

Module Syllabus

Module Title	Industrial Attachment	
Module Code	MEC4190	
Credit Value	10	
QF Level	4	
Curriculum-hours	91	Coaching and Student Support Activities (<i>Note</i>)
Pre-requisite(s)	Nil	
Co-requisite(s)	Nil	
Exemption Criteria	Generally Nil. Special cases will be considered individually for relevant trade specific work experience acquired	

Note: Coaching and student support activities may include, among others, pre-attachment orientation, workshop, seminars, talks by employers and alumni, visits by module lecturers during attachment, post attachment presentation and self reflection sessions.

*The curriculum hours indicated is for students following a full-time study mode. For students following a part-time study mode, the curriculum hours will be adjusted. Details could be found in the appendix 1.

Module Intended Learning Outcomes:

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

1. relate learnt knowledge and technical/professional skills to practice in a real industrial, commercial or organizational environment and apply their own trade specific knowledge developed to solve workplace problems in mechanical engineering related industry;
2. handle assigned tasks in the workplace with correct work attitude and appropriate key skills, such as interpersonal skills and teamwork skills, management skills, logical thinking, problem solving skills and communication skills as well as occupational safety and health and environmental awareness;
3. identify their own strengths and weaknesses (in relation to working in a workplace) through reflection on real experience gained in the attachment;
4. develop a personal development plan and make a proposal for further collaboration or partnership through Industry-Based Student Project (IBSP) where appropriate.

Learning Contents and Indicative Curriculum Hours:

Learning Contents	Indicative Curriculum Hours#
<p>1. Orientation and Student Support Activities</p> <ul style="list-style-type: none"> ● Statement of Understanding among the participating organizations or companies, IVE/VTC and the students ● Concept of key skills ● Workplace safety, environmental concerns, insurance coverage, professional expectations, legalities, ethics, and confidentiality matters ● Job description and work/attachment schedules ● Various procedures: leave application, discipline, grievance, feedback, local or Mainland China travel, etc ● Roles of trainees, tutors and industry mentors ● Background of the organizations or companies ● Workplace/Business etiquette ● Importance of working in teams ● Correct work attitude ● Possible continuation to Industry-Based Student Project (IBSP) 	<p>91 hours of industrial attachment</p>
<p>2. Attachment Experience</p> <ul style="list-style-type: none"> ● Personalized learning/training plan ● Proposal for possible continuation to Industry-Based Student Project (IBSP) ● Student log book: record of work/activities, progress and learning points ● Workplace visit(s) by tutors/industrial attachment coordinator ● Completion of the attachment as specified in the attachment schedule(s) ● Feedback / comments of industry mentors 	
<p>3. Presentation</p> <ul style="list-style-type: none"> ● Characteristics of the assigned operational unit ● Practices at the workplace ● Appreciation of a real engineering industry working environment ● Learning points from the attachment, relation with learnt knowledge and technical/professional skills in Engineering Discipline ● Reflection and evaluation of own performance, strengths and weaknesses, areas of and plan for improvement, plan for further collaboration in Industry-Based Student Project (IBSP) where appropriate 	

Note#: The exact curriculum hour of industry attachment (91 hours) depends on the nature of industrial attachment and the location of the industry. The learning contents are described in general terms working in an engineering related workplace.

Mapping of Learning Contents with Module Intended Learning Outcomes:

	Learning Contents	Intended Learning Outcomes
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		1	2	3	4
1	Orientation and Student Support Activities	√	√		√
2	Attachment Experience	√	√	√	
3	Presentation	√		√	√

Learning and Teaching Strategies:

- *Each student should practise at a workplace in an engineering field related to the programme of study for a reasonable length of time, such as a minimum of 90 hours, in order to gain the practical work experience in a real industrial, commercial or organizational environment.*
- *Orientation will be held before work placement for students to understand the objectives, the process, and the issues in relation to the workplace.*
- *Tutors/workplace attachment coordinators will visit the students during the placement period at their workplace to examine the well-being of the students, monitor standards of performance, identify learning needs and receive feedback from students and mentors for the sake of maximising student learning.*
- *Presentation will be conducted at the end/after the placement for students to share and consolidate their work experience.*
- *In case of insufficient jobs under a real industrial, commercial or organizational environment for placing all students, or students are considered not ready for such placement, measures will be taken to arrange in-house placements in various Operation Units of VTC to offer a simulated environment with quality work contents for students.*
- *Industrial attachment may lead to a continuation to the module of Industry-Based Student Project (IBSP) if suitable project topics come up between the attached company and the Department.*
- *Guideline for IA and IBSP should be read in conjunction with this syllabus.*

Assessment Scheme:

Continuous Assessment (CA)	60
End of Module Assessment (EA)	40
Total	100

- Students are required to achieve satisfactory performance in all of the following components to pass this module:
 - Complete the workshop on orientation with satisfactory attendance
 - Write a workplan at the beginning of the attachment for the industrial attachment and proposal for Industry-Based Student Project (IBSP) where appropriate
 - Complete the work attachment (91 hours) arranged by the Department concerned
 - Write up a log book to demonstrate progress of learning in the attachment period
 - Consolidate learning at work through presentation at the end or after the attachment period
- Students who are unable to complete the module for various reasons, or who fail to reach a satisfactory standard in any component above, are deemed to fail the module.

References:

1. Guideline for Industrial Attachment (IA) and Industry-Based Student Project (IBSP)
2. Relevant staff/employee/trainee handbooks of the participating organizations or companies

Revision Record:

<i>Version</i>	<i>Date</i>	<i>Revised by</i>
1	12Mar 2012	TANG Wai Yin
2	5 Jun 2012	YEUNG Wing Cheung

Module Syllabus

Module Title	Industry-Based Student Project	
Module Code	MEC4191	
Credit Value	48	
QF Level	4	
Curriculum-hours	117	Coaching and Student Support Activities (<i>Note</i>)
		Others: Work Attachment
Pre-requisite(s)	Nil	
Co-requisite(s)	Nil	
Exemption Criteria	Generally Nil. Special cases will be considered individually for relevant course related project works completed	

Note: Coaching and student support activities include, among others, pre-attachment orientation, visits by project supervisors during attachment, and project presentations.

*The curriculum hours indicated is for students following a full-time study mode. For students following a part-time study mode, the curriculum hours will be adjusted. Details could be found in the appendix 1.

Module Intended Learning Outcomes:

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

1. integrate and apply knowledge and skills learned in the course and experience gained from industrial attachment to solve engineering problems through different stages of development, including, as applicable, literature and information search, design, installation, testing, commissioning, evaluation and maintenance with exposure to current developments in the mechanical engineering related industry locally or in Mainland China;
2. implement relevant aspects of project management, such as scheduling, user requirements, costing, documentation, project supervision and coordination;
3. perform project tasks individually and as a team member to solve encountered problems with due reflection on safety, energy and environmental issues wherever appropriate; and
4. produce formal written reports and give oral presentations explaining the project work.

Learning Contents and Indicative Curriculum Hours:

Learning Contents	Indicative Curriculum Hours
<p>1. Research and Planning</p> <ul style="list-style-type: none"> ● An information gathering exercise, which could include: <ul style="list-style-type: none"> ■ literature survey; ■ survey of existing equipment/services; and ■ survey of user needs ● Development of a project plan and work schedule taking into considerations the local or Mainland China conditions, as applicable; ● Familiarization with the assessment scheme, project deliverables, environmental & safety issues, and confidentiality matters; and ● Identification of problems to be solved by knowledge-based engineering solutions and experience gained from Industrial Attachment. 	<p>117 hours</p>
<p>2. Project Implementation</p> <ul style="list-style-type: none"> ● Development of theoretical and engineering solutions to specific problems ● Carrying out design work on system / hardware / software ● Building/ installing / testing of system / hardware / software ● Performing experimental or investigative work or system operation ● Critically appraising findings/work ● Providing a cost analysis of development and/or production ● Proper documentation throughout the process ● Carrying out the following works: <ul style="list-style-type: none"> ■ Project supervision ■ Project management ■ Project coordination ■ Works requested by the employer 	
<p>3. Project Reporting</p> <ul style="list-style-type: none"> ● Maintaining student log book: record of work/activities, progress and learning points ● Producing a formal written project report/portfolio detailing the works and including the followings: <ul style="list-style-type: none"> ■ Characteristics and practice of the assigned operational unit ■ Evaluation of the engineering problems ■ Detailed activity plan to meet objectives / learning outcomes and monitor progress ■ Application of technology for solving engineering design / installation / operation / maintenance problems in a competent and creative manner ■ Discussion of result, achievement of learning outcomes, conclusion and recommendation for further development ■ Giving oral presentation explaining the project work 	

Mapping of Learning Contents with Module Intended Learning Outcomes:

	Learning Contents	Module Intended Learning Outcomes			
		1	2	3	4
1	Research and Planning	√		√	√
2	Project Implementation	√	√	√	
3	Project Reporting	√	√		√

Learning and Teaching Strategies:

- *Students will be assigned on industry-based student project (IBSP) and will work under the real environment in engineering field.*
- *Students will start their projects at the beginning of the second semester of the final year of study and carry them full-time throughout the whole semester. In this way, both students and employers (who take on the students) would have extensive period of time dedicated to the projects.*
- *Project groups will normally be formed with one/two students per group. On a need basis, Project Supervisor can put more project groups to work together on a large-scale project.*
- *The project work will be highly student-centered, in that students will gain knowledge through their own research and application of findings to solving problems associated with the work in a creative manner. They will be under the similar work pressure as the employees of the company and will be required to take certain level of responsibility for their projects.*
- *The nature of industry-based projects can vary from small to medium sized projects or work attachment as long as the project work is relevant to their programme of studies. To support the student, the Project Supervisor will act as a mentor and guide the student throughout the project.*
- *In case of insufficient projects under a real industrial, commercial or organizational environment for placing all students, or students are considered not ready for such engagement, in-house industry-based projects would be deemed as necessary. The department will provide similar work environment to the students, who undertake in-house projects, and the project titles will be closely related to the current trend of developments in the engineering industry.*
- *In undertaking the project, students will be encouraged to try new ideas and an open laboratory policy will be adopted to give them greater opportunity to try these ideas. Each group of project students will be required to have regular meetings with their Project Supervisors to discuss about the progress and problems associated with the project work. Students on industry-based projects are welcome to bring back their work in industry and make use of facilities available in the department. The technical staff of the department will support all activities inside laboratories and act as a valuable source of practical knowledge and advice.*
- *To add further benefit to the students, project titles should be related to both their fields of study and current applications in the engineering industry. For industry-based projects, the Project Supervisor must be satisfied that the work is relevant, student has adequate*

supervision and that the marks from the Second Project Assessor in industry have fairly and accurately reflected the standard of work and students' effort.

- *Briefing session will be held before the industry-based project for students to understand the objectives, the process, and the issues in relation to the project.*
- *Confidentiality, copyright, intellectual property rights, licensing Issues matters and insurance coverage must be well identified in advance.*
- *Ideally, Industry-Based Student Project (IBSP) should be conducted at the same company as the module of Industrial Attachment (IA) if suitable project topics come up between the company and the Department.*
- *Additional requirements will be supplemented to students for different programme areas if appropriate to suit for their trade specific nature.*
- *A Guideline for Industry-Based Student Project (IBSP) should be read in conjunction with this syllabus.*

Assessment Plan:

Continuous Assessment (CA)	60%
End of Module Assessment (EA)	40%
Total	100%

- For obtaining a pass in this module, students have to pass 2 CA components: engineering competence and soft skills, and all 3 EA components. Students who are unable to complete the module for various reasons, or who fail to reach a satisfactory standard in any component above, are deemed to fail the module.
- Each student will be required to maintain a project log of activities, which includes the project plan and details of work undertaken, including results obtained. As part of this log, students will be required to produce an appraisal of their work.
- The Programme Leader will ensure that a Second Project Assessor will be appointed in each project. For industry-based project, the Second Project Assessor will be nominated from industry. For in-house industry-based projects, the Programme Leader will secure a Second Project Assessor who will, preferably, be industry based professional from the trade area covered with the project.
- The Project Supervisor and the Second Project Assessor will work together for the allocation of the project marks.
- Presentations will be delivered by the students at mid term and at the conclusion of their project work.
- A Project Moderator will be responsible for ensuring common and consistent approach in project

management, operation and assessment.

References:

1. Guideline for Industrial Attachment (IA) and Industry-Based Student Project (IBSP)
2. Taught materials of other modules in the course
3. Book and Design Manuals
4. Vendors' application manuals
5. Internet and Library

Revision Record:

<i>Version</i>	<i>Date</i>	<i>Revised by:</i>
1	12 Mar, 2012	TANG Wai Yin
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