

Programs and Initiatives to boost STEM pipeline

The partners in the DIESC are strongly committed to STEM (science, technology, engineering and mathematics) education and have introduced a wide range of initiatives and STEM-based bachelor degree programs to ensure a steady pipeline of qualified graduates to meet requirements across the defence industry. Contained within many of these STEM-based professional programs are foundational skills in business and project management.

Examples of STEM initiatives include:

University of Adelaide

- **Ingenuity 2017** Bringing together the brightest young minds of tomorrow, presenting an exhibition of projects and information showcasing the knowledge and skills of students. An annual interactive showcase of university student projects exploring the dynamic STEM world
- **Saturday Maths Problem Solving Sessions** are an opportunity for students with an interest in maths to take their problem solving skills beyond the curriculum. The sessions assist students to: find friendship, inspiration and encouragement while working on, thinking about and solving non-standard problems; build up a tool chest of strategies.
- **Big Day In** is an IT careers conference designed by students for high school (Years 9-12) and University students for those interested in careers in technology.
- **Maths Prepared** An illuminating teacher professional development opportunity exploring different areas of high school mathematics. Teachers will attend presentations and a workshop with academic staff and a Q&A discussion with staff and current students.
- The **Women and Mathematics Workshop** designed for girls in year 12 with a special interest in maths allows the students to engage with mathematics and learn from the University's leading academics.
- **Young Women in Technology Experience** This one-day event introduces female students in years 9 and 10 to future study and STEM career opportunities. The experience includes interactive activities and inspirational talks from women currently studying or working in these fields.
- **Women Leaders in STEM careers** This program aims to equip female students with leadership, resilience and entrepreneurship tools and skills that will allow them to thrive and succeed in their field of choice.
- **ECMS Ambassador Program** Outreach across SA to promote STEM opportunities to students. Our student ambassadors talk with young people from many areas about their first-hand experience in STEM study, and promote these opportunities.

University of South Australia

Examples include:

- Participation in the QUT NETDS program
- STEM Teacher-Industry Engagement Project
- STEM in Regional Schools
- Beyond the City
- Outdoor Mathematics Project
- Museum of Discovery (MOD) opens in 2018

Flinders University

Examples include:

- Flinders Foundation Program
- Flinders UniLEAP Program
- Science Alive!
- Science and Engineering Challenge
- Chemical Murder Mystery
- Tonsley Maker Faire
- The Science Experience
- Tertiary Studies and Careers Expo

RMIT

- RMIT is a partner of the **In2science** program which places university students as peer mentors in Victorian low socio-economic schools. Through weekly interactions mentors help to increase student engagement in science and mathematics, enhance understanding of content, break down stereotypes and build students' aspirations for STEM studies and careers. RMIT also delivers a successful ambassador program with secondary schools to promote STEM careers, and conducts STEM-themed school holiday programs on campus.
- **Access programs**_RMIT's access schemes ensure that people from the widest range of backgrounds have an opportunity to receive a tertiary education.
- The **Schools Network Access Program (SNAP)** provides priority entry to RMIT programs for Year 12 students from designated Victorian secondary schools in low socio-economic areas.
- **I Belong** is designed to increase aspiration for tertiary education and create visible pathways for students from discipline exploration, to application and enrolment. Programs draw upon key university and industry partnerships.
- The **Aboriginal and Torres Strait Islander Access Program** aims to support the increased participation of Indigenous students in diploma and degree programs.

SM TAFE

- **VET in Schools - Defence Pathways** providing sustainable links between schools, TAFE, higher education and the defence sector. High School Students can start their defence career pathway across a range of study

areas including Engineering, Electronics, Logistic and Warehousing and Maritime Operations.

- **P TECH Program** (Pathways in Technology) fosters partnerships between schools and industry to provide a seamless pathway as students transition from school to employment or further training. Industry partners offer work experience, industry mentoring and support with a view to engaging the students to take a defence or STEM pathway.

TAFE SA

- Certificates II in Engineering, Electrotechnology, IT, Electronics and Construction in South Australian Secondary Schools.
- Vocational training partner for the Northern Adelaide P-TECH program with St Patrick's Technical College.
- Aboriginal Access Centre Training programs with 200+ indigenous students currently mentored by dedicated training support officers in trades courses.
- Defence Industry Pathways Program for South Australian year 10 and 11 students in shipbuilding CAD design and 3D printing, with over 50% female participation.
- South Australia's major provider of the Commonwealth's Skills for Education and Employment (SEE) program to boost workforce participation.

The **IDC** is committed to building Australian Industry capability through maximising local, regional and Indigenous businesses involvement in the naval and maritime arena. Australia's greatest asset is our people and the IDC will work to ensure that the First People of our nation are given maximum opportunity to participate in the economic development activities of 'Nation Building' projects in the Naval and Maritime area. This will involve working in partnership with Indigenous businesses and the Traditional Owners to build capability and capacity. In addition to working with existing Indigenous businesses the incubation of locally owned and operated Indigenous businesses in the design, construction and sustainment phases of projects will be a key outcome.

The IDC are committed to working with Industry, Education Institution, Governments, Indigenous businesses and local people by:

- Improving the understanding of each other's concerns and aspirations through meaningful consultation.
- Implementing and promoting capability building, employment, education and training opportunities for Indigenous people working with-in the project whilst supporting indigenous community opportunities.
- Understand the responsibilities Indigenous people have to their traditional culture and assist in developing processes that allow for partnerships without hindering that responsibility.
- Assist Indigenous people in identifying positive economic development opportunities and where appropriate, work towards developing and implementing partnerships which transfer enduring skills and capabilities.
- Develop and implement appropriate Indigenous awareness courses to assist all employees and contractors to gain an understanding of local culture.

- Provide a working environment and a 'sense of place' that is culturally sensitive and supportive for employees, contractors and the residents.