



Master of Professional Engineering

ENGG5217 Industrial Experience

Instructions for Students

1. Download the ENGG5217 Industrial Experience Requirements and Report Guidelines from the GSE website (<http://www.eng.usyd.edu.au/gse/current/index.shtml>). Read this document carefully as it contains important information and suggestions on how to find a placement.
2. Download the ENGG5217 Industrial Experience Form. You may use this form to request the Faculty's assistance in finding a placement. Return the form to the GSE and the Faculty will be in touch with you.
3. If you have been successful in finding your own placement, complete the Industrial Experience Form with the details of your placement. Have your placement supervisor sign the form to confirm you have been offered a placement. Alternatively, you may attach an email or letter as evidence that you have been offered a placement.
4. You must then have your placement approved by the Director of Postgraduate Studies in the School in which you are enrolled.
5. You must return your completed form to the GSE BEFORE you commence your placement in order to be covered by the University's insurance. If your form is incomplete in any way, you may not be covered.
6. You should keep a log for the duration of your placement as outlined in the Industrial Experience Requirements and Report Guidelines document. You should append your log to your Placement Report.
7. When you have completed your placement hours you should have your placement supervisor sign the Industrial Experience Certificate to indicate you have completed your placement satisfactorily. You should append your Certificate to your Report.
8. Write your report in accordance with the Guidelines. The report is due six weeks after the placement has been completed. Please submit your report the GSE, Room 111, Level 1, Engineering Link Building J13.



Master of Professional Engineering

ENGG5217 Industrial Experience

Industrial Experience Requirements and Report Guidelines

1. Industrial Experience Objectives and Requirements

Students must complete an industrial placement at an approved engineering organisation to satisfy the requirements of Engineers Australia for an accredited degree program. Accordingly, students must be exposed to professional engineering practice to enable them to develop an engineering approach and ethos, and to gain an appreciation of engineering ethics. The purpose of this is to facilitate entry into the profession and to develop the following generic attributes:

- I. ability to apply knowledge of basic science and engineering fundamentals
- II. ability to communicate effectively, not only with engineers but also with the community at large
- III. in-depth technical competence in at least one engineering discipline
- IV. ability to undertake problem identification, formulation and solution
- V. ability to utilise a systems approach to design and operational performance
- VI. ability to function effectively as an individual and in multi-disciplinary and multi-cultural teams, with the capacity to be a leader or manager as well as an effective team member
- VII. understanding of the social, cultural, global and environmental responsibilities of the professional engineer, and the need for sustainable development
- VIII. understanding of the principles of sustainable design and development
- IX. understanding of professional and ethical responsibilities and commitment to them, and
- X. expectation of the need to undertake lifelong learning, and the capacity to do so.

The duration of the industrial placement must be at least the equivalent of 12 weeks full-time (i.e. 420 hours). The industrial placement must involve technical work at a level commensurate with that of a graduate engineer. The objective is to utilise some aspects of your engineering education in a professional engineering environment.

Verification of work completed is by means of an Industrial Experience Certificate form which is available from the GSE website - www.eng.usyd.edu.au/gse/forms.shtml. An Industrial Experience Certificate must be included with the practical experience report.

2. Insurance

If you are employed in Australia for a period of practical work experience, your employer is legally responsible for the relevant insurance, including cover for Worker's Compensation.

If you undertake unpaid practical experience in Australia and you are not an employee or worker of the organisation for the purposes of Worker's Compensation legislation, the University provides insurance cover including public liability insurance, professional indemnity insurance and personal accident insurance. This insurance also covers students who have secured an approved placement in another country.

Details of the University insurance policies are given on the University website: http://www.usyd.edu.au/audit_risk/insurance/students/index.shtml.

3. Obtaining an Industrial Placement

You are personally responsible for ensuring that you complete the full period of practical work experience needed to obtain the Master of Professional Engineering.

You may obtain work experience (preferably through paid employment) in various ways:

- The University receives notices of employment through the Careers Centre, which may assist students in obtaining employment. Students should contact the Careers Centre for more information (<http://www.careers.usyd.edu.au/>).
- You may obtain employment by making direct contact with potential employers. This option is encouraged because employers appreciate students showing initiative. You are advised to make inquiries in writing and should attach a curriculum vitae or resume to the letter.
- You also have the option of obtaining unpaid work experience in a suitable professional engineering environment.

You must ensure that the industrial placement is appropriate for a graduate engineer. You should complete the Industrial Experience Form with the details of the placement and have your placement approved by the Postgraduate Studies Director in your School. You should return the completed Industrial Experience Form to the GSE (Level 1, Link Building) to be enrolled before commencing your placement otherwise you will not be covered by the University's insurance.

You may take leave at any time during the period of work experience, subject to agreement with the organisation, provided you are able to complete the stipulated period of training. If you are unable to complete the training over a vacation period, you should contact your placement supervisor to determine suitable arrangements for the completion of your placement. Please keep in mind that you are representing the Faculty and that you are responsible for

acting in an appropriate manner so that students who follow you may also benefit from a placement with the organisation.

4. Industrial Experience Report

To meet the degree requirements, you must submit a satisfactory written report on the Industrial Experience to the Manager of the Graduate School of Engineering & IT, Room 111, Level 1, Engineering Link Building J13.

The report should be not more than ten and no fewer than eight, single spaced, typewritten A4 pages. ***This is a professional document and should be written in a professional style.*** Reports that contain slang, colloquialisms or take a "chatty" approach are unacceptable.

4.1 Report Structure

The report length shall be a minimum of 6,000 words, plus Figures (diagrams, photos, plans, etc) and Appendices. All reports must have a cover page giving essential identification only (in this case, student's name and SID, the organisation's name and location, and the start and finish dates of the placement). Following the cover page, the report must include a Table of Contents giving the page number where each Section starts.

For the body of the report, as a guideline, the following headings and report structure are recommended:

1. *History and Management Structure*

Outline the development of the organisation from its inception to the present and the broad authority structure of the total organisation upwards from the student's position. (In private enterprise, show the structure right up to the shareholder level or equivalent; in the public sector, to the Minister responsible.) (1000 words approx.)

2. *The Organisation's Role*

This section should cover (a) what the organisation does and the nature of its market place (or service role); (b) the criteria the organisation considers important for success or competitiveness in that market place; (c) how the organisation's engineering work contributes to that success or competitiveness; and (d) the facilities, their layout and the methods/procedures/processes used to conduct the business. (2000 words approx.)

3. *Experience Gained*

Describe the work you did, giving specific details. Include your observations on people's behaviour and their responses to work situations, as well as special skills you acquired (either technical or interpersonal). (2000 words approx.)

Also attach an Industrial Placement Log as an Appendix to the main report (as described below).

4. *Appraisals, Criticisms and Suggestions*

Select 5 topics from the list below corresponding to the generic attributes specified by Engineers Australia and relate your work experience to a discussion of each topic.

- I. ability to apply knowledge of basic science and engineering fundamentals
- II. ability to communicate effectively, not only with engineers but also with the community at large
- III. in-depth technical competence in at least one engineering discipline
- IV. ability to undertake problem identification, formulation and solution
- V. ability to utilise a systems approach to design and operational performance
- VI. ability to function effectively as an individual and in multi-disciplinary and multi-cultural teams, with the capacity to be a leader or manager as well as an effective team member
- VII. understanding of the social, cultural, global and environmental responsibilities of the professional engineer, and the need for sustainable development
- VIII. understanding of the principles of sustainable design and development
- IX. understanding of professional and ethical responsibilities and commitment to them, and
- X. expectation of the need to undertake lifelong learning, and the capacity to do so

For each topic selected, give feedback on what was good or could be improved. Give your reasons and, where appropriate, offer suggestions for improvement. *Important Note:* appraisals, criticisms and suggestions are required – not just descriptions. (approx. 600 words per topic).

5. Conclusion

Give a brief outline (about 500 words approx.) of your opinion on the value of the experience, including any highlights and any aspects you found unsatisfactory or inadequate.

6. References

List all documents you have used which are publicly available, or which you expect the reader to be able to obtain. Private communications and confidential documents should not be included, however they should be mentioned in footnotes. Include any books and other technical references used (but not dictionaries and style books) and sufficient information (publisher, date etc.) for references to be identified and assessed. Please use a consistent standard format.

7. Appendices

The following must be given in appendices:

- I. An Industrial Experience Certificate signed by your placement supervisor
- II. An Industrial Experience Log
- III. Any other additional supporting documentation

The Industrial Experience Log must provide a summary of experience and insights gained from the projects in which the student was involved. It should be based on notes made by the student during the period of employment. Its main purpose is to provide a documented record of tasks performed and relevant observations. The log should be brief, an example is set out in Table 1.

Name of student		
Name of employer		
Project	Date	Description of work, observations, references to notes with more details
Project 1	Day 1	Notes.....
	Day 2	Notes
Project 2	Day 1	Notes
	Day 2	Notes

Table 1: Example of setting out a log.

4.2 Assessment

Reports will be assessed on both content and presentation. The content must be at least equivalent to that recommended above. Discussions must be informative and insightful. The report must be free of grammatical and spelling errors. The writing style must be clear and succinct.

You may find much of the information required (especially for Sections 1 and 2) is available in the form of company publications. If you use these, they must be referenced. Note that the material in them is rarely in suitable form for inclusion directly into your report, and will require considerable reorganisation and/or summarising. Copying or direct paraphrasing of blocks of material from such publications is plagiarism and is not acceptable. Please see the document "Plagiarism: Policy and Procedure" (www.eng.usyd.edu.au/gse/current/index.shtml).

To compile the report properly, you will need to make appropriate enquiries during the period of work experience. All sources of information (either documentary or personal) must be identified. Material from an unreferenced source will be ignored in assessment.

You are encouraged to make liberal use of Figures such as diagrams, photos, tables, etc but they must be relevant. All should be described as Figures and numbered consecutively. If an essential figure is too large to be included within the text (e.g. a plan or a pamphlet), append it to the report, and indicate this in the text. Original figures by the author will be assessed on both content and standard of workmanship. Those produced by others must have their source acknowledged and will be assessed on their relevance (i.e. it is the author's selection which will be assessed). It may be desirable to redraw figures if they are poorly produced or contain extraneous information.

The whole report should be carefully planned to include all relevant information without "padding". In assessment, attention will be given to the way information is organised and to the clarity with which it is expressed.



Faculty of Engineering and Information Technologies
NSW 2006 AUSTRALIA

Master of Professional Engineering Industrial Experience

SECTION A: Student Details

Family Name:	Given Names:	Title: Ms / Mrs / Miss / Mr / Dr <i>(please circle)</i>
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Address:

Suburb:	State:	Post Code:
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Home/Business Phone No(s):	Mobile:
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Email:	Student ID number:
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Student status: *(please tick)* **Domestic** **International**

School *(please circle)*: **AMME** | **CBE** | **CIVIL** | **EIE**

Stream *(if applicable)*:

I require the assistance of the Faculty in organising an industrial placement for me:

I have organised an industrial placement and the details appear below:

SECTION B: Organisation Details

Name of Organisation:

Address:

Suburb:	State:	Post Code:
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Country *(if outside Australia)*:

Placement Supervisor

Family Name:	Given Names:	Title: Ms / Mrs / Miss / Mr / Dr <i>(please circle)</i>
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Position:	Phone No.:
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Email:

SECTION C: Placement Details

Mode (please circle): Full Time (12 weeks) | Part Time (24 weeks)

Start Date:

Finish Date:

Position:

Brief Description of duties:

Placement Supervisor has been provided with insurance details (please circle) : Yes | No

http://www.usyd.edu.au/audit_risk/insurance/students/index.shtml.

Student's Signature:

Date:

Placement Supervisor's Signature:

Date:

SECTION D: School Approval

APPROVED / NOT APPROVED (please circle)

Comments:

DIRECTOR, POSTGRADUATE STUDIES

Signature:

Date:

GSE Use Only

GSE office: Signature:

Date:



Faculty of Engineering and Information Technologies
NSW 2006 AUSTRALIA

Master of Professional Engineering Industrial Experience Certificate

SECTION A: Student Details

Family Name:	Given Names:	Title: Ms / Mrs / Miss / Mr / Dr (please circle)
Address:		
Suburb:	State:	Post Code:
Home/Business Phone No(s):	Mobile:	
Email:	Student ID number:	
Student status (please tick): <input type="checkbox"/> Domestic <input type="checkbox"/> International		
School (please circle): AMME CBE CIVIL EIE		
Stream (if applicable):		

SECTION B: Organisation Details

Name of Organisation:		
Address:		
Suburb:	State:	Post Code:
Country (if outside Australia):		

SECTION C: Placement Details

Start Date:	Finish Date:
Position:	

Placement Supervisor

Family Name:	Given Names:	Title: Ms / Mrs / Miss / Mr / Dr (please circle)
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Position:	Phone No.:
Email:	
Supervisor's comments: <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	
Satisfactory Completion of placement Supervisor's Signature: _____ Date: _____	
SECTION D: GSE use only	
GSE office: <input type="checkbox"/> Signature: _____	Date: _____

Organisation's stamp (if available):