

# CIVIL ENGINEERING

FACULTY OF HEALTH, ENGINEERING AND SCIENCE



## LAURA MCKENZIE

I am currently working at Aurecon (formerly Connell Wagner) and am involved every day in exciting engineering challenges. Since commencing work in 2008 I have been predominantly involved in large scale infrastructure projects in Melbourne and have also had some involvement in projects run interstate and overseas. Some tasks that my role as a design engineer involve are designing, undertaking inspections, site supervision, and management of contractors.

On each job I work within a project team including other engineers as well as builders, architects, drafters, project managers, and many more.

During my year 12, I applied to Victoria University to study Bachelor of Engineering (Civil), and was accepted to start the following year which I did. I really enjoyed my time at Victoria University and found the staff more than just teachers; they were my mentors as well. My course has provided me with a sound base of technical knowledge which I am now applying every day and expanding on by working in the industry.

There are also practical components included in the course which helped build my understanding of engineering principals — and they were a lot of fun.

Studying at Victoria University was a highly rewarding and fulfilling experience for me, and it has presented me with many exciting career opportunities. In the future I hope to become a Project Manager and coordinate engineering and construction projects.

## HOW DO I APPLY?

Applications should be made through VTAC:  
40 Park Street, South Melbourne, 3205  
Phone: 03 9690 7977 Web: [www.vtac.edu.au](http://www.vtac.edu.au)

## CONTACT US

### FACULTY OF HEALTH, ENGINEERING AND SCIENCE

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OR

### FACULTY OF HEALTH, ENGINEERING AND SCIENCE

STUDENT ADMINISTRATION  
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OR

VISIT THE WEBSITE  
[WWW.VU.EDU.AU](http://WWW.VU.EDU.AU)

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This publication is an information document for future students of Victoria University, every reasonable effort has been made to ensure that the information in this document is accurate, however it may be subject to change. July 2009. 10089.7.09.



# BACHELOR OF ENGINEERING IN CIVIL ENGINEERING

COURSE CODE: EBCC  
VTAC CODE: 40951

## WHAT IS CIVIL ENGINEERING? COURSE AIM

Civil Engineering is a broad-based discipline involving the planning, design, construction and management of a wide range of essential community infrastructure, including commercial and industrial buildings, water supply and wastewater systems, irrigation, drainage and flood protection systems, bridges, roads and transportation systems, and port harbour and airport facilities.

Civil Engineering is one of the oldest technical professions providing the infrastructure necessary for societies to develop. Now in the 21st century the profession is as important as ever, as communities and governments demand well engineered, well maintained and effective facilities. The course is fully accredited by Engineers Australia enabling graduates to become professional engineers.

There are two major streams in structural and water engineering running through the course, complemented by minor streams in geomechanics and transportation engineering. Environmental and management issues are covered in specific subjects but also more broadly the issue of sustainability is incorporated into a range of other subjects throughout the course.

## WHERE DO I STUDY?

This course is located at the Footscray Park Campus

## WHAT'S IN IT FOR ME?

When you graduate, you will be able to pursue careers in a variety of fields including structural engineering, building and construction management, water resource and hydraulic engineering, road and traffic engineering, mining and resource development, geotechnical engineering and technical computing services.

Past graduates have typically found employment in local government, statutory government or semi-government authorities and private industries in consulting and contracting engineering. Their work may vary from planning and design to operations and construction and invariably involve dealing with people from all walks of life.

## HOW DOES IT WORK?

The Civil Engineering course is offered over 4 years on a full time basis of 20 hours class contact per week. Students are also expected to allow adequate time for private study. It is not realistic to expect to be able to complete the course on a part time basis although it may be possible to complete a particular year of study part time.

The course philosophy is based on a recognition of society's need for well rounded engineers who not only have sound technical and communication skills but also a good appreciation of the environmental, economic, social and political environment in which they must operate.

The course is founded on a solid base of science and engineering fundamentals in the first two years, with emphasis then being given in years three and four to applied discipline-specific topics, design and project work. Substantial emphasis is given in a range of subjects to professionalism, ethics and community responsibility, team assignments, broad problem solving and communications skills, and the concepts of sustainability and sustainable engineering practices. A focus on local engineering examples, experiential learning and site visits, together with significant input from external industry-based lecturers, provides students with exposure to real world problems and is considered a motivational cornerstone of the course.

### FIRST YEAR SEMESTER ONE

Engineering Profession  
Experimentation and Computing  
Engineering Physics 1A  
Engineering Mathematics 1A

### FIRST YEAR SEMESTER TWO

Introduction to Design  
Solid Mechanics 1  
Engineering Physics 1C  
Engineering Mathematics 1B

### SECOND YEAR SEMESTER ONE

Surveying  
Solid Mechanics 2  
Thermofluids 1  
Engineering Materials

### SECOND YEAR SEMESTER TWO

Highway Engineering  
Building Materials and Construction  
Hydraulics  
Engineering Design

### THIRD YEAR SEMESTER ONE

Geomechanics  
Structural Analysis  
Hydrology & Water Resources  
Civil Engineering Design 1

### THIRD YEAR SEMESTER TWO

Geotechnical Engineering  
Structural Design  
Hydraulic Engineering  
Engineering Management

### FOURTH YEAR SEMESTER ONE

Engineering Project 1  
Transportation Engineering  
Environmental Engineering 1  
Engineering Project Management  
Structural Engineering Design 1

### FOURTH YEAR SEMESTER TWO

Engineering Project 2  
Environmental Planning & Design  
Environmental Engineering 2  
Civil Engineering Design 2  
Structural Engineering Design 2

## PROBLEM BASED LEARNING (PBL)

In 2006, Problem Based Learning (PBL) was formally introduced into the course. PBL creates the opportunity for students' to form a holistic consideration of problems which are not only technical in nature but also exercise the students generic skills and encourages students to become independent learners, and self reflective about professional communication processes and practices. In this mode of subject delivery, students will drive their learning by working in small teams guided by an academic staff mentor.

## ADMISSION REQUIREMENTS

You need to have successfully completed the VCE including a study score of at least 22 in english, and either Mathematical Methods or Specialist Mathematics at Unit 3 and 4 level.

You should apply under the University's alternative categories of entry, including continuing difficulties during schooling, Aboriginal and Torres Strait Islanders or mature age (over 21)

Future students should refer to the VTAC Guide for specific closing dates.

## PATHWAYS

Pathways give students the opportunity to progress to another level of study and to receive maximum credit transfer for study already taken.

If you have completed a TAFE Associate Diploma/Diploma in Civil Engineering or a Diploma in Engineering, and were accepted into the Civil Engineering course, you can expect to be given credit for equivalent subjects passed.

## ALTERNATIVE ENTRY

Bachelor of Engineering VTAC Code 41441 Alternative entry program for students who have:

- successfully completed year 12 with the required prerequisites, but may not have achieved the required study score in all prerequisites, or
- have not studied the required mathematics prerequisite.

All admissions are on an individual basis.

Prerequisites: Units 3 and 4 – English (any) and Mathematics (any).

Extra Requirements: Applicants accepted may be required to attend an appropriate summer bridging program or enrol in one or more subjects from the Foundation Year or undertake part or all of an appropriate TAFE program.

## FOUNDATION YEAR

This is a one year full-time course for students whose VCE results or subjects were not satisfactory to gain entry into a science or engineering course, or for those who want to return to study. Subjects covered are biology, chemistry, English language and communication skills, information technology, mathematics and physics. Mathematics and English subjects are compulsory but an English test may exempt some students from English. Successful completion of appropriate subjects will guarantee students entry to our Engineering & Science courses. Applications must be made direct to Victoria University, not through VTAC.

## INDUSTRIAL EXPERIENCE

To apply for the award of a degree in Civil Engineering, you must ensure that you have submitted for approval evidence of having undertaken 12 weeks industrial experience relevant to the course to satisfy Engineers Australia requirements.

## INTERNATIONAL STUDENTS

For specific information relating to courses available, entry requirements and application procedures for international students, please visit [www.vu.edu.au/international](http://www.vu.edu.au/international) for an updated list of courses offered to international students or contact Victoria University International (VUI) on +61 3 9919 1164.

## EXCHANGE PROGRAMS

Victoria University has exchange agreements with universities in many countries, such as the U.S.A, Canada, Mexico, United Kingdom, and many European and Asian countries.

For those students who do wish to study abroad there is the opportunity to experience living in a different culture and environment, and to develop self-responsibility and reliance skills. Many students achieve improved results in their remaining studies after returning home, having developed a clearer perception of their future career with a stronger determination to succeed.