

Redlynch State College Science and Technology Excellence Program

The Science and technology excellence program runs from Year 8 through to Year 10. The program offers identified students the opportunity to extend and enhance their skills and knowledge within and beyond the Science, Mathematics and Technology curriculums. The focus on inquiry based learning allows students to explore concepts and develop skills that support their Junior studies and their prospective Senior pathways. Science, Technology and Mathematics touches every aspect of our lives, from our smartphones to the technologies that enable us to explore the world around us and outer space. It also drives innovation in our fast-changing global economy. To succeed in this environment and for Queensland to continue to prosper into the future, our students need a strong foundation in these fields.

The program will be led by expert teachers and supported by local scientists and organisations. Students will have the opportunity to compete in extra-curricular regional, state and national competitions and challenges, providing them with connections to the community and future educational pathways.

This is a unique opportunity for Redlynch State College students as it allows students, from an early age, the opportunity to develop their skills and knowledge to support their future pathways. The skills developed, such as critical thinking, problem solving and analytical capabilities, are valued by employers making career options almost limitless. The program will empower students in their chosen field or enable them to invent their own job that does not yet exist.



We need a reliable pipeline of specialist STEM skills; but we also need informed workers, users and consumers who have the curiosity and imagination to be part of the broader STEM economy. This must be underpinned by lifetime engagement for all Australians with STEM, beginning in childhood and constantly renewed as knowledge and technologies expand.

(Office of the Chief Scientist STEM: Australia's Future, September 2014, p21)

CORE COURSE CONTENT

Suggested program structure may include the following opportunities:

- Robotics and Coding
- Participation in ICAS competitions
- Wonders of Science competition
- Completion of individual projects (eg. STAQ)
- Science and Engineering Challenge Team
- Crystal growing competition
- JCU Research Programs
- STEM Australia competitions and challenges
- Engineers Australia competitions and challenges
- CSIRO Indigenous STEM education program
- STEM power girl camp
- Premier's coding challenge



SCHEDULE

The Excellence lesson runs once a week in the afternoon from 3.15 - 4.45pm. Students will be required to commit to the Excellence Program lessons, once a week, all year. A minimum of 95% attendance is required. Any absences due to other commitments are to be negotiated with the program coordinator



STUDENT ELIGIBILITY CRITERIA

To be eligible to be a student of the Science and Technology Excellence program students will need to adhere to the following process:

1. Be an enrolled student at Redlynch State College.
2. Students must complete a written application to the Centre of Excellence Committee for inclusion in the program. An interview may be required to determine placement of students.
3. Students in the 7-10 Excellence program must be either enrolled in the Extension Science and Maths Class, or through application demonstrated a capacity in related curriculum and/or project.
4. Students in the Excellence program who fail to submit assessment in any subject will be cancelled from the program.
5. Position within the Excellence Program will be reviewed on a Semester basis. Those students who are not performing at the required academic level or whose attendance, effort and behaviour within the College is unacceptable will be required to show cause for continued enrolment.



STUDENT REQUIREMENTS

COSTS: \$100 per year

Costs include competition fees, STAQ applications, resources for projects and challenges, nomination fees, and local field work costs. Excursions out of the local region are not included in this fee.

POSSIBLE LOCAL, REGIONAL, STATE COMPETITIONS/CHALLENGES

- Aussie Educator competitions <http://aussieeducator.org.au/competitions/competitions.html>
- UQ Sunflower Competition <http://www.uq.edu.au/agriculture/sunflower-competition>
Grow the heaviest or tallest sunflower.
- STEM Australia competitions <http://stemaustralia.edu.au/competitions.html>
- JCU Science & Engineering Challenge - 1 day of engineering and science challenges
- RACI Crystal Growing Competition <http://www.raci.org.au/education/crystal-growing-competitions>
- STAQ Science Contest <http://www.staq.qld.edu.au/queensland-science-contest/>
- Premier's Coding Challenge <https://education.qld.gov.au/about-us/events-awards/awards-competitions/premiers-coding-challenge>
- Digital Technologies Challenges and Competitions
<https://www.digitaltechnologieshub.edu.au/students/challenges-and-competitions>

