FACULTY OF SCIENCE AND ENGINEERING
CURTIN ENGINEERING
B.Tech(CSN) students
Exposure to Professional Engineering Practice

LOGBOOK (WHITE)

Student Name: _____

Student Number: _____

Version 2017-1

Exposure to Professional Engineering Practice

To be eligible to graduate with a Bachelor of Technology degree from Curtin University, you need to accumulate 320 hours of suitable exposure to professional engineering practice (EPEP). This requirement has previously been called "work experience" or "vacation work", and you'll no doubt continue to hear these terms.

Curtin Engineering has adopted the EPEP requirement because it has been strongly advocated by Engineers Australia (EA). EA is the professional society that accredits engineering courses in Australia as being academically suitable for recognition at the Technologist level. Please refer to EA's website for more information: www.engineersaustralia.org.au.

An extract from the EA guidelines relating to EPEP is reproduced at the back of this Logbook. Please read it to familiarise yourself with the rationale behind the requirement.

> *It's your responsibility to ensure that you meet the requirement of 320 hours of exposure to professional engineering practice before applying to graduate*.

Curtin doesn't arrange the experience for you, although we can assist you with finding suitable opportunities.

> *Even in your first semester, you can get started on gaining exposure to professional practice! Get involved in clubs and societies on and off campus. Volunteer or seek a part-time job. Attend technical presentations and site visits. They can count towards your EPEP and enhance your understanding of engineering at the same time.*

This Logbook

This Logbook is the official record of your EPEP activities. Each entry is to be completed by you, together with appropriate documentation. You need to submit the Logbook for approval at the end of your course in support of your application to graduate.

Please contact your school for any requirements specific to your discipline.

What Activities Contribute to Your EPEP?

In past years, the ideal EPEP would be gained within an organisation that employs technologists under whose supervision you would do work similar to that done by a graduate. One or more summer vacations arranged in this way would fulfil the "work experience" requirement.

It was recognised, however, that this kind of "traditional" work experience could not always be obtained. Moreover, it was realised that a broader mix of activities could give students a greater insight into engineering and technology. Consequently, Curtin, in conjunction with EA, developed a categorisation matrix to handle a range of activities and experiences. This matrix had different weightings and caps on the hours that could be claimed under each category, with more weight being given to activities more representative of the workplace. This Logbook (Version 2019-1) represents a further significant revision of Curtin's approach to EPEP. It expands the range of activities that can be claimed, but also requires a greater level of reflection about them.

A mixture of experiences—paid and unpaid, technical and non technical, Australian and international—is allowed and encouraged. The activities you can claim for EPEP include:

- Attending technical sessions and tours run by EA, ACS, IEEE and similar professional engineering organisations
- Volunteer activities that develop leadership and other professional skills
- Work as a technician or operator
- A non-technical part-time job in a non-technical company

The EPEP categories, their weighting factors, limits, requirements for evidence and reporting are given in the *EPEP Categories* table on pages 4 and 5. Please study this table carefully. If you have any doubt about the suitability or categorisation of a proposed activity, please contact your school.

The WIL Office

Placement Approvals and Insurance
WIL stands for "Work Integrated Learning". It's a term that covers a wide range of approaches for integrating the practice of work into a person's studies. SAE Work Integrated Learning is a part of the Faculty Student Engagement Team and support students with:

- Legislative compliance – to ensure that student activities meet the *Fair Work Act 2009* and includes reviewing activities to provide insurance for unpaid placements (insurance is not provided by default)
- Assisting students with risk assessments (FWPRI) and travel approval (TOP) prior to undertaking the activity
- Recording your activity on the WIL database to ensure you have been properly briefed before starting your placement activities

For more information please visit the WIL website at curtin.edu/sae-engage and click more info under the "*Fieldwork, placement and industry project portal*" tab.

Opportunities for Students
The WIL Office maintains a closed workgroup on UniHub for all students in the Faculty of Science and Engineering, this allows out partners to post opportunities directly to faculty students through a self-service portal online. A special section is devoted to facilitating these opportunities on the Engagement Website at curtin.edu/sae-engage

Information for employers and host organisations
Please direct employers and host organisations to our website, where they will be able to find more information at curtin.edu/sae-engage

EPEP Categories

Cat. Name [1]	Description [2,3]	Weight	Cat. Limit [4]	Evidence needed	Reflection needed
ENG	Engineering/related technical experience • Demonstrating engagement with a professional, but not necessarily as the direct supervisor • Typical of work done by a graduate, but with allowance for the student's year level • Does not have to be in the student's discipline area	1.0	No limit	Confirmation letter + logbook entry	Reflective report of 350–500 words per 40 hours of experience pro rata [5]
TECH	Technical or scientific experience that contributes to the development of EA competencies, but does not fulfil all the conditions for professional engineering experience • Technical or scientific skills must be developed • Please check with your school if you wish to claim experience in this category	0.75	75%	Confirmation letter + logbook entry	Reflective report of 350–500 words per 60 hours of experience pro rata [5]
GEN	Non-technical experience obtained in a non-engineering environment, but which contributes to the development of EA competencies	0.25	25%	Confirmation letter or payroll summary showing hours + logbook entry	Short-form 200-word reflective report per job or role
PRES [1]	Professional society technical presentation or tour • Organised by a professional body (EA, ACS, SPE, IEEE, etc.) or organised by a student association with the approval of your school • Not working "on site" as part of vacation work or a job • Typically 1–2 hours per event; travel time is excluded	3.0	max. 50% with min. of 12 wtd h[1]	Certificate of attendance or signature and details of organiser + logbook entry	Short-form 200-word reflective report per event

Cat. Name [1]	Description [2,3]	Weight	Cat. Limit [4]	Evidence needed	Reflection needed
PROF	Training courses and activities that develop technical or professional skills relevant to the EA competencies • Please check with your school about the applicability of the course or activity, the number of hours that can be claimed as that may be different to number of hours spent, and for the evidence needed for activities that do not have a certificate of completion • Examples: Mine Rescue Training; participating in Toastmasters; developing leadership skills though captaining, coaching or umpiring a sporting team; contributing to engineering clubs / societies	1.0	25%	Certificate of completion or confirmation letter + logbook entry	Short-form 200-word reflective report per course or role
PRI	Prior experience • Students will normally complete their EPEP while studying Engineering at Curtin, but, in special cases, experience, similar to ENG above, gained within 10 years of starting the degree may be considered • Assessed case-by-case: please contact your school well before course completion	1.0	100%	Confirmation letter + logbook entry	Reflective report of 350–500 words per 40 hours of experience pro rata [5]

Notes

1. All students must accumulate at least 12 weighted hours in the PRES category, which would typically correspond to four technical events.

2. The experiences and activities can be paid or unpaid, fulltime or part-time, overseas or local, done in a continuous block or intermittently; except for the PRI category, they have to be done while studying at Curtin.

3. If you're not sure how to categorise your activities, or would like confirmation, please contact your school's logbook approver.

4. Each category, except ENG, has an upper limit on the number of weighted hours (wtd h) that can be claimed. For example, if you accumulate 400 hours in a part-time job unrelated to engineering (GEN category) then you could claim 400×0.25 = 100 wtd h. However, if you worked 800 hours in that job, you could claim only 95 wtd h, as the category is limited to 25% of the total EPEP. Even if you got a GEN-type job in another company, you could claim only 95 wtd h in total under GEN.

5. What does "pro rata" mean for the reflective reports? For ENG, for example, 350 to 500 words (about one page) is needed per 40 hours of accumulated experience. It doesn't matter how you accumulate the hours, whether it is working a standard week or a few intensive FIFO swings over the summer vacation or one day per week part-time throughout the year. If you accumulate 200 ENG hours, you need to write (350 to 500) × 200 / 40 = 1750 to 2500 words in total.

Filling in the Logbook

While the details of your experiences will be in short-form or longer reflective reports, you need to categorise and summarise them in the *Log of Exposure to Professional Engineering Practice* table on pages 10 to 19 of this Logbook. Please note that if you do, say, an 8-week block of vacation work, or are working one day per week over the year in the same company, then you need fill in only one row of the Logbook for the entire experience, *not one row per week*. Please see below some guidance about filling in each column of the Log.

Column	Information required
Date(s)	The date, or range of dates, covering the experience
Organisation and Location	The company or organisation name and the location
Activities Performed	A brief description of the nature of the activity or experience; e.g.: • *Attended CSBP site visit* • *Assisting customers, answering phone, restocking shelves* • *Engineering vacation work detailed in Report*
EPEP Category	One of the categories (ENG, TECH, PRES, etc.) chosen from the table on pages 4 and 5. Please check with your school if you are unsure which category would apply.
Actual Hours	The actual number of hours spent on the activity or placement, or the allowable number of hours for PROF activities
Weighting Factor	The Weight corresponding to the EPEP category of the activity as read from the table on pages 4 and 5
Weighted Hours	The Actual Hours multiplied by the Weighting Factor
Evidence Provided	A short description of the evidence that supports your claim; e.g.: • *Confirmation letter from Woodside* • *Engineers Australia Certificate of Attendance* • *Payroll system printout* • *J. Lee, Maintenance Engineer, CSBP* (Signature and details of organiser of a site visit for which no attendance certificate is available)
Approval by Curtin	Leave this blank. It will be signed off by your school when you present your evidence and report. Please check with your school about whether you should get approvals as you go or at the end.

The last step is completing the *Summary of Exposure to Professional Engineering Practice* table on page 20.

Confirmation Letter for ENG, TECH and PRI Experiences

To claim hours for ENG and TECH activities, you need to obtain from your employer or host organisation a letter that:

- Is on company letterhead paper
- States the starting and ending dates of your employment or placement
- States the total number of hours worked
- Confirms that your reflective report has been read and is accurate

To claim PRI experience, the same letter should be provided, but please contact your school if this is not feasible.

Reflective Report for ENG, TECH, GENE and PRI Experiences

Each ENG, TECH, GENE and PRI placement must be summarised in a reflective report that you submit for approval. The report needs to cover three facets of your experience: (1) some context about the working environment, (2) a description of the activities you undertook and (3) a reflection on those aspects of professional engineering practice that you observed and experienced. The required length of the report depends on the relevant EPEP category and is given in the table on pages 4 and 5. More guidance on the report is provided in a separate document *Writing your Reflective Report for the EPEP Logbook*, which is available from your school.

Short-form Reflective Report for GEN, PRES and PROF Activities

For shorter and "less-engineering" experiences, a 200-word, short-form reflection is needed. It should be done using the Word template available from your school. The template contains brief instructions and allows you to indicate the EA Stage 1 Competencies that apply to the activity.

Locating EPEP Opportunities and Support for Job Applications

Aside from www.facebook.com/wilatcurtin, please note the following:

- Your school's informational Blackboard page may post discipline-specific vacation work, internship and study abroad opportunities

- Register with Curtin Careers, Employment & Leadership's jobs board, UniHub: unihub.curtin.edu.au

- Curtin Careers, Employment & Leadership has webpages with
    - Links and information on work experience placements, part-time and casual work, vacation work and internships: life.curtin.edu.au/careers/gaining-experience.htm
    - Support for job applications (cover letters, resumes, selection criteria, psychometric testing, interviews and assessment centres): life.curtin.edu.au/careers/job-application-support.htm

- Engineers Australia's events page listing technical presentations and site visits: www.engineersaustralia.org.au/Conferences-And-Events
    - Set the search filter to WA
    - Most events would fall under the PRES category
    - Student EA membership may be required, you must register for the event and a certificate of attendance can be generated for evidence

Students with Disabilities and Medical Conditions

If you have a medical condition or a disability that you believe may affect your participation in fieldwork, Curtin can assist you to negotiate adjustments in the workplace to accommodate your requirements. Please contact Disability Services via disabilityservices@curtin.edu.au or (08) 9266 7850.

Getting the Most out of Your EPEP Opportunities

Here's some advice to help you get the most out of your EPEP activities as you progress through your course:

- The earlier you start, the better off you'll be. Don't think EFY is too soon. Don't leave it until final year.

- Accumulating EPEP experiences as you go can help you with your studies. Adopt an inquiring attitude: look for the engineering in everyday life, and try to link your observations back to your studies.

- Aim to get a mixture of activities across the EPEP categories over the duration of your course. Graduate employers generally look favourably on volunteering and community involvement. Attending technical presentations run by EA and other technical organisations demonstrates a commitment to the profession, and can help you establish a professional network.

- Set your own "EPEP Learning Outcomes."

- For longer-term experiences, pause after the first week. How is it going? Is it what you expected? If you think things are not heading in a good direction then take some action.

- If you find yourself doing the same thing each day or each week in a placement then try to get some variety. Ask your manager:
  - Can I learn about _____?
  - Can I spend 1 hour / ½ day / a shift / a few days with _____?
  - Can I interview _

  Set yourself the goal of learning something new each week.

- After you have completed an activity or a placement, it's good to pause and reflect: what did I learn from that experience?
  - Technically?
  - About professional skills, like teamwork or communication?
  - About people?

Log of Exposure to Professional Engineering Practice

Date(s)	Organisation and Location	Activities Performed	EPEP Category (ENG, TECH, GEN, etc.)

Actual Hours	Weighting Factor	Weighted Hours	Evidence Provided	Approval by Curtin

Log of Exposure to Professional Engineering Practice

Date(s)	Organisation and Location	Activities Performed	EPEP Category (ENG, TECH, GEN, etc.)

(Table continued from facing page)

Actual Hours	Weighting Factor	Weighted Hours	Evidence Provided	Approval by Curtin

Log of Exposure to Professional Engineering Practice

Date(s)	Organisation and Location	Activities Performed	EPEP Category (ENG, TECH, GEN, etc.)

Actual Hours	Weighting Factor	Weighted Hours	Evidence Provided	Approval by Curtin

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Date(s)	Organisation and Location	Activities Performed	EPEP Category (ENG, TECH, GEN, etc.)

Actual Hours	Weighting Factor	Weighted Hours	Evidence Provided	Approval by Curtin

Log of Exposure to Professional Engineering Practice

Date(s)	Organisation and Location	Activities Performed	EPEP Category (ENG, TECH, GEN, etc.)

(Table continued from facing page)

Actual Hours	Weighting Factor	Weighted Hours	Evidence Provided	Approval by Curtin

Summary of Exposure to Professional Engineering Practice

Please fill in this table when you have completed all your experience

EPEP Category	Total Actual Hours	Weighting Factor	Maximum Number of Hours	Total Weighted Hours for Category
ENG		1.0	No limit	
TECH		0.75	75% or 240 hours	
GENE		0.5	50% or 160 hours	
GEN		0.25	25% or 80 hours	
PRES		3.0	50% or 160 hours	
PROF		1.0	25% or 80 hours	
PRI		1.0	100% or 320 hours	
Total Weighted Hours				

Office Use Only	
Minimum of 320 total weighted hours	
Minimum of 12 weighted hours of PRES	
Logbook approved for graduation	

3.2.5. Exposure to Professional Practice

Exposure to professional engineering practice is a key element in differentiating a an engineering degree from an applied science degree. Although the status of Chartered Professional Engineer requires a substantial period of experiential formation in industry after graduation, it is clearly unsatisfactory for the student's perceptions of engineering to develop, over the first four critical years, in complete isolation from the realities of practice. There is obvious benefit in ensuring that at least an element of professional formation is interwoven with the academic curriculum, to provide a balanced perspective and relate academic preparation to career expectations.

Professional practice exposure must be considered as an integral learning activity within the educational design process and make a significant and deliberate contribution to the delivery of educational outcomes. The objectives associated with each major episode of exposure need to be clearly understood by all constituencies and documented as a formal learning activity within a designated academic unit. There must be defined contributions from these activities to the specific learning outcomes of academic units and in turn to the educational outcomes of the program as a whole.

There should be a formalised tracking, monitoring and assessment of the learning outcomes associated with professional practice exposure. This may for example be through a journal or portfolio system where students record and reflect on their experiences against the targeted graduate capabilities set for the program.

Professional engineering practice exposure must include some of the following:
- use of staff with industry experience,
- practical experience in an engineering environment outside the teaching establishment,
- mandatory exposure to lectures on professional ethics and conduct,
- use of guest presenters,
- industry visits and inspections,
- an industry based final year project,
- industry research for feasibility studies,
- study of industry policies, processes, practices and benchmarks,
- interviewing engineering professionals,
- industry based investigatory assignments,
- direct industry input of data and advice to problem solving, projects and evaluation tasks,
- electronic links with practising professionals, and
- case studies.

It is considered that there is no real substitute for first-hand experience in an engineering-practice environment, outside the educational institution. Engineers Australia strongly advocates that all engineering schools include a minimum of 12 weeks of such experience (or a satisfactory alternative) as a requirement for the granting of qualifications, in addition to the other elements suggested, and make strenuous effort to assist all students to gain placements of suitable quality. However it is recognised that this may not always be possible.

The requirement for accreditation is that programs incorporate a mix of the above elements, and others – perhaps offering a variety of opportunities to different students – to a total that can reasonably be seen as equivalent to at least 8 weeks of full time exposure to professional practice in terms of the learning outcomes provided. In the same way as for other modes of learning, submitted documentation must explain how the various dimensions of professional practice exposure contribute to the overall educational design.