

A guide to mentoring Science Extension students¹

Purpose

This document provides guidelines on the role of research mentors of Science Extension students, including advice to schools about engaging non-school-based mentors. Engaging research mentors is optional and is not mandated by the syllabus.

Introduction

Science Extension is an innovative course. The central feature of this course is the scientific research project, where students engage in authentic scientific research. Students will document their research journey in a Scientific Research Portfolio and communicate their findings through a Scientific Research Report (SRP). Both the portfolio and the SRP form part of the school-based assessment for this course.

Mentors

A mentor may supervise Science Extension students for the research project. However, this is not a mandatory requirement of the Science Extension syllabus nor necessary for completing the course successfully. Both school-based staff and non-school-based professionals may mentor Science Extension students.

- Science Extension teachers are primarily responsible for delivering the course and may act as the sole mentors of their students.
- As indicated above, it is not a requirement of the course to have a mentor, and students may choose to work independently or with a mentor for only a part of the research project.
- A current and valid Working With Children Check (WWCC) is required for all paid and volunteer mentors (direct or indirect). When volunteering, the WWCC is free and valid for five years. It is recommended that schools review the Department's [Working With Children Check](#) policy. The school must ensure that all mentoring

¹ This document references NESA's [Teacher guide to the Scientific Research Report and Scientific Research Portfolio](#) and [Student guide to the Scientific Research Report and Scientific Research Portfolio](#) resources.

arrangements comply with the WWCC policy and that mentors are familiar with the NSW Government Office of the Children's Guardian guidelines. Furthermore, schools should record mentors' WWCC details as per their documentation processes.

- There are no restrictions on the qualifications of research mentors. However, mentors should have substantial experience and expertise in the relevant area of research or the research process. This will ensure that the guidance provided by the mentor is suitable and significant. External mentors may be:
 - current or ex-science researchers experienced in the relevant research area
 - academic professionals (e.g., at research or government institutions, universities, schools, or TAFE)
 - professionals who work in science (e.g., zookeeper, astronaut, vet, health professionals, park rangers, etc.).

Note: the mentor must not be part of the exam development process for Science Extension in the concurrent year.

Supervision responsibilities

For many students, Science Extension provides their first opportunity to engage in authentic scientific research. Effective supervision of students ensures that they will experience the richness of modern scientific inquiry. This section outlines the responsibilities of supervisors when mentoring Science Extension students.

Communications

Mentors must:

- Agree to interact with Science Extension students and teachers on a mutually-agreed schedule (face-to-face or online). All meetings should, preferably, occur during school hours.
- Agree that written copies of all meetings be maintained (these could be electronic documents or emails). Teachers should ensure that the meeting notes are included in the students' scientific research portfolio.
- Provide teachers and students with their contact details (e.g., email addresses).
- Copy teachers (or the nominated school representative) into all email communications with students.

- Conduct online interactions with students using department-approved platforms (e.g., Microsoft Teams, Zoom or Google Meet)².

Research

Research mentors possess a wealth of disciplinary knowledge and experience that can inspire and support students in their research endeavours. Mentors should:

- Be aware that although Science Extension students are high-performing students with a deep interest in scientific research, they may not have the knowledge or skills to work independently.
- Assist the student with devising a scientific investigation that will reasonably be completed within the duration of the Science Extension course.
- Be aware that Science Extension students will have other commitments that may hinder their execution of the research project.
- Co-develop with teachers a suitable schedule for students to engage with the research project. This may involve a short, continuous block of time that students dedicate to the project. Alternatively, students may commit to a longer, discontinuous period of involvement in the research project.
- Not undertake or complete the research project for their students. However, mentors may provide students with additional or supplementary data, and those contributions must be acknowledged in the student's portfolio and the Scientific Research Report.
- Provide critical feedback on students' ideas, analyses and conclusions relating to their research project. For example, the advice could include suggestions for collecting observations and measurements, strategies for analysing data or conducting a detailed review of the literature. The mentor's feedback and suggestions should be recorded in the students' research portfolio.
- Provide students access to relevant resources (e.g., scientific papers or analytical software).
- Not proofread or correct drafts. However, mentors may help the student with specific aspects of the report, such as the use of correct terminology or providing advice on data analyses.
- Not assess/mark the Scientific Research Report.
- Discuss with teachers about post-research events, such as the student's co-authorship of published papers or conference presentations, including using the data in other scenarios (e.g., school magazine, the Department's website, or entry in the Young Scientist Awards).

² It may not be possible to record online meetings. Teachers are directed to review the [Guidelines to support schools using live video with students](#) document for more information.

Contacting prospective mentors

Science Extension students are encouraged to contact prospective researchers or supervisors to act as mentors. The following guidelines provide advice on contacting prospective mentors and establishing mentoring relationships.

- Before contacting any prospective mentors, students must provide their teachers with the relevant details of their potential mentors.
- Teachers should conduct the initial contact with the prospective mentors. This allows the teacher to ensure that the prospective mentors have an approved WWCC and understand the school policy/policies regarding child protection. All interactions between mentors and students must conform to the school policy/policies regarding child protection.
- Teachers confirm with the prospective mentors that all correspondence between them and students should be documented. The school will maintain those records for a period to be determined by the school.
- Teachers delivering the course, or appropriate school representatives, must monitor all communications between the mentor and the student. In addition, it is a requirement that students' parents or guardians are informed about the mentoring arrangements that are in place in the Science Extension course.

Contact

For further information, please contact the science curriculum team: Science7-12@det.nsw.edu.au