**Video transcript: Wace 2015-16 – Science**

Year 11 students in 2015 and Year 11 and Year 12 students in 2016 will study the revised Western Australian Senior Secondary Curriculum for the first time.

The Western Australian Curriculum will include the Australian Curriculum courses which have been adopted and adapted to suit Western Australian needs and WACE courses which have been adapted to suit the revised structure.

There is increased rigour in the syllabuses. The changes are not about making school harder for students. They do raise the bar, though. Raising expectations means that we are supporting students to achieve at a higher standard.

For more information about the changes to the WACE starting in 2015 we recommend you watch the WACE 2015–16 overview video.

Courses in Science build on the current WACE courses and courses developed for the Australian Curriculum.

The Science learning area includes courses in:

* Animal Production Systems
* Aviation
* Biology
* Chemistry
* Earth and Environmental Science
* Human Biology
* Integrated Science
* Marine and Maritime Studies
* Physics
* Plant Production Systems, and
* Psychology.

Science courses are all available as ATAR or General.

The Biology, Chemistry, Earth and Environmental Science and Physics ATAR courses have all been adapted from the Australian Curriculum.

The remaining Science ATAR courses are based on the current Stage 2 and Stage 3 WACE syllabuses.

The content for the Science General courses is based on the current Stage 1 and Stage 2 WACE syllabus. The Biology, Chemistry, Earth and Environmental Science and Physics General courses have been informed by the Australian Curriculum to create a more seamless link to the ATAR courses and provide consistency with and progression from the P–10 curriculum.

There is a syllabus for each year of each course. The Year 11 syllabus details Units 1 and 2. The Year 12 syllabus details Units 3 and 4.

Units 1 and 2 are typically studied as a pair. Units 3 and 4 must be studied as a pair.

The complexity of the syllabus content increases from Year 11 to Year 12. For this reason, a student cannot complete Year 12 units and then move to Year 11 units.

Typically, the Year 11 and 12 Western Australian syllabuses follow the same structure. They all begin with a rationale and aims that are followed by information about the organisation of the course. Unit information includes a unit description, learning outcomes and unit content.

The syllabuses include information about school-based assessment and grading, which is supported through grade descriptions. The grade descriptions have been modified from the current WACE courses. These are interim descriptions and will be refined during the early years of implementation.

The grade descriptions are included in an appendix of the syllabuses. Many courses also have a glossary that defines key words in the context of the course.

Consistent with the Australian Curriculum, the organisation section of the syllabuses includes reference to general capabilities and cross-curriculum priorities. The unit information, specifically the unit content, identifies the expected learning within each syllabus. Unless they are identified within the specified unit content, the general capabilities and cross-curriculum priorities are not assessed.

Some syllabus elements are course and year specific.

In general, the progression from Years 7–10 in the Year 11 syllabuses shows how the courses build on knowledge, understandings and skills.

The Year 11 and 12 ATAR course syllabuses adopted and adapted from the Australian Curriculum are organised around the course aims and unit learning outcomes.

The Year 12 ATAR courses contain the WACE examination design briefs.

The Year 11 and 12 ATAR course syllabuses based on the current Stage 2 and Stage 3 WACE courses are organised around the course outcomes.

Year 12 General courses, except Preliminary, include information about the externally set tasks, known as ESTs, which are part of the Authority’s moderation processes from 2016. There are sample externally set tasks on our website.

Many of the courses in the Science learning area use three strands to organise their content:

* Science inquiry skills
* Science as a human endeavour, and
* Science understanding.

The strands build from the Pre-primary–Year 10 Science organisers and enable the course content to be delivered in an integrated way.

The courses that use these strands are:

* Biology
* Chemistry
* Earth And Environmental Science
* Human Biology
* Integrated Science
* Marine and Maritime Studies, and
* Physics.

Animal Production Systems, Aviation, Plant Production Systems and Psychology make use of organising features appropriate to the demands and focuses of these courses.

The courses for Biology, Chemistry, Earth and Environmental Science and Physics are based on the Australian Curriculum. While there has been some reorganisation of course material, these courses are substantially the same as the current WACE courses.

The courses for Animal Production Systems and Plant Production Systems, Aviation, Human Biology, Integrated Science, Marine and Maritime Studies and Psychology have been developed from the current WACE courses.

There is an emphasis in the Science General courses on practical activities and inquiry. Students have opportunities for hands-on learning and are encouraged to investigate and experiment with scientific ideas in order to solve problems and answer questions.

Most Science courses have remained substantially the same with minor changes to content to improve clarity and reduce repetition.

There have been some more significant changes in some courses, as in Year 12 Biology ATAR where there is new content in Unit 4 about infectious diseases.

There have also been changes to content in Integrated Science ATAR with the mining context removed from Year 12 and replaced with the water context from Year 11.

Content changes in Human Biology General include the deletion of tolerance limits, classification of organisms and genetics.

The Psychology courses have been significantly revised.

The existing content area *society* has been removed and content from this area has been moved into the *others* content area.

The current content sub-organisers in Stages 1, 2 and 3 have been revised.

As a result, in Units 1 and 3 the revised content sub-organisers are:

* biological influences/bases of behaviour
* cognition
* relational influences, and
* communication.

The content sub-organisers in Units 2 and 4 are:

* developmental psychology
* personality
* social psychology, and
* culture and values.

The research methods content area will continue to be taught across all course units.

A course unit is completed when a grade is assigned.

This means a student must have had the opportunity to complete the structured education program and the assessment program, unless the school accepts there are exceptional and justifiable circumstances.

The assessment program is summarised in the assessment table.

You will notice the assessment tables for Year 12 now show fixed assessment weightings rather than having a weighting range.

Examinations are now specified as a separate assessment type.

The assessment types used in the Science learning area vary, but there are strong connections between the courses.

The weightings for each of the assessment types vary between the Science courses.

Biology, Chemistry, Earth and Environmental Science, Human Biology and Integrated Science all use the same assessment types.

In the Year 11 and 12 ATAR courses for these subjects, the assessment types are:

* science inquiry
* extended response
* test, and
* examination.

The General courses replace examination with externally set task.

Physics General also uses the science inquiry, extended response, test and externally set task.

However, in the ATAR course, the extended response assessment type is not used.

The assessment types for Marine and Maritime Studies ATAR also include science inquiry, extended response, test and examination with the addition of practical.

In Marine and Maritime Studies General, the science inquiry assessment type is specified as comprising three parts:

* science inquiry
* scientific skills, and
* investigation.

In addition to the expected examination and externally set task assessment types, Animal Production Systems, Aviation, Plant Production Systems and Psychology courses include the investigation assessment type.

Animal Production Systems and Plant Production Systems also include production project and test assessment types.

Aviation includes a practical examination type, as well as a test assessment type.

Finally, Psychology requires students to complete response and project assessments.

Students enrolled in Year 12 ATAR courses are required to sit the WACE examination. When sitting an external examination, it is critical that students make a genuine attempt.

Aside from occasional minor rewording of supporting information, there have been no changes to the examination design brief for the Chemistry, Earth and Environmental Science, Human Biology, Integrated Science, Marine and Maritime Studies, Physics or Psychology ATAR courses.

The examination design briefs for Animal Production Systems and Plant Production Systems show that there will be three sections rather than the current four. This change has been achieved by merging section 3 – production practices – and section 4 – extended answer – to create a new section 3 – extended answer.

The examination design briefs for the Year 12 ATAR Aviation written and practical examinations are separate documents.

Students who enrol in General courses, except Preliminary, must make a genuine attempt in the externally set task to complete a course.

The ESTs will be written assessments. The Authority will inform schools during Term 3 of the preceding year of the section or sections of the syllabus content on which an EST will be based.

The ESTs will be worth 15 per cent of a student’s final mark.

More information about ESTs is available on the Authority website.

Syllabuses will be reviewed typically on a five-year cycle, according to learning area. The schedule of review will be published in 2014.

The Australian Government announced a review of the Australian Curriculum in January 2014. The report on the review is due to be completed by 31 July 2014. Any changes that the Australian and Western Australian Governments may endorse as a result of the review will be considered in the Western Australian syllabuses as part of our curriculum review cycle.

A range of support materials for teachers can be found on the Authority’s website.

We encourage teachers to participate in briefings and discussions and to register for the eCircular to keep up to date.