Electrical engineers play a key role in the design, implementation and management of electrical and electronic devices on all scales, from electronic microcomputers capable of processing billions of instructions per second to large networks of power lines, substations, telephones and computers. Electrical engineers also design electrical systems for high technology applications such as spacecraft, satellites and electrical energy.

Not only is electrical engineering the central discipline involved in communications, specifically in the civil aviation and the deep space network, it also plays a significant role in the medical field. Electrical engineering has been instrumental in medical developments such as the bionic ear and eye used to restore pathways from the environment to the brain, heart pacemakers and life support systems. It is an integral discipline for our increasingly connected and wireless world.

The Electrical Systems major introduces the fundamental mathematics of signals, systems and information, and the physical science of electrical phenomena. It leads directly to the professional accredited Master of Engineering (Electrical) and Master of Engineering (Mechatronics) programs, and professional registration as an engineer.

What careers can this major lead to?
Electrical engineering and mechatronics graduates are known for their strong analytical and problem solving skills. They can find employment in a variety of capacities, ranging from research and technical engineering work to management and finance. Electrical engineering graduates can work as electrical engineers, control systems engineers, bioengineers, signal processing engineers and computer engineers. They are also employed as technical specialists and managers in a broad array of areas, including the energy industry, telecommunications, computers, electronics, defence, automation, transport and biomedical technology. Mechatronics engineers can gain employment with companies that develop and use advanced automation equipment, computer integrated manufacturing systems and "smart" products.
What graduate courses does Electrical Systems lead to?

Bachelor of Science graduates who major in Electrical Systems will be eligible to continue on to the Master of Engineering (Electrical) or the Master of Engineering (Mechatronics). You will also be well-placed to apply for:

- Professionally focused graduate degrees in the sciences and technology, including biotechnology, environmental systems, informatics, management science, and nanotechnology
- Graduate degrees preparing for a wide range of professions including engineering, law, medicine and other health sciences, and teaching
- Masters and Honours pathways to research higher degrees in the sciences and technology within the Melbourne Graduate School of Science, Graduate School of Humanities and Social Sciences, Melbourne School of Engineering, Melbourne School of Land and Environment, and the Faculty of Medicine, Dentistry and Health Sciences.