FACULTY OF
ENGINEERING &
BUILT ENVIRONMENT
THE UNIVERSITY OF NEWCASTLE, AUSTRALIA

Work Integrated Learning under TEQSA and Fair Work Australia

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Acknowledgements

Australian Council of Engineering Deans

&

Assistant Deans Teaching and Learning – Australian Engineering Schools

The Engineering Economy

Australia graduates ≈ 6000 engineers pa

Australia imports ≈ 6000 engineers pa

U.Newcastle - Graduate employment rate >90%

Work Integrated Learning
One term, many meanings

Work Integrate Learning is an umbrella terms that covers a myriad of activities across higher education

Practicums – Highly targeted learning outcome

Health & Teaching

Exposure to Professional Practice – More general but 'curriculum connected and reflective'

General WIL – Not explicitly linked to program learning outcomes.

Simulations, Industry problems, Site visits, Industrial seminars.

Work Integrated Learning
One term, many meanings

WIL opportunities at Newcastle for Generalist degrees - ↑ ↑ ↑ since 2010

Engineering, Teaching, 'Health' – very long history of activity.

Engineering placements dominated by SME. Reflecting changes in business environment.

Exposure to Professional Practice

In Australian engineering education, 12 weeks of exposure to professional practice (or equivalent), are required by all Universities prior to student graduation → demonstration of Stage 1 competency

EPP links to curriculum in terms of exposing students to contemporary practice.

Engineers Australia ‘Stage 1’

COMPETENCY STANDARD FOR PROFESSIONAL ENGINEER

Irrespective of Program learning outcomes, Accreditation is dependant upon demonstrating preparedness towards ‘Stage 1’

Stage 1 defines 3 broad domains

KNOWLEDGE AND SKILL BASE **Know Stuff**

ENGINEERING APPLICATION ABILITY **Able to do Stuff**

PROFESSIONAL AND PERSONAL ATTRIBUTES ***EPP - Value add***

Engineers Australia ‘Stage 1’

Each Domain is broken down to ‘competencies’

16 competencies in total

PROFESSIONAL AND PERSONAL ATTRIBUTES becomes

a. **Ethical** conduct and professional accountability.
b. **Effective** oral and written communication in professional and lay dor
c. **Creative**, innovative and pro-active demeanour.
d. **Professional** use and management of information.
e. **Orderly** management of self, and professional conduct.
f. **Effective** team membership and team leadership.

Engineers Australia ‘Stage 1’

Each competencies is further broken into ‘indicators of attainment’

PROFESSIONAL AND PERSONAL ATTRIBUTES

Ethical conduct and professional accountability.

a)	**Demonstrates** commitment to uphold the Engineers Australia - Code of Ethics, and established norms of professional conduct pertinent to the engineering discipline.
b)	**Understands** the need for ‘due-diligence’ in certification, compliance and risk management processes.
c)	**Understands** the accountabilities of the professional engineer and the broader engineering team for the safety of other people and for protection of the environment.
d)	**Is aware of** the fundamental principles of intellectual property rights and protection.

Changing Economic Landscape

Mining boom ≈ 100% paid EPP, through early recruitment #

Many '3rd' year students in paid PT employed

Post Mining downturn <<100% paid = increase in Unpaid EPP

Confusion with FWA = decline in unpaid EPP opportunities

these students are in an employer/employee relationship, and whilst likely recognised through RPL as meeting the '12 weeks', fall outside of the scope of the TEQSA WIL Guideline and FW obligations of the Universities.

Exposure to Professional Practice

July 2014, an informal audit was conducted to determine what experiences students and Universities were utilising towards the '12 weeks'

This was partially in response to growing difficulties with students acquiring placements as a result of economic downturns and concern from local SME's about reported interpretations of the Fair Work Act.

Student graduations were becoming impacted!

December AAEE2014, national meeting of the engineering assistant deans T&L, a working party was formed to investigate the range of activates, and to consider the impact of Fair Work on Unpaid Placements.

Exposure to Professional Practice – National Project outline

Through out 2015 & 2016 a review of current practice was undertaken across a number of tertiary sites.

The implications of Fair Work assessed

An exemplar Learning Journey developed, inc learning outcomes

In August 2016 the TEQSA Draft WIL guidelines were released

Review of current (2015) practice in engineering “EPP”

Review of practice -

Revealed moderate variability in activities that could be claimed, and how these activities aggregated towards degree completion.

***Activities* – Working as a Trades Assistant, Leading University Teams, Periods of non-engineering employment**

***Recorded as:* Milestone or Course ?**

Approximately 1/3 of Engineering programs use a Program Milestone.

The balance of program use ‘for credit’ or ‘0 credit’ courses.

Review of current (2015) practice in engineering “EPP”

Milestones

Program Milestone – Requires students to complete the prior to graduation.

Advantages - Periods of EPP can span the duration of the students study, helping to ground curriculum in practice

Risk – Student might circumvent pre-placement processes

Disadvantage – Can become ‘the last thing’ for graduation

Review of current (2015) practice in engineering “EPP”

Course

‘for credit’ or ‘0 credit’ courses – Perhaps as an interpretation of FWA ?, perhaps systems limitation and/or University insurance requirement.

Advantage – students must enrol to receive credit for experience gained. Limits students on un-approved placements.

Disadvantage – Potentially constrains EPP to narrow windows, and larger blocks – limiting students ‘field of professional view’

Vocational Training and Fair Work

FWA rightly restricts ‘exploitation’ for Australian Workers

Provides appropriate relaxation for unpaid professional experience as part of an education program. Irrespective if that experience is core, elective, or a milestone – <u>if completion is required for graduation</u>, it is OK.

The FWA document ‘FWOFS30.00’ Provides details and cites and an appropriate engineering example

FWA & Engineering

There is no imposed restrictions around this placement.

Universities cannot knowingly allow > then the scheduled volume of unpaid experience.

Eg. Knowing that Jayne has completed 8 weeks EPP prior, 'we' cannot approve Jayne to complete a further 7 week placement.

Example 2

Jayne is in her final year of a mechanical engineering degree and has completed her formal class studies. As a requirement to graduate, Jayne has to organise professional engineering work experience at a business for 12 weeks.

While Jayne has to organise the placement herself, the University has strict criteria about needing to assess an employer to ensure her vocational placement provides the relevant learning environment, and gives final sign-off on the placement.

As this arrangement meets the definition of a vocational placement under the FW Act, it can be unpaid.

If the business decides to get Jayne to sign an employment contract and pay her wages for her work, it may turn the placement into an employment relationship. If an employment relationship is created, Jayne is entitled to at least the legal minimum rate of pay for the type of work she is performing.

TEQSA WIL Guideline

August 2016, TEQSA released a Draft Guidance note for WIL.

At a very high level the WIL Guidance note stipulates that Universities be able to demonstrate that they know –

- **Where the students are**
- **Why the students are there**
- **That the students are safe**
- **That the students know why they are there**
- **That the providers know why the students are there**

The ACED EPP team provided feedback to TEQSA on the Draft release.

TEQSA WIL Guideline

- **Where the students are**
  - Safety – Virus outbreak, natural disaster, student welfare etc
- **Why the students are there**
  - Do ‘we’ know why a student is on placement. Is there a pedagogical rational for students to be ‘taking WIL’. Is the placement integrated into students learning journey and of benefit to their career progression.
- **That the students are safe**
  - Students are not being exploited, or used for tasks that do not add value to their education. ie not performing menial tasks
- **That the students know why they are there**
  - To maximise their intended learning outcome
- **That the providers know why the students are there**
  - So they know how to guide the students educational growth.

TEQSA WIL Guideline

Compliance with FWA is overlaid with TEQSA requirements.

An ‘At Risk’ example for a single 12 week placement. At the 6-week point the student is asked to get the host company to fill in a status report form, and no feedback is provided to student or host.

- A single mid-point status check over a 12-week program may not be enough to support and assure the student’s learning.
- There is no mechanism to ensure the integrity of the host evaluation, or to provide feedback to the student.

Example 2

Jayne is in her final year of a mechanical engineering degree and has completed her formal class studies. As a requirement to graduate, Jayne has to organise professional engineering work experience at a business for 12 weeks.

While Jayne has to organise the placement herself, the University has strict criteria about needing to assess an employer to ensure her vocational placement provides the relevant learning environment, and gives final sign-off on the placement.

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- **EPP Learning Outcome –**
  IE 'Why are the students there' & 'do the students know why'

REFLECTION AREA	Exposure to Professional Practice
COMPETENCY ELEMENT	POTENTIAL INDICATORS OF ATTAINMENT
Exposure to an industrial/technical environment in order to appreciate the various activities associated with engineering in industry	Routine of work ethic (position redundancy, adhering to times)
	Professionalism – integrity, honesty, respect, confidentiality
	Appreciate the dynamics of professional practice
	Practice the ability to communicate with experts and laypeople both within, and external to the enterprise.
	Relevance of curriculum as an underpinning skill in professional life
	Appreciation of responsibility and influence (don't say something when you should, do say something when you shouldn't
Observe and undertake tasks in practical aspects of investigation, design and construction of engineering works as a complement to theoretical studies	Role of engineers as supporting social function.
	Appreciation that every engineering discipline spans a breadth of knowledge beyond the specific curriculum and specific employment
	Appreciate that a team of people are often required to complete any project
Gain confidence in your capacity to take up positions that require responsibility, motivation, decision making and communication over other people in the market place	

Student Learning Journey Exemplar

REFLECTION AREA	Exposure to Professional Practice
COMPETENCY ELEMENT	POTENTIAL INDICATORS OF ATTAINMENT
Exposure to an industrial/technical environment in order to appreciate the various activities associated with engineering in industry	Routine of work ethic (position redundancy, adhering to times)
	Professionalism – integrity, honesty, respect, confidentiality
	Appreciation of dynamism of professional practice
	The necessity and ability to communicate with experts and laypeople both within, and external to the enterprise
	Relevance of curriculum as an underpinning skill in professional life
	Appreciation of responsibility and influence
Observe and undertake tasks in practical aspects of investigation, design and construction of engineering works as a complement to theoretical studies	Role of engineers as supporting social function.
	Appreciation that every engineering discipline spans a breadth of knowledge beyond the specific curriculum and specific employment
	Appreciate that a team of people are often required to complete any project
Gain confidence in your capacity to take up positions that require responsibility, motivation, decision making and communication over other people in the market place	
REFLECTION AREA	**Professional and Personal Attributes**
COMPETENCY ELEMENT	POTENTIAL INDICATORS OF ATTAINMENT
3.1 Ethical conduct and professional accountability	a) Demonstrates commitment to uphold the Engineers Australia - Code of Ethics, and b) Understands the need for 'due-diligence' in certification, compliance and risk management c) Understands the accountabilities of the professional engineer and the broader engineering d) Is aware of the fundamental principles of intellectual property rights and protection
3.2 Effective oral and written communication in professional and lay domains.	a) Is proficient in listening, speaking, reading and writing English, including: - comprehending critically and fairly the viewpoints of others; - expressing information effectively and succinctly, issuing instruction, engaging in - representing an engineering position, or the engineering profession at large to the - appreciating the impact of body language, personal behaviour and other non-verbal b) Prepares high quality engineering documents such as progress and project reports, reports
3.3 Creative, innovative and pro-active demeanour.	a) Applies creative approaches to identify and develop alternative concepts, solutions and procedures, appropriately challenges engineering practices from technical and non-technical b) Seeks out new developments in the engineering discipline and specialisations and applies fundamental knowledge and systematic processes to evaluate and report potential. c) Is aware of broader fields of science, engineering, technology and commerce from which new ideas and interfaces may be map drawn and readily engages with professionals from these

Linkage between EA Stage 1 and EPP

REFLECTION AREA	Exposure to Professional Practice	Date of Entry MM/YY : Reason of Entry (Seminar, s
COMPETENCY ELEMENT	POTENTIAL INDICATORS OF ATTAINMENT	Self reflection : How am I meeting these at this point in my degree
Exposure to an industrial/technical environment in order to appreciate the various activities associated with engineering in industry	Routine of work ethic (position redundancy, adhering to times) Professionalism – integrity, honesty, respect, confidentiality Appreciate the dynamics of professional practice Practice the ability to communicate with experts and laypeople both within, and external to the enterprise Relevance of curriculum as an underpinning skill in professional life Appreciation of responsibility and influence (don't say something when you should, do say something when you shouldn't	Prepopulate a number of these as examples: *EG Atended a site visit to XXXX Engineering. Enabled better understanding of …..*
Observe and undertake tasks in practical aspects of investigation, design and construction of engineering works as a complement to theoretical studies	Role of engineers as supporting social function. Appreciation that every engineering discipline spans a breadth of knowledge beyond the specific curriculum and specific employment Appreciate that a team of people are often required to complete any project	
to take up positions that require responsibility, motivation, decision making and communication over other people in the market place		

REFLECTION AREA	Professional and Personal Attributes	Date of Entry MM/YY
COMPETENCY ELEMENT	POTENTIAL INDICATORS OF ATTAINMENT	Self reflection : How am I meeting these at this point in my degree
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3.2 Effective oral and written communication in professional and lay domains.	a) Is proficient in listening, speaking, reading and writing English, including: - comprehending critically and fairly the viewpoints of others; - expressing information effectively and succinctly, issuing instruction, engaging in discussion, - representing an engineering position, or the engineering profession at large to the broader - appreciating the impact of body language, personal behaviour and other non-verbal b) Prepares high quality engineering documents such as progress and project reports, reports of	
3.3 Creative, innovative and pro-active demeanour.	a) Applies creative approaches to identify and develop alternative concepts, solutions and b) Seeks out new developments in the engineering discipline and specialisations and applies fundamental knowledge and systematic processes to evaluate and report potential. c) Is aware of broader fields of science, engineering, technology and commerce from which new	
3.4 Professional use and management of information.	a) Is proficient in locating and utilising information – including accessing, systematically searching, analysing, evaluating and referencing relevant published works and data; is proficient in the use of b) Critically assesses the accuracy, reliability and authenticity of information. c) Is aware of common document identification, tracking and control procedures.	
3.5 Orderly management of self, and	a) Demonstrates commitment to critical self-review and performance evaluation against b) Understands the importance of being a member of a professional and intellectual community. c) Demonstrates commitment to life-long learning and professional development.	

Conclusions

Through this project –

- **Developed a set of EPP learning outcomes**
- **Aligned these with Engineers Australia Stage 1**
  - **Created an exemplar ‘Learning Journey’**
- **Confirmed EPP compliance with FWA**

Provided feedback to TEQSA on the WIL Guideline document

Worked with Placement software providers to customise a package traditionally aligned with health and education, to better meet engineering needs