Bachelor of Civil Engineering

ENGG4000 Practical Experience (also ENGG5217)

You may find the practical experience to be the most valuable unit in your degree: it throws light on many of the professional skills you have been studying, and gives you a richer perspective for engagement in your final year of study.

In brief summary, you need to complete 60 full work days in a workplace where engineering work is performed, and with access to the guidance of a qualified engineer. During that time you must engage in some degree of Civil Engineering design and/or logistics.

Practical experience is also an opportunity for you to “sample” a work environment, before you make a more permanent career decision.

At the same time, companies may use practical experience to “try out” students in the hope that the student might prove to be a productive employment prospect. Many students find their first engineering job through the Practical Experience.

Basic Information

ENGG4000 Practical Experience is a Faculty subject. It is your responsibility to secure your own position and complete the administrative requirements to the satisfaction of Faculty.

When to do the 60 days: The normal plan should be to take your Work Placement as a block in your last summer break before your final year. However some students complete it during or even after the last year.

When to enrol in ENGG4000: Regardless of when you actually do the Work Placement, you should enrol in ENGG4000 in the first semester of your final year. Your enrolment in ENGG4000 is only a place-marker which we use to record your completion of the requirements. It does not coincide with the period of the Work Placement. We will hold the subject as “incomplete” until you meet the requirements.

Where to get information, including forms: Information about ENGG4000 is in the faculty web page for ENGG4000 and CUSP.

How to complete the administrative requirements: The way you complete the administrative requirements is through the ENGG4000 site in BlackBoard. Go to the tab for “eCommunities” and select BEng - Engineering Practice (ENGG4000 and ENGG5217).

Step by Step

1. First read all the information available in the faculty web page for ENGG4000.
2. Download the Practical Experience Proposal Form and complete your details. Take this with you to any interviews and if successful get the employer to complete their section before you leave.
3. Submit your proposal through BlackBoard for approval.
4. Download the forms for your final report:
   a. Site Induction and Safety Procedures Form: this has sections which need to be completed by your employer during your placement.
   b. Graduate Outcomes Table: this is completed by you after your placement.
c. **Practical Experience Certificate** this has sections which must be completed by the employer at the end of your placement, verifying that you have completed the work.

5. Complete your placement, keeping a record of things required for your final report.

6. After the placement (within 30 days), submit your 6,000 word Engineering Practise Report, following the guidelines in the Faculty ENGG4000 page.

**Approval**

Currently approval of work placement in Civil is done by Prof Airey. The requirements for approval are:

- You must have completed 36cp of senior units (3000, 4000 or 5000) prior to commencing the placement. For combined degree students this may include some non-civil units but it is very important that you have already studied significant concepts in Civil so that you can relate your work to advanced Civil concepts.
- The work must involve some work on an engineering project, and you must be exposed to the Civil engineering design process.
- You must have access to an engineer for guidance at times.
- The employer must complete and sign their section of the approval form.

If you do not meet these criteria you will not be approved. In circumstances where students are experiencing difficulties completing the work placement some flexibility might be exercised. Only Prof Airey is authorised to make decisions about his.

Retrospective approval is possible but you shouldn't be planning to do things this way, as you could end up being disappointed and/or not fully prepared to complete your final report. Although the advice on the web site is that you should wait for approval before starting, sometimes this isn't practical.

**Alternative pathways**

Alternative pathways are provided only for students who genuinely cannot complete the full 12 weeks work placement.

You must complete 12 “points” in order to complete the requirements, and this is most simply done by 12 weeks actual work placement, 1 point for each 35-hour week.

Because some students in the past have had trouble finding a position for the full 12 weeks, we have allowed a few other activities to help contribute to the points, such as conference attendance, industry based courses or site visits. These activities are a poor substitute for the real thing and no student should be planning to minimise real work experience by exploiting these additional activities.

**Summer practical experience program:** The view of the Civil School is that real work placement is much more valuable than this program. This program is meant to simulate a real engineering office (ie a virtual office) working on campus.

**Tips for finding a position.**

“How do I find a position?” I have been asked this question many times.

There are almost as many answers as there are students and positions. There is no fixed rule, but if you are having trouble finding a position it pays to put yourself in many situations as possible where something might come your way.
They won’t tell you this directly, but every company that puts a student on is wondering about the long term prospects. Work Placement is a low-risk way of them getting an idea of the quality of graduates from an institution.

Some positions with the larger companies have a very formal application process, with more than one round of culling. These are difficult to land but could lead to high-end careers in the long term. In some large companies you may have a limited exposure to all facets of engineering over the 12 weeks, unless they have an active rotation plan.

With small- to medium-sized companies you might have a broader experience and the process can often be much less formal.

Tips:

1. **Network**: right from the start of your degree get involved with any kind of Civil Engineers in whatever way you can. Look for opportunities to go to events and presentations involving industry reps. Make friends with older students.

2. **Cold Contact**: There are many small engineering companies in your local area. If you make a simple and sincere approach you could end up with something. A face-to-face meeting is preferred to email. A phone contact could be considered if you have a professional phone voice with good English. For a face-to-face meeting dress well, be friendly and enthusiastic but polite, get to the point quickly. Tell them what you want, and what you hope to bring into the company for the 12 week period. If they say they will think about it hand them a document which explains these things and has your contact details.

3. **Friends, Relatives, Acquaintances**: Does anyone know an engineer? Sometimes they can put you on, even if they work for a big company. Ask around.

4. **Faculty of Engineering Discussion Board**: we get quite a few companies asking us to advertise positions for them, and we put all these in the discussion page. You are strongly recommended to subscribe for finding out about employment opportunities and engineering events.

   Job postings: Subscribe to the discussion groups to get emails about jobs and other opportunities for engineering (BlackBoard, eCommunities, Faculty of Engineering and Information Technologies, Discussions, “Job vacancies & scholarship opportunities for current students”, SUBSCRIBE).

5. **Search on the internet for internships**: Internet job searching at the moment is perhaps the least common way of securing a position.

**FAQ:**

1. Can I do any work experience before my final year?

Yes, but it might not count towards the requirement of ENGG4000 (see above). It is always a useful to have real engineering experience at any stage of your studies: if fact any work experience is beneficial: students with any work experience tend to have a more mature attitude to their studies. However if it isn’t approved you will not be covered by the University insurance policy. (If the company are paying you they should have you covered by their own insurance policy). Also, please don’t apply for jobs which stipulate “final year graduates” if you are in second year. This just wastes everyone’s time. Your turn will come.

2. What is the job situation like?

The Civil Engineering job market is very strong in Sydney and around Australia, with a lot of infrastructure projects happening. There is a shortage of geotech engineers.

3. Should I expect to be paid?
No. The scheme is designed for non-paid work placement. However many companies will agree to pay you.

4. The company is asking for some information from the university?

Please provide them with this link or download and print off the page to give to them:

5. What if things go wrong during the placement?

If you have a personal issue with someone else at the company it’s probably a good opportunity for you to develop your coping mechanisms, and try to complete the full 12 weeks and learn some work-place skills while you are there. Sometimes it’s better to be pragmatic rather than correct. If you can’t complete the 12 weeks you will have to find an additional position to complete the remaining time.

6. How do I make the placement work in my favour?

• For a start, be a can-do person. Don’t consider yourself too good for any job. Look at what needs to be done: some things are very obvious, don’t wait all day for someone to tell you what to do. If you are placed in a small company, have you thought about who does all the little jobs like cleaning the coffee area, emptying the garbage bins, sweeping the floor and cleaning the toilets? It’s probably the boss who does it after everyone else goes home. If you do the boss’s menial jobs for him he will immediately realise that you understand how the company operates and how to maximise the earning potential of the most valuable resources. Next thing you know the boss will be inviting you to his next client meeting.
• Be cheerful, but naturally not plastic.
• Ask if you can chair a meeting.
• The company’s bottom line is that they have to make money: try to learn how they do this effectively, what activities are the most profitable and what activities are not profitable.

7. I have a foreign sounding name, or am an International Student, or have poor English, will I be less likely to get a position?

I can’t speak for every business, but there are two ideas about this which have been expressed:

Companies are not doing this for charity: they don’t want someone who is going to be difficult to work with because of language or other barriers, or because of personality problems. Because the process in many cases is quite informal they might often go with the safest and obvious decision, which might be choosing something they themselves are familiar with or someone who has been recommended. If you believe you have a barrier in this way, one long-term strategy it is to become more culturally aware during your undergraduate years. Another is to network. For a particular placement often a personal contact can overcome any reservations the employer may have.

The other idea is that in general companies are finding that they cannot afford to arbitrarily discriminate based on anything other than ability and work performance. They need to find good talent and if they make arbitrary discrimination decisions they limit the available pool of talent. This is particularly true for female graduates.

Put yourself in the shoes of the employer: they could be getting 5 emails a week from “perfectly qualified” people looking for jobs: these may be people from overseas trying to get residency, and in many cases there are doubts about the qualifications they claim to have. The employer may be in the habit of discarding emails like this. To overcome this you have to make sure they know you are genuine, talented and hard-working. A personal contact and a genuine covering letter are the best ways to do this.
8. Can I do my work placement overseas?

Yes. The same rules apply as for local placements.

9. What if the company offers me an ongoing position but insists that I work full time rather than go back to uni full-time?

This often sounds like the opportunity “too good to pass-up”. Be careful of any employer who doesn’t care about your own welfare. The most important thing is that you get your degree and arm yourself with the qualifications which will carry you through your entire career. By undermining your qualifications the company has control over you: they know that no other company will employ you. Job happiness comes primarily from working with good people, and not so much from the actual work you do. You will see the difference when you have a boss who looks after you and builds up your personal skills, who can identify your skills and weaknesses and can help craft a career for you. Also be careful of a company that wants you to work in a non-engineering role.

If the position is a good one and the employer is genuine you should be able to make a compromise which will enable you to complete your degree in a reasonable time.

Don’t be fooled into thinking it is the only opportunity you are going to get. The market is strong and something just as good or better will pop-up at the right time.

10. How can I tell if the offer and company are authentic? Are students sometimes exploited by companies?

It is extremely rare for some kind of scam to operate around Work Placement. Because it is often a casual arrangement you might find that you are dealing with one individual in an informal way, and this might arouse your suspicions. Many students feel so desperate to get a position that they become vulnerable to being exploited, particularly foreign students. A few things to be wary of:

- Be suspicious of anything that seems “too good to be true”.
- If a person tells you “you have the job” by email (with no interview) and then asks for your bank account details, it’s a scam.
- Make sure you have visited the premises (street address) the company operates from.
- The company should have a valid web page with a web address www.companyname.com.au with accompanying email addresses. They should also have an ABN.
- If in doubt ask someone with more life experience what they think.
- Ask the person for recommendations from any customers or clients concerning their work.
- There are many foreign owned and operated construction companies riding the Sydney residential boom, and many students from the same country of origin feel this is their only chance. Sometimes they end up doing menial work such as labouring or record-keeping and get pressured by the company to abandon their studies. This has happened because during the past 3 years the student has not developed their own independence while in Australia. The more you open yourself to Australian ways and culture the less vulnerable you will be to exploitation.

Personalised letter of introduction

It is best to write a genuine letter of introduction explicitly setting out what you are looking for, and what you intend to offer the company. This should be personalised for each company and care must be taken with specific company facts: they will judge your attention to detail.
immediately if you get anything wrong. As said before, it is best to meet someone personally and hand this to them.

You should include what the requirements are for you to complete your work placement, and what their obligation is. You should start with companies which are doing work which you have an interest in and express your interest with a fraction of enthusiasm, referring to projects you know they are working on.

You might like to attach another page (or better still print on the back) which is a very brief CV. Companies value any evidence of sustained work commitment, even if it has been with a fast-food outlet. They are concerned that you should be a normal, easy-to-get-on-with person so it can help to include some personal interests. There is usually no need to include a transcript, but if you have a credit or distinction average you can mention it. References and further information can be “available on request”.

Sample Covering Letter – do not simply copy this and use it: otherwise you will break the first rule which is to be genuine. Note the sincerity in this letter and use it to inspire your own sincerity for the placement you are applying for.

Dear Ms Employer

I am writing to hopefully secure a 12 week work placement with Turbo Engineers Inc for the period Dec 2016 to Feb 2017. This is a requirement for the completion of my BE(Civil)/BComm degree at Sydney University.

I believe this placement will provide me with important skills and experience and add value to my Civil Engineering studies, and will make me a more attractive employment prospect in general. Being involved in Turbo Engineers’ community infrastructure projects is a tremendous opportunity for me to develop my passion for improving better human outcomes and quality of life through responsible and creative engineering design and management.

In return I intend to provide you with productive output and contribute in some way to your company’s strategic goals. I intend to do this by the application of both my Business and Civil Engineering studies, and by applying the work ethics of persistence and reliability which I have demonstrated in my 5 year’s employment experience with McDonalds (where I have earned a consistent reputation of exceeding customers’ and managers’ expectations).

Any placement would be eagerly appreciated, however my particular interests are in client satisfaction through cost-effectiveness and evaluation of lasting monetary and societal worth over the life-time of the infrastructure.

I would be delighted if you could kindly find a moment to read my attached resume and consider a possible placement position for me, and I am looking forward to meeting you (or your representative) in person as this application progresses to the next stage.

With kind regards,

Mary Smith

Email communication

Always be formal in every email correspondence: do not communicate as if you are texting, shooting off different ideas in following emails and using “hey” as an introduction: this annoys people. Do not send the email until after you have walked away, done something different, and come back to re-read it.