ENG002/MPU 3410
Industrial Training
for Engineering Students
A Presentation on
Rules and Guidelines

Prepared by Industrial Training Committee, School of Engineering
Who has to attend this Talk?

- Every 3rd and 4th year engineering student who has or will pass 120 credit hours by end of second semester 2021 and intends to do internship during the semester break.

- You may still do the training if you fail at most one subject this term with special consideration.
School of Engineering
Mechanical/Mechatronic/Electrical/Chemical/Civil/Software

• **Objectives of Internship:**

  i) to gain first hand knowledge of engineering practices.

  ii) to acquire skills and experiences in industries
It is part of general studies courses that all students must take.

A compulsory requirement to be fulfilled before the degree can be conferred.

To fulfill the requirements from Institution of Engineers, Australia, Institution of Engineers Malaysia (IEM) and the Engineering Accreditation Council of Malaysia (EAC).
School of Engineering
Mechanical/Mechatronic/Electrical/Chemical /Civil/Software

U4 Cluster Learning outcomes:

At the end of this course, students will be able to:

1. apply social skills and responsibility;
2. apply values, attitudes and professionalism;
3. apply communication and leadership skills and the ability to work in teams;
4. apply information management and lifelong learning skills;
5. apply management and entrepreneurial skills.
Details of Training

– To complete **12 weeks** of **continuous** training in one job (ideal) **after completing 3rd year studies**.
  – 120 Credits and above
– Can divide one job into two parts (8+4 weeks) or engage in two jobs (8+4 weeks), if that is not possible. *(Only for this year, need to apply for special consideration with strong justification.)*
– Can do industrial training after the completion of the final semester. *(Only for this year, need to apply for special consideration with strong justification.)*
– Work from home allowed **only for this year**.
– Ideally between **mid-November to February**
  > e.g. February intake students will undertake their training after semester 6 studies and July intake will undertake theirs after semester 7.
Initiatives expected of students in seeking employment opportunities

1. Search for suitable engineering organizations for training.
2. Work / Update on personal resume.
3. Request for letters of recommendation from course management office.
4. Gear up on oral presentation and writing skills.
Role of Monash University

Before:
1. Provide listing of possible training / employment sites.
2. Provide advice / guidance to students.

During:
1. Visit Students at work for Quality Check and feedback from industry.

After:
1. Assess the relevance of training received and performance of students.
Searching for the right job placement

• Sources:
  – Career fairs on campus, Professional bodies’ websites, Newspaper ads, job notice boards, job directories, word-of-mouth, career talks, etc
  – Federation of Malaysian Manufacturers (FMM)
  – Association of Consulting Engineers Malaysia (ACEM)
THE ASSOCIATION OF CONSULTING ENGINEERS MALAYSIA

Panel Firm Members

Written by ACEM Secretariat
Saturday, 12 August 2006
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AECOM PERUNDING SDN BHD
Website: http://www.aecom.com/

AKTIF FA KONSULT SDN BHD
Website: Not Available

ALAM JURUTERA PERUNDING SDN BHD
Website: Not Available

AMIR MADANI RUNDING SDN BHD
Website: Not Available

ANGKASA CONSULTING SERVICES SDN BHD
Website: http://www.acssb.com.my/

ANTARA JURUTERA PERUNDING SDN BHD
Website: Not Available

ARUP JURURUNING SDN BHD
Website: http://www.arup.com.my/

ATZ CONSULT SDN BHD
Website: Not Available

BERAKAN JURUTERA PERUNDING SDN BHD
Website: Not Available

BW PERUNDING SDN BHD
Website: http://www.bwp.com.my/

C. H. Chua Perunding
Website: Not Available

CBS JURUTERA KONSULTANT SDN BHD
Website: Not Available

CEMAS KONSULTANT SDN BHD
Website: Not Available

CORPORATED INTERNATIONAL CONSULTANTS
Website: Not Available

NEWSFLASH

P. Ganendra Scholarship

The Association of Consulting Engineers Malaysia (ACEM) invites qualified applicants for education sponsorship to pursue an undergraduate course in engineering at a local university recognized by the Board of Engineers, Malaysia.

Read more...

Malaysia’s Green Building Index

Malaysia’s Green Building Index was introduced on 3 January 2009 at the Green Design Forum organized by the Pertubuhan Akitek Malaysia (PAM). A preview of the Green Building Index for Non-residential and Residential buildings were presented by Dr. Chen Thiam Leong and Ar. Chan Seong Aun respectively. These presentations are available for download at www.greenbuildingindex.org.

Read more...

ACEM Gold Award 2010

The ACEM Gold Award is a...
Global Experiences is the world’s leading provider of high quality customized international internship programs abroad, including summer 2013 internships and fashion internships. There is no other organization in the world that matches interns with the best possible employers as well as Global Experiences.

Select Your Internship Destination
Searching for the right job placement (EAC Requirements)

- Must have hands-on engineering work, related to field of study at university.
- Workplace to have a qualified engineer to supervise engineering ‘trainees’.
- Students are not allowed to work in University research environment since it does not fulfill the Malaysian Engineering Accreditation Council (EAC) requirement. This is applicable for Sunway campus students and exchange students from Sunway campus in Clayton, Australia.
Resumes

• The most important document in jobsearch.
• Identifies who you are and how well qualified or experienced you are.
• Maximum two to three pages (at your level).
• Personal details, education background, work experiences, extra-curricular items, references.
• Learn the art or technique in writing a ‘stand-out’ Resume.
References / Recommendation letters

• A ‘good’ word from reputable persons will open many closed ‘doors’.
• Provide an ‘idea’ of your personality and character to potential employer.
• Always have a habit of collecting references (i.e. letters of recommendation) from employers or supervisors/superiors (past or present).
Campus Opportunities:

• Every year there are several career fairs on campus.

• Each department organizes its own events. Watch out for announcement of these events.
Monash Virtual Career and Internship Fair 2021

• Monash is planning to conduct virtual career and Internship fair this year.
• When the details become available, it will be broadcast to you.
Job training offer and acceptance

• Assuming a job offer is given after terms and conditions have been discussed and agreed upon, such as:
  – Salary, allowances, working hours & days, medical & insurance coverage, reporting supervisor…etc.

• Students are required to do these:
  – Ensure job duties given are of engineering nature and relevant to scope of university studies.
  – Finish industrial training enrollment though Moodle
  – Submit an Industrial Training Acceptance Form through Moodle
Presenting yourself well – in appearance

- Depending on job area or scope, dressing is very important.
- As a general guide:
  - No jeans (at least on first day of work).
  - A good pair of shoes is very important.
  - Put on a tie (for men), if it is the norm especially in office.
  - Dress smartly, not flashy.
  - No smoking, no chewing gum, no jeweler, no tattoos.
  - Safety attire in ‘dangerous’ job sites.
  - Good haircut, trimmed nails, personal hygiene, etc
  - **Good manners, be humble, willing to learn, and have a genuine enthusiasm in approach to work.**
Qualities most sought after by Employers / interviewers

From an **HR standpoint**, the most essential qualities of professionalism are listed below:

- **Interpersonal skills** (33.6%)
- **Appearance** (25.3%)
- **Communication skills** (24.9%)
- **Time management** (20.8%)
- **Confidence** (20.7%)
- **Ethical** (15.2%)
- **Work ethic** (14.2%)
- **Knowledgeable** (9.3%)

Are recent graduates lacking in professionalism?

Here is how Generation Y’s habits and lifestyle are conflicting with their Generation X employers:

• The obsession with technology is hindering recent hires and their ability to maintain a strong, qualified presence on the job. The study reported 83% of new hires excessively utilizing social media at work.

• Furthermore, 82% text at inappropriate times during the day.

• Lastly, the most common interview mistake of recent graduates is inappropriate attire at 40%

Source: http://comerecommended.com/2012/05/college-grads-lacking-professionalism-in-the-workplace-infographic/
Attendance at work place

- The 12-week work duration will be strictly observed by your attendance:
  - As recorded in duty roster, log book, or daily activity diary, time sheets, etc.
- Allowances are given for public holidays, and follow company’s working days and hours.
- Personal leave and other off days must be replaced accordingly.
- Medical leave has to be certified by company’s doctor and verified by company’s HR.
Personal **safety** at the workplace

- Always be on lookout for dangers at the work site, so as to avoid or to overcome them.
- Do as you are told and do not take unnecessary risks in the course of carrying out your job duty or even when you are off duty.

*If you don’t’ know, Please ask !!!!*
Confidentiality / Non-Disclosure

- Be sensitive to matters relating to:
  - Confidentiality
  - Non disclosure etc..

- Handling of sensitive Data and Information
  - Photo’s and Videos
  - Making Copies etc..

- Possession/Transmission of Confidential information
  - Liable for prosecution and action.
Implicit and Explicit Confidentiality

- Typical Statements of Confidentiality would read something like this:
  - This document contains proprietary and confidential information. The recipient of this document agrees not to duplicate, distribute or disclose any information contained herein without prior express written consent of …
  - Reproduction of, discussing or forwarding this to anyone
    > not directly related to this project is strictly forbidden.
    > to a Third Party is strictly forbidden.
What should you do at the workplace?

- Ask questions!!!
- Don’t just sit in office
- Talk to everyone, incl. operators
- Request tasks from supervisor
- Discussion
- Contribute ideas
- Be proactive
- Do work!!
Job/Observation/Opinion/ Evaluation

• Work/task/projects that you have performed under supervision of a qualified engineer.
• Observations/assessment of work practices at place of training in terms of efficiency, OSHE, Quality Management, HR practices and policies, systems, etc.
• Comments/opinions on staff working relationships, office culture and their effects on employee & company performance.
• Evaluation of your true performance and the value of training received towards the enhancement of your knowledge, studies and your own future career development.
Self Enrollment -2021

- Please go to Moodle site “Industrial training enrollment” Section.
- Fill out online enrollment form (Google form).
Online enrollment form

Industrial Training Enrolment Form 2018

Students must fill this form latest by 1 Dec 2018, otherwise their industrial training will not be passed.

*Required

What is your department? *
Choose

Please confirm your department: *
Choose

First Name: *
Your answer

Last Name *
Your answer

Student ID: *
During Training: personal notes

- **Mandatory to maintain a log book** during your industrial training. You may use it as a reference when writing the report and attach the Log Book with your report *(Template available on Moodle)*
  - Get your Log book signed by your supervisor on a WEEKLY basis

- **Should record down** your activities, experiences or lessons learnt regularly, i.e. on a daily or weekly basis, including tasks, case studies, small projects, etc. carried out during the training.
Report Writing

• Satisfactory completion of the vacation work/industrial training requirement will be determined on the basis of a formal Report
• About 3,000 words in the prescribed format.


Watch out for Workshop Pre and Post Industrial Training Report writing workshop announcements
Reporting Format

• *Contents*
• *Introduction*
• description of the employer’s business and its organization;
• outline of the projects in which you were involved;
• details of your own work (elaborate and attach supporting documents);
• critical assessment of the value of your vacation work experience;
• observations on management and labour relationship;
• observations of engineer-engineer and engineer-management relationships, etc;
• observations of the occupational health and safety practices
• *Conclusion*
• *List of References*
• *Appendix (e.g. Log Book, additional materials, etc.)*
Drafting and submission of final report

• All recorded notes used must be substantiated by supporting documents or evidence or cited references:
  – Design tables, charts, graphs, sketches, drawings, pictures, photographs, letters, instructions, course notes, websites visited, books, journals, newspapers, magazines, trade specifications, contracts, etc.
In the report, you also need include:

- **Log book**
- **Certificate for industrial training**
  - To be filled by student and certified by company’s HR, in final week of training.
- **Industrial training evaluation form**
  - To be filled by immediate supervisor or engineer in the final week of training.
- Acceptance of industrial training form & offer letter (in appendix)
- Reflections on PO achievement (in appendix)
- **Students are responsible to verify and confirm that all documents are properly filled and signed by relevant parties concerned.**
Reflections on PO achievement (in appendix)

• An evaluation of how PO’s were achieved.
• Reflections on the PO’s achievement.
• About a paragraph or two on the PO’s reflection e.g. Events leading to reflection, what, when, where and how the PO’s were achieved etc..

<table>
<thead>
<tr>
<th>Program Outcomes</th>
<th>Reflections</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO1 Apply knowledge of basic science and engineering fundamentals and achieve specialization in at least one engineering disciplining.</td>
<td>For each PO write a paragraph or two on how the PO was achieved. E.g. Events leading to reflection, what, when, where and how the PO's were achieved etc.</td>
</tr>
<tr>
<td>PO2 Identify, formulate, analyze and solve complex engineering problems;</td>
<td></td>
</tr>
<tr>
<td>PO3 Design solutions to complex engineering problems;</td>
<td></td>
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<tr>
<td>PO4 Analyze complex engineering problems and systems using research-based knowledge and methods;</td>
<td></td>
</tr>
<tr>
<td>PO5 Create, select and apply appropriate techniques, resources and modern engineering and IT tools to complex engineering activities with an understanding of their limitations;</td>
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</tr>
<tr>
<td>PO6 Access social, public health and safety, cultural and legal consequences of complex engineering solutions and relate them to the responsibilities of a professional engineer;</td>
<td></td>
</tr>
<tr>
<td>PO7 Demonstrate knowledge of and need for sustainable development and understand the environmental impacts of engineering solutions;</td>
<td></td>
</tr>
<tr>
<td>PO8 Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice;</td>
<td></td>
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<tr>
<td>PO9 Communicate effectively both in oral and written forms;</td>
<td></td>
</tr>
<tr>
<td>PO10 Function effectively as an individual and in multi-disciplinary and multi-cultural teams;</td>
<td></td>
</tr>
<tr>
<td>PO11 Recognize the need for independent and lifelong learning and possess the capacity to do so;</td>
<td></td>
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<tr>
<td>PO12 Manage an engineering project systematically;</td>
<td></td>
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</tbody>
</table>
Deadlines


• Submit industrial training report including log book **within 4 weeks** of completion. (late submission: deduct 5% marks)
Outcome of Report Evaluation

- **Satisfactory** (Meets requirements)
  - EAC requirements
  - Report submission requirements

- **Unsatisfactory** (Does not meet requirements)
  - EAC requirements
    > Redo training
  - Report submission requirements
    > Rewrite report
Visits by staff

- **Staff from your discipline will visit you during the training to obtain Feedback.**
  - Teaching Staff will:
    > Request to meet you and the supervisor on site to review progress and obtain feedback.
    > Check Log Book
    > Request a feedback form to be filled during the visit.

  > Your training may not be counted if you don’t get visited by academic staff.
Summary

– To complete **12 weeks** of **continuous** training - (ideal) in one job after completing **3rd year studies** and submit a **Report** on that work
– Mid-November to February
– The report has to be submitted to Moodle **within 4 weeks** upon completion of training.
Program Outcomes (POs) and Program Education Objectives (PEOs)

**PO1** Engineering Knowledge

**PO2** Problem Analysis

**PO3** Design/Development of Solutions

**PO4** Research-based Investigation

**PO5** Modern Tool Usage

**PO6** Engineer & Society

**PO7** Environment & Sustainability

**PO8** Professional Ethics

**PO9** Communication

**PO10** Individual & Teamwork

**PO11** Lifelong Learning

**PO12** Project Management & Finance

**PO1** Engineering Knowledge

**PO2** Problem Analysis

**PO3** Design/Development of Solutions

**PO4** Research-based Investigation

**PO5** Modern Tool Usage

**PO6** Engineer & Society

**PO7** Environment & Sustainability

**PO8** Professional Ethics

**PO9** Communication

**PO10** Individual & Teamwork

**PO11** Lifelong Learning

**PO12** Project Management & Finance

**PEO1:** competent engineers

**PEO2:** responsible and effective global citizens

**PEO3:** leaders in their chosen profession or society at large
General Studies Clusters

U3.1 Describe the religious diversity in Malaysia

U3.2 Comment on global challenges that are impacting the material and human development aspects of the country

U3.3 Make critical conclusions in the face of diverse national and global challenges

U2.1 Display social skills and responsibility

U2.2 Cultivate values, attitudes and professionalism

U2.3 Demonstrate communication, leadership and teamwork skills

U2.4 Develop the basic ability for scientific and problem solving skills

U2.5 Develop the ability for information management and lifelong learning skills

U2.6 Cultivate management and entrepreneurial skills

U4.1 Apply social skills and responsibility

U4.2 Apply values, attitudes and professionalism

U4.3 Apply communication leadership and teamwork skills

U4.4 Apply information management and lifelong learning skills

U4.5 Apply management and entrepreneurial skills
Example: Learning Outcomes Mapped to POs – ENG002/MPU 3410

- **PO11 Lifelong Learning**
  - LO1: Relate theoretical knowledge to engineering practice in the workplace.

- **PO9 Communication**
  - LO6: Exhibit the willingness and ability to engage in lifelong learning.
  - LO5: Apply communication and leadership skills and the ability to work in teams; demonstrate the ability to communicate engineering tasks to relevant parties and capable of writing a technical report.

- **PO10 Individual & Teamwork**
  - LO4: Show the ability to work independently as well as able to collaborate with colleagues on a common task effectively.

- **PO8 Professional Ethics**
  - LO3: Uphold engineering ethics and responsibilities as well as having the capability of carrying out engineering tasks given to an acceptable standards.

- **PO6 Engineer & Society**
  - LO2: Demonstrate acceptable engineering practice and follow health and safety rules of the company.

- **PO8 Professional Ethics**
Example: Learning Outcomes Mapped to GS Clusters – MEC4401

- **U4.1** Apply social skills and responsibility
- **U4.2** Apply values, attitudes and professionalism
- **U4.4** Apply information management and lifelong learning skills
- **U4.5** Apply management and entrepreneurial skills

1. **LO1**: Relate theoretical knowledge to engineering practice in workplace.
   - **U4.1**
2. **LO2**: Demonstrate acceptable engineering practice and follow health and safety rules of the company.
   - **U4.2**
3. **LO3**: Uphold engineering ethics and responsibilities as well as having the capability of carrying out engineering tasks given to an acceptable standards.
   - **U4.5**
4. **LO4**: Show the ability to work independently as well as able to collaborate with colleagues on a common task effectively.
   - **U4.4**
5. **LO5**: Apply communication and leadership skills and the ability to work in teams; demonstrate the ability to communicate engineering tasks to relevant parties and capable of writing a technical report.
   - **U4.4**
6. **LO6**: Exhibit the willingness and ability to engage in life-long learning.
   - **U4.4**
<table>
<thead>
<tr>
<th>No.</th>
<th>QUESTIONS</th>
<th>ANSWER</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>What is the duration of industrial training? Can we break this and undertake one part first and another part at a different time?</td>
<td>12 weeks. This needs to be undertaken continuously. This cannot be broken down in two or more parts such as 8 weeks at one time and 4 weeks another time.</td>
</tr>
<tr>
<td>2</td>
<td>If I take personal leaves during industrial training, do I need replace them?</td>
<td>Yes.</td>
</tr>
<tr>
<td>3</td>
<td>If I take medical leaves during industrial training, do I need replace them?</td>
<td>No, but medical leave has to be certified by company’s doctor and verified by company’s HR. And you need attached MC in your industrial training report.</td>
</tr>
<tr>
<td>4</td>
<td>Do I need to make replacement for my internship when my company shut down?</td>
<td>If the shut-down days are public holidays, you don't need make replacement. Otherwise, you need replace them.</td>
</tr>
<tr>
<td>5</td>
<td>My industrial training contract is longer than 12 weeks. Can I end it?</td>
<td>Yes, you are allowed to end your contract with your company, as long as BOTH of these two criteria are met: 1) you have completed 12 weeks of industrial training, and replaced any personal leaves 2) the company allows you to end your contract</td>
</tr>
<tr>
<td>6</td>
<td>My industrial training is 12 weeks, but will spill into the next semester. Can I skip classes?</td>
<td>Yes, you are allowed to miss classes, but only for the first week of the semester. You will also need to provide supporting evidence to your lecturers.</td>
</tr>
</tbody>
</table>
Thank You for Listening..