University of South Australia

Bachelor of Engineering
(Optical and Electronic)

Experience. The Difference.




Optical Engineering, See your future career in a whole new light!

Why study Optical and Electronic Engineering?

Optical Engineers make light do amazing things. They turn ideas into reality, from CD's and cell phones to laser eye surgery. Optical Engineers enjoy rewarding careers in research, design, development and commissioning of devices and systems that utilise light, both visible and invisible, to create all sorts of things we use every day in today's rapidly changing world.

Fibre optics, high speed internet, optical communications, optical sensors, solar cells, all types of lasers for business and industry, display technology for media products, high efficiency lighting, image processing, face recognition software, LADS and LIDAR, astronomy, pollution monitoring, spectroscopy and much much more.

What will I study?

The Optical and Electronic Engineering program develops skills and knowledge in the areas of photonics, lasers and optical systems, nanotechnology, solar technology, opto-electronics, microprocessor control systems, computer hardware and optical communications.

Students study a combination of courses to graduate as an Electronic Engineer with a specialisation in Optical and Opto-Electronic Systems.

Courses expose students to hands-on project work culminating in a full year optical engineering project in their final year. The third year and final year projects may be taken in either research laboratories or with local industry.

This program has a strong practical and industry focus and students have the opportunity to study overseas. Students are also able to choose optical engineering electives from the Australian National University to contribute to their degree.

Who will employ me?

Optical engineers find employment worldwide in government, private enterprise and defence industries, in fields such as medicine, security, telecommunications, manufacturing, entertainment and the environment.

There are numerous electronics companies in Adelaide and many companies associated with the Defence industry that also utilise opto-electronic and optical vision systems.

There are companies who specialise in lasers systems for ophthalmic surgery, and photonics companies specialising in optical solutions for clients. There is a need for skilled electronic engineers with knowledge of optical and opto-electronic systems.

AUSTRALIAN TECHNOLOGY NETWORK OF UNIVERSITIES

Your career. Your vision.

SATAC code 434911

UniSA program code LBIF

TER: N/A

Program Length: 4 years

Home Campus: Mawson Lakes

Accepts Special Entry(STAT): Yes

External Study Available: No

Part Time Study Available: Yes

TAFE Credit Available: Yes

Honours Study Available: Yes

Program Fees: Commonwealth Supported

Scholarships Available: www.unisa.edu.au/scholarships

Year 12 Subject Bonus Points: Bonus points granted for Mathematics (Methods, Studies or Specialist)and selected Science subjects. For more information refer to www.unisa.edu.au/future/year12/bonuspoints

School of Electrical and Information Engineering

www.unisa.edu.au/eie

Further Information

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What does it take?

Students should be good problem solvers and show a passion for understanding new gadgets and technologies. They need to be able to think scientifically, critically analyse information and have good interpersonal skills.

Entry requirements

Applicants are required to have the following qualifications: to have qualified for the SACE and recorded achievement in five Stage 2 SACE subjects, including at least four subjects which are approved Higher Education Selection Subjects (HESS) and have a competitive Tertiary Entrance Ranking (TER) OR the equivalent.

Applicants must have an achievement score in Stage 2 Mathematical Studies and SACE Stage 2 Physics is assumed knowledge.

Division of Information Technology, Engineering and the Environment Scholarship Scheme

High Achiever Scholarships: High Achiever Scholarships valued at $5,000 each will be available to School Leavers with a TER of at least 97 or above (exclusive of bonus points) enrolled full-time in the first year.

High Achiever School Leaver Equity Scholarships: A small number of High Achiever School Leaver Equity Scholarships valued at $5,000 each per year will be awarded to School Leavers with a TER of 90 or above (exclusive of bonus points) who meet specified equity criteria and are enrolled full-time in the Bachelor of Engineering program. The scholarships are available to School Leavers who have not previously commenced higher education and who meet low socio-economic status criterion. Students must apply for the Scholarships and be able to substantiate claims of financial hardship. Recipients must be an Australian Citizen or Permanent Resident.

Why study Engineering at UniSA?

Professional engineering practice

- Industry based projects
- Strong links with industry
- Experienced teaching staff
- Three year accelerated engineering program
- Common first year structure
- First year engineering students have access to the Experience 1 Studio technology rich learning hub
- A wide range of engineering programs
- This new specialisation will be submitted for professional accreditation.

Further information about studying Engineering at UniSA can be found at: www.unisa.edu.au/itee/engineer

Resources

Check out the following resources to continue exploring optics and engineering:

- www.SPIE.org – SPIE (Society of Photo-Optical Instrumentation Engineers) Web site for Optical Engineering.
- Check out the videos on Optical Engineering @ www.SPIE.org/opticslightatwork, in particular the video on Careers in Optics.
- www.Engineeringk12.org/students – Explore different engineering fields, interactive engineering games and resources.