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. April 2009. 2719.04.09.
# Bachelor of Engineering in Electrical and Electronic Engineering

**VU Course Code:** EBEE (4 Year Course)  
**VTAC Code:** 40781  
**CRICOS No:** 002860F

## Why Choose VU?
- VU works with major employers in Victoria.  
- VU is the only university in Victoria which allows students to learn through Problem Based Learning throughout all study year levels of the course.  
- A majority of our teaching staff have had extensive industrial experience adding to the realistic and practical nature of the student learning experience.  
- VU has one of the best teacher to student ratios in Australian Universities.  
- Our graduates practical knowledge and ability to make an immediate and effective contribution in a professional engineering position is well regarded by employers.  
- 25% of learning at VU is directed towards learning in the Workplace and Community (LiWC) adding to the practical nature of our graduates.

## What is PBL?
Problem Based Learning — students form small teams and work together on real-life industry and community problems. This real-world learning begins from the first semester of first year, so you’re applying theory to practice all the way through your study.

With training like this, VU engineering graduates are not only technically skilled, but great team players with hands-on experience and excellent communication skills.

## What is an Engineer?
Electrical and Electronic Engineers: —  
- Are responsible for electricity generation and distribution  
- Design complex electronic equipment  
- Manage large industrial manufacturing plant  
- Research and develop new energy sources  
- Design and manage our communications infrastructure including telephones, radio, TV and the internet

## Why Choose This Course? Employment Opportunities
Students can specialize and find employment with a range of industries:

### 1. Communications Engineering
- Design and manage systems that communicate through: optical fibres, satellites, mobile phones and the Internet.  
- Design equipment to entertain through: radio, television and multimedia.

### 2. Power Engineering
- Responsible for generating electricity and distributing it to power our homes and industry.  
- The development of renewable energy sources and co-generation schemes  
- The design and management of industrial machines and electrical locomotives

### 3. Microelectronics Engineering
- A group of technologies that integrate multiple devices onto a small silicon chip as found in computers or mobile phone.  
- Microelectronics also enables other sciences such as medicine to advance.

## Course Structure

<table>
<thead>
<tr>
<th>YEAR</th>
<th>SEM</th>
<th>Enabling Sciences 1A</th>
<th>Electrical Fundamentals 1A</th>
<th>Engineering Design and Practice 1A</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Enabling Sciences 1B</td>
<td>Electrical Fundamentals 1B</td>
<td>Engineering Design and Practice 1B</td>
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<tr>
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<td>2</td>
<td>Linear Systems and Mathematics 2A</td>
<td>Systems and Applications 2C</td>
<td>Engineering Design and Practice 2A</td>
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<tr>
<td></td>
<td>2</td>
<td>Systems and Mathematics 2A</td>
<td>Systems and Applications 2D</td>
<td>Engineering Design and Practice 2B</td>
</tr>
</tbody>
</table>

### YEAR 3

- **Sem 1**  
  - Analog Electronics  
  - Embedded Computer System Design  
  - Introduction to Control Systems  
  - Stream Specialist Unit 1  
  - Engineering Design and Practice 3A

- **Sem 2**  
  - Photonics  
  - Introduction to Computer Networks  
  - Introduction to Electrical Machines  
  - Stream Specialist Unit 2  
  - Engineering Design and Practice 3B

### YEAR 4

- **Sem 1**  
  - Electives  
  - Stream Specialist Unit 3  
  - Stream Specialist Unit 4  
  - Engineering Design 4A  
  - Professional Practice 4A

- **Sem 2**  
  - Electives  
  - Stream Specialist Unit 5  
  - Stream Specialist Unit 6  
  - Engineering Design 4B  
  - Professional Practice 4B

## Pathways
TAFE students may articulate into the degree program. Students who have completed a TAFE Advanced Diploma in a related discipline will be granted up to 96 CP (credit points) of exemption, which is equivalent to 1 year of full time study.

## 4. Embedded Systems
Design and build microprocessor based controllers for intelligent equipment and machines such as automobile engine management systems, internet modems and routers, robotic controllers through to everyday consumer goods such as smart washing machines, microwave ovens and electronic game consoles.