



Government of **Western Australia**
School Curriculum and Standards Authority

AGRICULTURAL SCIENCE AND TECHNOLOGY

ATAR course

Year 12 syllabus – What’s changing: Rationale and Aims

For teaching in 2027

Acknowledgement of Country

Kaya. The School Curriculum and Standards Authority (the Authority) acknowledges that our offices are on Whadjuk Noongar boodjar and that we deliver our services on the country of many traditional custodians and language groups throughout Western Australia. The Authority acknowledges the traditional custodians throughout Western Australia and their continuing connection to land, waters and community. We offer our respect to Elders past and present.

Background

As part of the Western Australian Certificate of Education (WACE) Refreshment for reviewing the nomenclature of courses, the Authority has updated the rationale and aims of each syllabus.

The revised rationale and aims are aligned with the mapping of the general capabilities to provide clear connections between the rationale, aims and syllabus content. The rationale outlines what the subject is about and why it is important. It describes what students can expect to study in the course, along with the knowledge, skills and understandings they will develop throughout the course. It also explains how these can be applied in everyday life and references potential future pathways, outlining how students might connect what they learn in the course to further education, training and employment opportunities.

Important information

WACE Refreshment: Reviewing the nomenclature of courses

This document contains information that will be included in the syllabus effective from 1 January 2027.

Users of the syllabus are responsible for checking its currency.

Syllabuses are formally reviewed by the Authority on a cyclical basis, typically every five years.

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Rationale

The Agricultural Science and Technology ATAR course explores the role of science and technology in the production of food and fibre. Agriculture is the world's biggest industry and is one of the most exciting as it embraces science and technology to supply high quality, safe food and fibre to a global population predicted to increase by 50 per cent by 2050. Along with the increase in on-farm production needed, there will be an increased need to cater for the off-farm (supply chain) infrastructure.

In the course, students learn about the sustainable use of resources for a wide variety of production systems. Students explore the ways that people manage natural resources, such as plants, animals, soil and water, to meet global societal needs. Students also explore how new developments in science and technology can increase productivity, efficiency and sustainability while responding to evolving domestic and global demands.

The course enables students to develop knowledge and skills related to natural resource management, including soil and water, in the context of agriculture. Students will gain knowledge, skills and understandings about the structure and function of plants and animals, meeting their nutritional needs, their breeding and how to manage pests and diseases in agricultural production systems. Students will also learn about the role and importance of technology in agricultural production systems.

Australian, regional and global communities rely on an understanding of agricultural sciences to manage the ecological and sustainability challenges facing society to maintain and increase agricultural production to feed and clothe people. These include the biosecurity and resilience of agricultural and natural ecosystems, the health and wellbeing of organisms, both agricultural and non-agricultural, and their populations, and the sustainability of biological resources. Students use their understanding of the interconnectedness of biological systems when evaluating both the impact of agricultural activity and the strategies proposed to address major biological challenges now and in the future in local, national and global contexts.

As the global human population grows, international demand, particularly from Asia, for high quality, safe food and natural fibre products offers a positive outlook for the agriculture and food sector. There is already strong demand across Australia and around the world for people skilled in combining scarce resources with innovative methods of production. This demand can only continue to grow. The study of Agricultural Science and Technology can provide students with pathways to further studies in agricultural science at both university and TAFE, as well as direct employment opportunities in the agricultural sector.

Aims

The Agricultural Science and Technology course aims to develop students’:

- knowledge and understanding of the principles, practices and key components underpinning efficient and sustainable food and fibre production systems, including
 - the structure and function of various agricultural production systems,
 - the interdependence of natural systems and agricultural production systems,
 - management strategies, including Indigenous production systems
- ability to select and apply skills and current and emerging technologies to achieve efficient and sustainable food and fibre production
- ability to use investigative processes to address agricultural food and fibre challenges, including field and laboratory investigations involving collecting and analysing qualitative and quantitative data, and interpreting evidence
- understanding that agricultural science knowledge is used in a variety of contexts and is influenced by social, economic, environmental, ethical and cultural considerations
- ability to communicate understandings and justify findings and conclusions related to food and fibre production systems.