and Innovation	3
SEEM6101	Estimation and Control of Random Dynamic Systems	3
SEEM6102 [#]	Managerial Decision-making Systems with Artificial Intelligence	3
SEEM6103 [#]	Financial Engineering for Engineering Managers	3
SEEM6104	Theoretical Underpinnings of Decision Making Under Uncertainty	3
SEEM6105	Risk and Decision Analysis	3
SEEM8011 [^]	Statistical Modeling and Design of Experiments	3

SEEM8012 [#]	Data Mining and Statistical Modeling	3
SEEM8102	Forecasting and Control Using Regression, Time Series, and Dynamic Models	3
SEEM8103 [^]	Advanced Design of Experiments and Taguchi Method	3

Non-SEEM Electives:

Course Code	Course Title	Credit Units
MBE6051	Sustainable Green Manufacturing	3
MGT5313	International Organisational Behaviour	3
MGT5510	International Business and the Global Business Enterprise	3
MGT6314	Global Human Resource Management	3
MGT6503	Comparative Management: Asian Perspectives	3
MGT6511	Emerging Issues in Multinational Strategic Management	3
MS5212	Statistical Methods I	3
MS5220	Management Science	3
MS6215	Forecasting Methods for Business	3

#Required electives for EAM stream

[^]Required electives for QEM stream

Remarks: These programme electives will be offered subject to availability of resources.

Model Study Path for MScEM-EAM stream 2014-2015 Entry

Path of study:

1. completing taught courses only, or
2. taught courses plus the dissertation project.
 - To opt for Dissertation, the student must achieve a GPA ≥ 2.7 .
 - Students opting for the dissertation should work out his / her study path in consultation with the Programme / Dissertation Coordinator.

Programme Structure

-Required Core Courses (6 credit units)

Course Code	Course Title	Credit Units
SEEM5006	Operations Management	3
SEEM5010	Engineering Management Principles and Concepts	3

-Programme Electives (24 credit units)

A) Required electives (12 credit units)

Student must complete SEEM 6014 Asset and Maintenance Management plus THREE out of the following courses:

Course Code	Course Title	Credit Units
SEEM6043	Quality and Reliability Engineering	3
SEEM6102	Managerial Decision-making Systems with Artificial Intelligence	3
SEEM6103	Financial Engineering for Engineering Managers	3
SEEM8012	Data Mining and Statistical Modeling	3

B) Other electives (12 credit units) 3CUs must be selected from SEEM6009, SEEM6012, SEEM6017 & SEEM6037.

SEEM Electives:

Course Code	Course Title	Credit Units
SEEM5009	Industrial Marketing Management for Engineers	3
SEEM6009	Project Management	3
SEEM6012	Technological Innovation and Entrepreneurship	3
SEEM6015	Supply Chain Management	3
SEEM6017	Integrative Engineering Management	3
SEEM6018	Dissertation	9
SEEM6037	Managing Strategic Quality	3
SEEM6044	China Engineering Enterprise Management	3
SEEM6045	Industrial Case Study	3
SEEM6047	Quality Improvement: Systems and Methodologies	3
SEEM6048	Marketing Strategy for Engineers	3
SEEM6050	Engineering Economic Analysis	3
SEEM6052	Organization Learning	3
SEEM6053	Business Process Improvement and Innovation	3

SEEM6101	Estimation and Control of Random Dynamic Systems	3
SEEM6104	Theoretical Underpinnings of Decision Making Under Uncertainty	3
SEEM6105	Risk and Decision Analysis	3
SEEM8011	Statistical Modeling and Design of Experiments	3
SEEM8102	Forecasting and Control Using Regression, Time Series, and Dynamic Models	3
SEEM8103	Advanced Design of Experiments and Taguchi Method	3

Non-SEEM Electives:

Course Code	Course Title	Credit Units
MBE6051	Sustainable Green Manufacturing	3
MGT5313	International Organisational Behaviour	3
MGT5510	International Business and the Global Business Enterprise	3
MGT6314	Global Human Resource Management	3
MGT6503	Comparative Management: Asian Perspectives	3
MGT6511	Emerging Issues in Multinational Strategic Management	3
MS5212	Statistical Methods I	3
MS5220	Management Science	3
MS6215	Forecasting Methods for Business	3

Remarks: These programme electives will be offered subject to availability of resources.

Model Study Path for MScEM-QEM stream 2014-2015 Entry

Path of study:

1. completing taught courses only, or
2. taught courses plus the dissertation project.
 - To opt for Dissertation, the student must achieve a GPA \geq 2.7.
 - Students opting for the dissertation should work out his / her study path in consultation with the Programme / Dissertation Coordinator.

Programme Structure**-Required Core Courses (6 credit units)**

Course Code	Course Title	Credit Units
SEEM5006	Operations Management	3
SEEM5010	Engineering Management Principles and Concepts	3

-Programme Electives (24 credit units)

- a. Student must complete SEEM 6037
- b. Student must complete at least THREE courses out of SEEM 6043, SEEM 6047, SEEM 6053, SEEM 8011, SEEM 8103
- c. Student must complete at least ONE course from SEEM6009, SEEM6012, SEEM6014, SEEM6017

SEEM Electives:

Course Code	Course Title	Credit Units
SEEM5009	Industrial Marketing Management for Engineers	3
SEEM6009	Project Management	3
SEEM6012	Technological Innovation and Entrepreneurship	3
SEEM6014	Asset and Maintenance Management	3
SEEM6015	Supply Chain Management	3
SEEM6017	Integrative Engineering Management	3
SEEM6018	Dissertation	9
SEEM6037	Managing Strategic Quality	3
SEEM6043	Quality and Reliability Engineering	3
SEEM6044	China Engineering Enterprise Management	3
SEEM6045	Industrial Case Study	3
SEEM6047	Quality Improvement: Systems and Methodologies	3
SEEM6048	Marketing Strategy for Engineers	3
SEEM6050	Engineering Economic Analysis	3
SEEM6052	Organization Learning	3
SEEM6053	Business Process Improvement and Innovation	3
SEEM6101	Estimation and Control of Random Dynamic Systems	3
SEEM6102	Managerial Decision-making Systems with Artificial Intelligence	3
SEEM6103	Financial Engineering for Engineering Managers	3
SEEM6104	Theoretical Underpinnings of Decision Making Under Uncertainty	3

SEEM6105	Risk and Decision Analysis	3
SEEM8011	Statistical Modeling and Design of Experiments	3
SEEM8012	Data Mining and Statistical Modeling	3
SEEM8102	Forecasting and Control Using Regression, Time Series, and Dynamic Models	
SEEM8103	Advanced Design of Experiments and Taguchi Method	3

Non-SEEM Electives:

Course Code	Course Title	Credit Units
MBE6051	Sustainable Green Manufacturing	3
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MGT6314	Global Human Resource Management	3
MGT6503	Comparative Management: Asian Perspectives	3
MGT6511	Emerging Issues in Multinational Strategic Management	3
MS5212	Statistical Methods I	3
MS5220	Management Science	3
MS6215	Forecasting Methods for Business	3

Remarks: These programme electives will be offered subject to availability of resources.