



Specialist Postgraduate Coursework Programs

LA TROBE UNIVERSITY
 AUSTRALIA

Five good reasons to study Biomedical, Microelectronics and Mobile Computing at La Trobe University

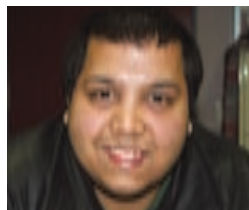
1. La Trobe University has been ranked within the top 100 universities in the world.* It has also been ranked within the top 10 universities in Australia* and top three universities in Victoria.*
2. Integrated practical components in every year level provide hands-on experience of knowledge gained in lectures and development of essential practical skills designed by industry.
3. We have well equipped computer and electronics laboratories with excellent technical support. Most laboratories are open for 24 hours per day and 7 days a week.
4. A range of industry-sponsored project opportunities are available to students, which enable further development highly desirable workplace skills, such as leadership, communication and interpersonal skills.
5. With a strong research background, La Trobe University provides quality research opportunities for students interested in extending their masters studies into a PhD.

*Times Higher Education Supplement IVK, 2005. *Melbourne Institute of Applied Economics and Social Research (2005). *The Jiao Long Study Survey (2005)

Master of Biomedical Engineering

The principal objective of this unique, two year Master of Biomedical Engineering program is to cover the major aspects of biomedical technology and to produce engineers with the necessary skills and practical experience to satisfy the requirements in this rapidly expanding industry. The major role of a professional biomedical engineering in the workforce is to act as an agent for change through development of technically sound, economically viable and socially acceptable solutions to new and complex technical problems in the health care sector, both in acute hospital settings

and in the wider provision of health care to the community. Graduates are expected to be well prepared to find employment in biomedical entities around the world.



"In 2004 I completed my Masters degree in Electronic Engineering with a specialisation in Biomedical Engineering and was offered a scholarship to undertake a PhD in neuroscience about the development of auditory brainstem implants at a world class laboratory, setup at La Trobe University's School of Psychological Sciences. The main

focus of my research is to analyse time related mechanisms of sound processing within the brain. The ultimate aim of this project is to develop stimulation strategies for an electrical-brain interface to restore functional hearing in patients with profound hearing loss who cannot benefit from the use of a cochlear implant."

Mohit Shivdasani - PhD, La Trobe University

Master of Microelectronic Engineering

Microelectronics is the key enabling technology driving next generation applications across a diverse range of industries such as automotive, biotechnology and biomedical equipment, computer and information technology, consumer electronics and home entertainment, defence

and security, telecommunications and wireless systems.

The microelectronic engineer, with their specialist knowledge and skills in the design and application of integrated circuits and systems, is at the forefront of bringing next generation devices and products to realisation.

The Master of Microelectronic Engineering program addresses all aspects from high level specification of microelectronic systems, through implementation alternatives, to realisation of integrated circuits. An important feature of the course is the opportunity it provides for the students to work on realistic designs using industry standard tools and development platforms.



The best aspects about the Master of Microelectronic Engineering program are the resources and collaborations between the Department of Electronic Engineering and key industry partners which led me to Industry Sponsored Projects. I had the unique opportunity of working on a year long project with the leading FPGA Research Group/manufacturer in the world (Xilinx Research Labs). I believe that the valuable course content along with its industry exposure has equipped me with an unparalleled skill set. I'm currently employed at La Trobe University aiding the development of Advanced Vision Based Automotive Safety Systems. This research is part of the AutoCRC and is focused on improving vehicle safety by delivering intelligent non-distracting information to drivers.

Arun Borgio - Research Associate,
La Trobe University

Master of Mobile and Pervasive Computing

Mobile and Pervasive Computing is a revolutionary paradigm for computing, where mobile device users (e.g., smartphone, Blackberry, pocketPC, etc) interact with devices embedded in the environment over a diversity of wireless networking technologies. We are beginning to witness a new world of ubiquitous mobile computing which connects people and services at all times regardless of their proximity or location with new virtual worlds.

The combined on-user and in-environment hardware, software, and networking capabilities lead to new applications in all walks of life from security, entertainment, education, business to healthcare, which are rapidly dominating the computing scene and which will increasingly pervade the day-to-day life of the future. Many businesses, government organisations, universities and industrial computing laboratories around the world are embracing this paradigm as the future of computing.

The Master of Mobile and Pervasive Computing has been designed to provide the conceptual foundations and in-depth understanding of areas such as wireless networking, embedded computing, smart spaces, and mobile applications. Graduates will gain skills and knowledge in investigating, creating, and studying current and future systems that are pervasively and unobtrusively embedded in the environment, completely connected, intuitive,

intelligently reactive, easily portable, and continually available. Major highlights of this course are:

- An integrative view and engineering principles for how mobile and pervasive computing systems can be constructed through integrating technologies.
- Practical experience projects that provide exposure to technologies and the way in which they are employed and deployed towards particular requirements.
- State-of-the-art perspectives on current industry technologies and industry trends in the mobile and pervasive computing area.
- Preparation for and critical thinking about creative uses of mobile and pervasive devices, in both emerging and growing economies, in diverse application areas.



My Bachelor of Engineering majoring in electronics and telecommunications from I.I.T, Kanpur, India gave me a valuable foundation in computer science. After completing my Masters degree in information technology with networking specialisation at La Trobe University, I not only enhanced my knowledge in advanced telecommunication concepts but acquired valuable knowledge in computer networks, wireless networks, mobile networks and software engineering. Recently, I joined the Computer Science Corporation (CSC) in Melbourne as a network engineer.

Anand Shukla - CSC, Australia

Contact

To find out more about Biomedical Engineering, Microelectronic Engineering and Mobile and Pervasive Computing please contact:

School of Engineering and Mathematical Sciences

La Trobe University
Victoria 3086 Australia
Telephone: +61 3 9479 1374
Facsimile: +61 3 9479 3060
Email: N.Lakshmanan@latrobe.edu.au
Web: www.latrobe.edu.au/sems

For application and admissions information, please contact

International Programs Office

La Trobe University
Victoria 3086 Australia
Telephone: +61 3 9627 4805
Facsimile: +61 3 9479 3660
Email: international@latrobe.edu.au
Web: www.latrobe.edu.au/international

La Trobe University Overseas Representatives

La Trobe University has a worldwide network of representatives who can assist you with applying to study at La Trobe. See: www.latrobe.edu.au/international/agents/

Disclaimer

Information in this flyer is correct at the time of printing. La Trobe University reserves the right to alter, amend or withdraw courses and fees listed in this guide. La Trobe University is a registered provider under the Commonwealth Register of Institutions and Courses for Overseas Students (CRICOS). CRICOS provider number: 00115M