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General senior syllabus

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For all Queensland schools

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Contents

Queensland syllabuses for senior subjects 1

Course overview 2

Rationale 2

Syllabus objectives 4

Designing a course of study in Psychology 5

Reporting 17

Units 20

Unit 1: Individual development 20

Unit 2: Individual behaviour 24

Unit 3: Individual thinking 28

Unit 4: The influence of others 33

Assessment 38

Internal assessment 1: Data test (10%) 38

Internal assessment 2: Student experiment (20%) 41

Internal assessment 3: Research investigation (20%) 45

External assessment: Examination — combination response (50%) 49

Glossary 51

References 51

Version history 56

Queensland syllabuses for senior subjects

In Queensland, a syllabus for a senior subject is an official 'map' of a senior school subject. A syllabus's function is to support schools in delivering the Queensland Certificate of Education (QCE) system through high-quality and high-equity curriculum and assessment.

Syllabuses are based on design principles developed from independent international research about how excellence and equity are promoted in the documents teachers use to develop and enliven the curriculum.

Syllabuses for senior subjects build on student learning in the Prep to Year 10 Australian Curriculum and include General, General (Extension), Senior External Examination (SEE), Applied, Applied (Essential) and Short Course syllabuses.

More information about syllabuses for senior subjects is available at www.qcaa.qld.edu.au/senior/senior-subjects and in the 'Queensland curriculum' section of the *QCE and QCIA policy and procedures handbook*.

Teaching, learning and assessment resources will support the implementation of a syllabus for a senior subject. More information about professional resources for senior syllabuses is available on the QCAA website and via the QCAA Portal.

Course overview

Rationale

At the core of all scientific endeavour is the inquiry into the nature of the universe. Science uses a systematic way of thinking, involving creative and critical reasoning, in order to acquire better and more reliable knowledge. Scientists recognise that knowledge is not fixed, but is fallible and open to challenge. As such, scientific endeavour is never conducted in isolation, but builds on and challenges an existing body of knowledge in the pursuit of more reliable knowledge. This collaborative process, whereby new knowledge is gained, is essential to the cooperative advancement of science, technology, health and society in the 21st century.

Tertiary study in any field will be aided by the transferable skills developed in this senior Science subject. It is expected that an appreciation of, and respect for, evidence-based conclusions and the processes required to gather, scrutinise and use evidence will be carried forward into all aspects of life beyond the classroom.

The purpose of senior Science subjects in Queensland is to introduce students to a scientific discipline. Students will be required to learn and apply aspects of the knowledge and skill of the discipline (thinking, experimentation, problem-solving and research skills), understand how it works and how it may impact society.

Upon completion of the course, students will have an appreciation for a body of scientific knowledge and the process that is undertaken to acquire this knowledge. They will be able to distinguish between claims and evidence, opinion and fact, and conjecture and conclusions.

In each of the senior Science subjects, students will develop:

- a deep understanding of a core body of discipline knowledge
- aspects of the skills used by scientists to develop new knowledge, as well as the opportunity to refine these skills through practical activities
- the ability to coordinate their understandings of the knowledge and skills associated with the discipline to refine experiments, verify known scientific relationships, explain phenomena with justification and evaluate claims by finding evidence to support or refute the claims.

Psychology provides opportunities for students to engage with concepts that explain behaviours and underlying cognitions. In Unit 1, students examine individual development in the form of the role of the brain, cognitive development, human consciousness and sleep. In Unit 2, students investigate the concept of intelligence, the process of diagnosis and how to classify psychological disorder and determine an effective treatment, and lastly, the contribution of emotion and motivation on the individual behaviour. In Unit 3, students examine individual thinking and how it is determined by the brain, including perception, memory, and learning. In Unit 4, students consider the influence of others by examining theories of social psychology, interpersonal processes, attitudes and cross-cultural psychology.

Psychology aims to develop students':

- interest in psychology and their appreciation for how this knowledge can be used to understand contemporary issues
- appreciation of the complex interactions, involving multiple parallel processes that continually influence human behaviour
- understanding that psychological knowledge has developed over time and is used in a variety of contexts, and is informed by social, cultural and ethical considerations
- ability to conduct a variety of field research and laboratory investigations involving collection and analysis of qualitative and quantitative data and interpretation of evidence
- ability to critically evaluate psychological concepts, interpretations, claims and conclusions with reference to evidence
- ability to communicate psychological understandings, findings, arguments and conclusions using appropriate representations, modes and genres.

Syllabus objectives

The syllabus objectives outline what students have the opportunity to learn.

1. **Describe ideas and findings.**

   Students use scientific representations and language in appropriate genres to give a detailed account of scientific phenomena, concepts, theories, models and systems.

2. **Apply understanding.**

   Students use scientific concepts, theories, models and systems within their limitations. They use algebraic, visual and graphical representations of scientific relationships and data to determine unknown scientific quantities or features. They explain phenomena, concepts, theories, models, systems and modifications to methodologies.

3. **Analyse data.**

   Students consider scientific information from primary and secondary sources to identify trends, patterns, relationships, limitations and uncertainty. In qualitative data, they identify the essential elements, features or components. In quantitative data, they use mathematical processes and algorithms. They identify data to support ideas, conclusions or decisions.

4. **Interpret evidence.**

   Students use their understanding of scientific concepts, theories, models and systems and their limitations to draw conclusions and develop scientific arguments. They compare, deduce, extrapolate, infer, justify and make predictions based on their analysis of data.

5. **Evaluate conclusions, claims and processes.**

   Students critically reflect on the available evidence and make judgments about its application to research questions. They extrapolate findings to support or refute claims. They use the quality of the evidence to evaluate the validity and reliability of inquiry processes and suggest improvements and extensions for further investigation.

6. **Investigate phenomena.**

   Students develop rationales and research questions for experiments and investigations. They modify methodologies to collect primary data and select secondary sources. They manage risks, environmental and ethical issues and acknowledge sources of information.

Designing a course of study in Psychology

Syllabuses are designed for teachers to make professional decisions to tailor curriculum and assessment design and delivery to suit their school context and the goals, aspirations and abilities of their students within the parameters of Queensland's senior phase of learning.

The syllabus is used by teachers to develop curriculum for their school context. The term *course of study* describes the unique curriculum and assessment that students engage with in each school context. A course of study is the product of a series of decisions made by a school to select, organise and contextualise subject matter, integrate complementary and important learning, and create assessment tasks in accordance with syllabus specifications.

It is encouraged that, where possible, a course of study is designed such that teaching, learning and assessment activities are integrated and enlivened in an authentic setting.

Course structure

Psychology is a General senior syllabus. It contains four QCAA-developed units from which schools develop their course of study.

Each unit has been developed with a notional time of 55 hours of teaching and learning, including assessment.

Students should complete Unit 1 and Unit 2 before beginning Units 3 and 4. Units 3 and 4 are studied as a pair.

More information about the requirements for administering senior syllabuses is available in the 'Queensland curriculum' section of the *QCE and QCIA policy and procedures handbook*.

Curriculum

Senior syllabuses set out only what is essential while being flexible so teachers can make curriculum decisions to suit their students, school context, resources and expertise.

Within the requirements set out in this syllabus and the *QCE and QCIA policy and procedures handbook*, schools have autonomy to decide:

- how and when subject matter is delivered
- how, when and why learning experiences are developed, and the context in which learning occurs
- how opportunities are provided in the course of study for explicit and integrated teaching and learning of complementary skills.

These decisions allow teachers to develop a course of study that is rich, engaging and relevant for their students.

Assessment

Senior syllabuses set out only what is essential while being flexible so teachers can make assessment decisions to suit their students, school context, resources and expertise.

General senior syllabuses contain assessment specifications and conditions for the assessment instruments that must be implemented with Units 3 and 4. These specifications and conditions ensure comparability, equity and validity in assessment.

Within the requirements set out in this syllabus and the *QCE and QCIA policy and procedures handbook*, schools have autonomy to decide:

- specific assessment task details
- assessment contexts to suit available resources
- how the assessment task will be integrated with teaching and learning activities
- how authentic the task will be.

In Unit 1 and Unit 2, schools:

- develop at least two but no more than four assessments
- complete at least one assessment for each unit
- ensure that each unit objective is assessed at least once.

In Units 3 and 4, schools develop three assessments using the assessment specifications and conditions provided in the syllabus.

More information about assessment in senior syllabuses is available in 'The assessment system' section of the *QCE and QCIA policy and procedures handbook*.

Subject matter

Each unit contains a unit description, unit objectives and subject matter. Subject matter is the body of information, mental procedures and psychomotor procedures (see Marzano & Kendall 2007, 2008) that are necessary for students' learning and engagement with the subject. Subject matter itself is not the specification of learning experiences but provides the basis for the design of student learning experiences.

Subject matter has a direct relationship with the unit objectives and provides statements of learning that have been constructed in a similar way to objectives.

Aboriginal perspectives and Torres Strait Islander perspectives

The QCAA is committed to reconciliation. As part of its commitment, the QCAA affirms that:

- Aboriginal peoples and Torres Strait Islander peoples are the first Australians, and have the oldest living cultures in human history
- Aboriginal peoples and Torres Strait Islander peoples have strong cultural traditions and speak diverse languages and dialects, other than Standard Australian English
- teaching and learning in Queensland schools should provide opportunities for students to deepen their knowledge of Australia by engaging with the perspectives of Aboriginal peoples and Torres Strait Islander peoples
- positive outcomes for Aboriginal students and Torres Strait Islander students are supported by successfully embedding Aboriginal perspectives and Torres Strait Islander perspectives across planning, teaching and assessing student achievement.

Guidelines about Aboriginal perspectives and Torres Strait Islander perspectives and resources for teaching are available at www.qcaa.qld.edu.au/k-12-policies/aboriginal-torres-strait-islander-perspectives.

Where appropriate, Aboriginal perspectives and Torres Strait Islander perspectives have been embedded in the subject matter.

Complementary skills

Opportunities for the development of complementary skills have been embedded throughout subject matter. These skills, which overlap and interact with syllabus subject matter, are derived from current education, industry and community expectations and encompass the knowledge, skills, capabilities, behaviours and dispositions that will help students live and work successfully in the 21st century.

These complementary skills are:

- literacy — the knowledge, skills, behaviours and dispositions about language and texts essential for understanding and conveying English language content
- numeracy — the knowledge, skills, behaviours and dispositions that students need to use mathematics in a wide range of situations, to recognise and understand the role of mathematics in the world, and to develop the dispositions and capacities to use mathematical knowledge and skills purposefully
- 21st century skills — the attributes and skills students need to prepare them for higher education, work, and engagement in a complex and rapidly changing world. These skills include critical thinking, creative thinking, communication, collaboration and teamwork, personal and social skills, and digital literacy. The explanations of associated skills are available at www.qcaa.qld.edu.au/senior/senior-subjects/general-subjects/21st-century-skills.

It is expected that aspects of literacy, numeracy and 21st century skills will be developed by engaging in the learning outlined in this syllabus. Teachers may choose to create additional explicit and intentional opportunities for the development of these skills as they design the course of study.

Additional subject-specific information

Additional subject-specific information has been included to support and inform the development of a course of study.

Science understanding

The science understanding subject matter in each unit develops students' understanding of the key concepts, models and theories that underpin the subject, and of the strengths and limitations of different models and theories for explaining and predicting complex phenomena. It uses cognitions from Objectives 1–4.

The science understanding subject matter from Units 3 and 4 will be assessed by the external assessment.

Science as a human endeavour (SHE)

Each Queensland senior science subject requires students to learn and apply aspects of the knowledge and skill of the discipline. However, it is recognised that students should also develop an appreciation for the *nature* and *development* of science, and its *use* and *influence* on society.

While this appreciation is not directly assessed, the syllabus provides guidance as to where it may be developed. Importantly, this guidance draws students' attention to the way in which science operates, both in relation to the development of understanding and explanations about the world and to its influence on society.

Students should become familiar with the following SHE concepts:

- Science is a global enterprise that relies on clear communication, international conventions, peer review and reproducibility.
- Development of complex models and/or theories often requires a wide range of evidence from multiple individuals and across disciplines.
- Advances in science understanding in one field can influence other areas of science, technology and engineering.
- The use and acceptance of scientific knowledge is influenced by social, economic, cultural and ethical contexts.
- The use of scientific knowledge may have beneficial and/or harmful and/or unintended consequences.
- Scientific knowledge can enable scientists to offer valid explanations and make reliable predictions.
- Scientific knowledge can be used to develop and evaluate projected economic, social and environmental impacts and to design action for sustainability.
- ICT and other technologies have dramatically increased the size, accuracy and geographic and temporal scope of datasets with which scientists work.
- Models and theories are contested and refined or replaced when new evidence challenges them, or when a new model or theory has greater explanatory power.
- Scientific knowledge can be used to inform the monitoring, assessment and evaluation of risk.
- Science can be limited in its ability to provide definitive answers to public debate; there may be insufficient reliable data available, or interpretation of the data may be open to question.
- International collaboration is often required when investing in large-scale science projects or addressing issues for the Asia–Pacific region.

To support the development of these concepts, this syllabus identifies SHE subject matter in each unit. This highlights opportunities for teachers to contextualise the associated science understanding and science inquiry subject matter and provides stimulus for the development of claims and research questions for investigation.

Additional opportunities include:

- practicals provide opportunities for students to witness the *nature* of science
- the student experiment provides opportunity for students to experience how the *development* of new science knowledge is built upon existing knowledge
- the research investigation provides opportunity for students to appreciate the *use* and *influence* of scientific evidence to make decisions or to contribute to public debate about a claim.

Science inquiry

Defining *inquiry* in science education

In order to support the school's task of aligning their chosen pedagogical framework with the curriculum and assessment expectations outlined in this syllabus, some guidance has been provided in the form of clarification of the use of the term *inquiry* and the articulation of a framework to describe the process of inquiry. The purpose of this guidance is to prevent misunderstandings and problematic conflations and their subsequent negative impact on student learning. As Abrams, Southerland and Silva (2008, p. xv) stated in their book, *Inquiry in the Classroom: Realities and opportunities*:

> Inquiry in the classroom can be conceived as a complex set of ideas, beliefs, skills, and/or pedagogies. It is evident that attempting to select a singular definition of inquiry may be an insurmountable and fruitless task. Any single definition of inquiry in the classroom would necessarily reflect the thinking of a particular school of thought, at a particular moment in time, or a particular goal, and such a singular definition may serve to limit legitimate and necessary components of science learning. **However, operating without a firm understanding of the various forms of inquiry leaves science educators often 'talking past' one another, and often results in very muddled attempts in the classroom** [emphasis added].

Uses of the term *inquiry*

Common phrases involving the term *inquiry* have been listed below:

- science inquiry
- science inquiry skills
- the inquiry process
- inquiry-based learning.

This syllabus refers to the first three uses listed above. The first, *science inquiry*, defines the practical work of a scientist (Harlen 2013). The second, *science inquiry skills*, refers to the skills required to do the work of a scientist (Harlen 2013). The third, *the inquiry process*, is a framework that can be used to describe the process of asking a question and then answering it.

The final phrase, *inquiry-based learning*, refers to a variety of teaching and learning strategies an educator may choose to use within their school's pedagogical framework. Although a school may choose to adopt an inquiry-based pedagogy, this syllabus is *not* intended to endorse or recommend an inquiry-based learning approach.

Framework to describe the inquiry process

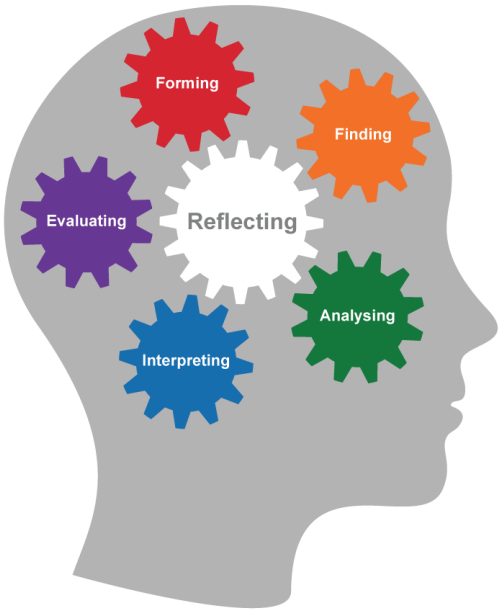
In order to support student engagement in activities involving inquiry, it is useful to establish a common language or framework to distinguish between stages of the process.

The stages involved in any inquiry are:

- forming and describing the inquiry activity
- finding valid and reliable evidence for the inquiry activity
- analysing the evidence collected
- interpreting the evidence selected
- evaluating the conclusions, processes or claims.

This framework uses reflection as the connection between, and driver of, all the stages. The progression through the inquiry process requires reflection on the decisions made and any new information that has emerged during the process to inform the next stage. Each stage of the inquiry process is worthy of reflection, the result of which may be the revision of previous stages (Marzano & Kendall 2007).

Figure 1: Stages of inquiry process



Science inquiry and science inquiry skills

Science inquiry involves identifying and posing questions and working to answer them. It is concerned with evaluating claims, investigating ideas, solving problems, reasoning, drawing valid conclusions and developing evidence-based arguments. It can easily be summarised as the 'work of a scientist' (Hackling 2005).

Within this syllabus, it is expected that students will engage in *aspects* of the work of a scientist by engaging in scientific inquiry (Tytler 2007). This expectation can be seen, for example, by the inclusion of practicals and investigations in the subject matter, and in the internal assessments for Units 3 and 4.

Science inquiry skills are the skills required to do the work of a scientist. They include writing research questions, planning, conducting, recording information, and reflecting on investigations; processing, analysing and interpreting evidence; evaluating conclusions, processes and claims; and communicating findings (ACARA 2015).

It is expected that students are explicitly taught science inquiry skills (Krajcik et al 2000), a number of which are outlined throughout the syllabus. Some science inquiry skills will be used to complete the listed practicals and investigations. The selection, application and coordination of science inquiry skills will be required in the student experiment and research investigation.

It is the prerogative of the educator to determine how listed practicals and investigations are used as opportunities to:

- develop, rehearse and refine science inquiry skills
- engage students in scaffolded or open-ended science inquiry tasks
- formatively assess science inquiry skills.

Science inquiry skills

Throughout the course of study, students will:

- identify, research and construct questions for investigation
- identify and operationalise variables to be manipulated, measured and controlled
- predict possible outcomes from investigations, e.g. identify null and alternative hypotheses
- distinguish between types of investigations, e.g.
  - experiments (independent and dependent variables)
    - independent groups
    - matched participants
    - repeated measures
  - correlational research (related variables)
  - quasi-experiments
  - observational research
- distinguish between levels of measurement, i.e.
  - nominal
  - ordinal
  - interval
  - ratio

- design investigations, including the procedure/s to be followed, the materials required, and the type and amount of primary and/or secondary data required to obtain valid and reliable evidence
- use appropriate equipment, techniques, procedures and sources to systematically and safely collect primary and secondary data
- identify and use appropriate sampling procedures for selection and allocation of participants, e.g.
  - convenience sampling
  - random sampling
  - stratified sampling
  - random allocation
- identify errors, and extraneous or confounding variables that are likely to influence results; and implement strategies to minimise systematic and random error, e.g.
  - type of participant selection and allocation
  - single-blind and double-blind procedures
  - counterbalancing
  - standardised instructions and procedures
- identify and apply ethical principles, e.g.
  - acknowledgment of sources and referencing
  - consideration of the role and bias of the experimenter
  - protection and security of participants' information
  - confidentiality
  - voluntary participation
  - withdrawal rights
  - informed consent procedures
  - use of deception in research
  - debriefing
- identify strategies to manage risks and environmental impact such as
  - cultural guidelines, e.g. protocols for working with the knowledge of First Nations peoples
  - risk assessment, e.g. workplace health and safety (WH&S) guidelines
  - disposal methods
- use scientific language and representations to systematically record information, observations and data, e.g.
  - measurements
  - sample calculations
  - statistics
  - tables
  - figures
- translate information between graphical, numerical and/or algebraic forms

- use mathematical techniques to summarise data, establish relationships and identify uncertainty through
  - descriptive statistics
    - measures of central tendency: mean and median
    - measures of uncertainty, including dispersion in a sample (range, interquartile range, standard deviation) and using a sample to make an inference about the population from which it was drawn (standard error, confidence intervals)
  - correlation, e.g. Pearson *r* correlation coefficient
  - parametric inferential statistics, e.g.
    - two-sample t-test (unpaired and paired)
    - p-value from Pearson *r*
- select and construct appropriate representations to present data and communicate findings, e.g. summary tables/statistics, p-values, sample calculations, column graphs (with error bars), scatterplots (with trendline and r-value)
- analyse data to identify trends, patterns and relationships; recognising error, uncertainty and limitations of evidence
- select, synthesise and use evidence to
  - explain findings
  - construct scientific arguments
  - draw conclusions, using p-values to infer significance, allowing for the possibility of type I and II errors
- extrapolate findings to determine unknown values, predict outcomes and evaluate claims
- use data and reasoning to discuss and evaluate the reliability and validity of evidence
- judge the reliability and validity of the experimental process
  - reliability of observers (selection, training)
  - reliability of psychological tests/measures
  - internal validity and external validity
  - validity of psychological tests/measures
- suggest improvements and extensions to minimise uncertainty, address limitations and improve the overall quality of evidence
- identify and explain the uncertainty associated with conclusions, with reference to limitations of the data, including violations of the assumptions of inferential tests, e.g. small sample size
- appreciate the role of peer review in scientific research
- use appropriate psychological terminology, representations and conventions for reporting research
- acknowledge sources of information with standard scientific referencing conventions.

Science inquiry subject matter uses cognitions from across all objectives, and is primarily assessed through the internal assessments for Units 3 and 4. To support the development of these science inquiry skills, this syllabus identifies suggested practicals and investigations for each unit. These highlight opportunities for students to directly experience the associated Science understanding subject matter and provide stimulus for student experiments and research investigations.

Safety and ethics

Workplace health and safety

Psychology is designed to expose students to the practical components of science through practical experiences in the laboratory and the field. These experiences expose students to a variety of hazards, from biological and poisonous substances to injury from equipment. Besides a teacher's duty of care that derives from the *Education (General Provisions) Act 2006*, there are other legislative and regulatory requirements, for example the *Work Health and Safety Act 2011*, that will influence the nature and extent of practical work.

All practical work must be organised with student safety in mind. The *Department of Education and Training (DET) Policy and Procedure Register* (https://ppr.qed.qld.gov.au) provides guidance about current science safety protocols.

It is the responsibility of all schools to ensure that their practices meet current legislation requirements. References to relevant legislation and regulations are supported by the reference list located on the Psychology subject page of the QCAA website.

Wellbeing

The study of psychology may include potentially sensitive topics. Teachers should ensure that students have opportunities to consider topics scientifically and objectively. Students should not be asked to disclose personal information about their own or others' health status and behaviours.

When dealing with sensitive mental health matters, students should be given information as appropriate about sourcing available treatment services within and outside of school.

Care and conduct in research involving humans

Governing principles

The QCAA recognises that teachers and schools involved in teaching and learning activities that include experimental investigations involving human subjects have a legal obligation and a moral responsibility to ensure that students follow ethical principles at all times. Best practice includes protecting participants from harm, gaining informed consent and ensuring confidentiality and anonymity.

- **Protection from harm** — any investigations that create harm, distress or discomfort for participants are not permitted. This includes investigations involving ingestion (e.g. food, drink, smoking, or drugs) and deprivation (e.g. sleep, food).
- **Gaining informed consent** — any experiments involving humans must be with their written permission. Students under the age of 16 should have written permission from parent/s or carer/s. All participants should be above 12 years of age and not considered to be vulnerable, 'at risk' or have diminished ability to make their own decisions. The process of being informed requires that participants understand the purpose of the investigation and that they can withdraw from the process at any stage.
- **Ensuring confidentiality and anonymity** — all data collected must be kept in a confidential and responsible manner and not divulged to any other person. Anonymity for each participant must be guaranteed.

National guidelines

Teachers should refer to the following for detailed advice:

- the *National Statement on Ethical Conduct in Human Research* (2007), issued by the National Health and Medical Research Council (NHMRC) in accordance with the *NHMRC Act 1992* (Cwlth), www.nhmrc.gov.au/guidelines-publications/e72
- the National Privacy Principles in the *Privacy Amendment (Private Sector) Act 2000* (Cwlth), www.privacy.gov.au
- the Code of Ethics of the Australian Psychological Society (APS), www.psychology.org.au.

Strategies for retaining and recalling information for assessment

The following practices[1] can support preparation for senior assessment in Psychology.

The spacing effect

The spacing effect draws on research about forgetting and learning curves. By recalling and revisiting information at intervals, rather than at the end of a study cycle, students remember a greater percentage of the information with a higher level of accuracy. Exposing students to information and materials numerous times over multiple spaced intervals solidifies long-term memory, positively affecting retention and recall.

Teachers should plan teaching and learning sequences that allow time to revisit previously taught information and skills at several intervals. These repeated learning opportunities also provide opportunities for teachers to provide formative feedback to students.

The retrieval effect

The retrieval effect helps students to practise remembering through quick, regular, low-stakes questioning or quizzes that exercise their memories and develop their ability to engage in the deliberate act of recalling information. This has been shown to be more effective at developing long-term memories than activities that require students to search through notes or other resources.

Students may see an inability to remember as an obstacle, but they should be encouraged to understand that this is an opportunity for learning to take place. By trying to recall information, students exercise or strengthen their memory and may also identify gaps in their learning. The more difficult the retrieval practice, the better it can be for long-term learning.

Interleaving

Interleaving involves interspersing the concepts, categories, skills or types of questions that students focus on in class or revision. This is in contrast to blocking, in which these elements are grouped together in a block of time. For example, for concepts A, B and C:

- Blocking A A A A A B B B B B C C C C C
- Interleaving A B C B C A B A C A C B C A B

Studies have found that interleaving in instruction or revision produces better long-term recall of subject matter. Interleaving also ensures that spacing occurs, as instances of practice are spread out over time.

Additionally, because exposure to one concept is interleaved with exposure to another, students have more opportunities to distinguish between related concepts. This highlighting of differences may explain why studies have found that interleaving enhances inductive learning, where participants use exemplars to develop an understanding of broader concepts or categories. Spacing without interleaving does not appear to benefit this type of learning.

Interleaving can seem counterintuitive — even in studies where interleaving enhanced learning, participants often felt that they had learnt more with blocked study. Despite this, their performance in testing indicated greater learning through the interleaving approach.

[1] Based on Agarwal, Roediger, McDaniel & McDermott (2020); Birnbaum, Kornell, Ligon Bjork & Bjork (2013); Carpenter & Agarwal (2020); Chen, Paas & Sweller (2021); Ebbinghaus (1885); Rohrer (2012); Taylor & Rohrer (2010).

Reporting

General information about determining and reporting results for senior syllabuses is provided in the 'Determining and reporting results' section of the *QCE and QCIA policy and procedures handbook*.

Reporting standards

Reporting standards are summary statements that describe typical performance at each of the five levels (A–E).

A
The student accurately describes a variety of concepts, theories, models and systems, and their limitations. They give clear and detailed accounts of a variety of concepts, theories, models and systems by making relationships, reasons or causes evident. The student communicates effectively by using scientific representations and language accurately and concisely within appropriate genres. They efficiently collect, collate and process relevant evidence. The student accurately applies their understanding of scientific concepts, theories, models and systems within their limitations to explain a variety of phenomena, and predict outcomes, behaviours and implications. They accurately use representations of scientific relationships and data to determine a variety of unknown scientific quantities and perceptively recognise the limitations of models and theories when discussing results. The student analyses systematically and effectively by identifying the essential elements, features or components of qualitative data. They use relevant mathematical processes to appropriately identify trends, patterns, relationships, limitations and uncertainty in quantitative data. They interpret evidence insightfully by using their knowledge and understanding to draw justified conclusions based on their thorough analysis of evidence and established criteria. The student critically evaluates conclusions, claims and processes by insightfully scrutinising evidence, extrapolating credible findings, and discussing the reliability and validity of experiments. They investigate phenomena by carrying out effective experiments and research investigations.
B
The student accurately describes concepts, theories, models and systems, and their limitations. They give clear and detailed accounts of concepts, theories, models and systems by making relationships, reasons or causes evident. The student communicates accurately by using scientific representations and language within appropriate genres to present information. They collect, collate and process relevant evidence. The student accurately applies their understanding of scientific concepts, theories, models and systems within their limitations to explain phenomena and predict outcomes, behaviours and implications. They accurately use representations of scientific relationships and data to determine unknown scientific quantities, and accurately recognise the limitations of models and theories when discussing results. The student analyses effectively by identifying the essential elements, features or components of qualitative data. They use mathematical processes to appropriately identify trends, patterns, relationships, limitations and uncertainty in quantitative data. They interpret evidence by using their knowledge and understanding to draw reasonable conclusions based on their accurate analysis of evidence and established criteria. The student evaluate processes, claims and conclusions by scrutinising evidence, applying relevant findings and discussing the reliability and validity of experiments. They investigate phenomena by carrying out effective experiments and research investigations.

C
The student describes concepts, theories, models and systems, and their limitations. They give detailed accounts of concepts, theories, models and systems by making relationships, reasons or causes evident. The student communicates using scientific representations and language within appropriate genres to present information. They collect, collate and process evidence. The student applies their understanding of scientific concepts, theories, models and systems within their limitations to explain phenomena and predict outcomes, behaviours and implications. They use representations of scientific relationships and data to determine unknown scientific quantities and recognise the limitations of models and theories when discussing results. The student analyses by identifying the essential elements, features or components of qualitative data. They use mathematical processes to identify trends, patterns, relationships, limitations and uncertainty in quantitative data. They interpret evidence by using their knowledge and understanding to draw conclusions based on their analysis of evidence and established criteria. The student evaluates processes, claims and conclusions by describing the quality of evidence, applying findings, and describing the reliability and validity of experiments. They investigate phenomena by carrying out experiments and research investigations.
D
The student describes and gives accounts of aspects of concepts, theories, models and systems. The student uses scientific representations or language to present information. They use rudimentary representations of scientific relationships or data to determine unknown scientific quantities or variables. The student analyses by identifying the elements, features or components of qualitative data. They use parts of mathematical processes to identify trends, patterns, relationships, limitations or uncertainty in quantitative data. They interpret evidence by drawing conclusions based on evidence or established criteria. The student considers the quality of evidence and conclusions and discusses processes, claims or conclusions. They carry out aspects of experiments and research investigations.
E
The student describes scenarios and communicates by referring to representations of information. They discuss physical phenomena and evidence. They follow established methodologies in research situations. They discuss evidence. The student carries out elements of experiments and research investigations.

Determining and reporting results

Unit 1 and Unit 2

Schools make judgments on individual assessment instruments using a method determined by the school. They may use the reporting standards or develop an instrument-specific marking guide (ISMG). Marks are not required for determining a unit result for reporting to the QCAA.

The unit assessment program comprises the assessment instrument/s designed by the school to allow the students to demonstrate the unit objectives. The unit judgment of A–E is made using reporting standards.

Schools report student results for Unit 1 and Unit 2 to the QCAA as satisfactory (S) or unsatisfactory (U). Where appropriate, schools may also report a not rated (NR).

Units 3 and 4

Schools mark each of the three internal assessment instruments implemented in Units 3 and 4 using ISMGs.

Schools report a provisional mark by criterion to the QCAA for each internal assessment.

Once confirmed by the QCAA, these results will be combined with the result of the external assessment developed and marked by the QCAA.

The QCAA uses these results to determine each student's subject result as a mark out of 100 and as an A–E.

Units

Unit 1: Individual development

In Unit 1, students explore the scientific method as the process for producing contemporary research in psychology. An understanding of the original philosophical debates to inform psychology — including free will versus determinism, and nature versus nurture — provides an essential lens for examining all perspectives within psychology. Students investigate the structure and function of the human brain and how this affects individual development and behaviour. They examine factors within cognitive development, and explore changes that occur over the lifespan. Lastly, they explore different forms of consciousness and theories for the function of sleep.

Contexts that could be investigated in this unit include the impact of orphanages on childhood development, the influence of technology on 21st century lives, and the effect of sleep deprivation on cognition.

Participation in a range of experiments and investigations will allow students to progressively develop their suite of science inquiry skills while gaining an enhanced appreciation of the variables that affect the quality and quantity of sleep.

Throughout the unit, students develop skills in planning, conducting and interpreting the results of investigations; synthesising evidence to support conclusions; recognising and defining the realm of validity of psychological theories and models; and communicating these conclusions to others in a range of formats.

Unit objectives

1. Describe ideas and findings about the role of the brain, cognitive development, and human consciousness and sleep.
2. Apply understanding of the role of the brain, cognitive development, and human consciousness and sleep.
3. Analyse data about the role of the brain, cognitive development, and human consciousness and sleep.
4. Interpret evidence about the role of the brain, cognitive development, and human consciousness and sleep.
5. Evaluate processes, claims and conclusions about the role of the brain, cognitive development, and human consciousness and sleep.
6. Investigate phenomena associated with the role of the brain, cognitive development, and human consciousness and sleep.

Subject matter

Topic 1: The role of the brain (15 hours)

Science understanding

- Discuss the mind-versus-body problem, with reference to the materialist approach (refer to Claudius Galen) and the dualistic approach (refer to René Descartes).
- Describe early brain investigative techniques including phrenology (refer to Franz Gall) and experimental neurosurgery (refer to Pierre Flourens and Wilder Penfield).
- Explain how neuroimaging techniques can be used to enhance the understanding of the structure of the brain and its relationship to cognition, emotion and behaviour, e.g.
  - positron emission tomography (PET)
  - magnetic resonance imaging (MRI)
  - functional magnetic resonance imaging (fMRI)
  - electroencephalography (EEG).
- Describe the basic structure and function of the human nervous system, including the central (i.e. brain and spinal cord) and peripheral (i.e. somatic and autonomic) nervous systems.
- Describe the structure of a neuron, including the axon, dendrites, cell body, myelin sheath and axon terminal.
- Contrast sensory neurons, motor neurons and interneurons.
- Explain that the brain can be viewed as discrete areas, including the hindbrain, midbrain and forebrain.
- Describe the interacting roles of specific brain regions, including Broca's area, Wernicke's area and Geschwind's territory.

Science as a human endeavour (SHE)

- Consider that knowledge about the structure and function of the brain has historically been at the expense of risky and invasive practices.
- Appreciate that neuroimaging techniques have improved neuropsychological knowledge, and understanding of the connections between anatomy, physiology and psychology.
- Recognise that understanding localisation of brain function can be used to predict cognitive and behavioural effects of localised damage.

Topic 2: Cognitive development (15 hours)

Science understanding

- Describe infancy and adolescence as periods of rapid development and changes in brain structure and function, with reference to myelination, synaptic pruning and development of the forebrain.

- Explain neural plasticity with reference to
  - brain development, e.g.
    - deprived versus enriched environments
    - sensitive and critical periods
  - brain damage.
- Describe the role of attachment in psychological development.
- Describe the detrimental effects of early abuse or deprivation on cognitive development.
- Discuss cognitive, sociocultural and information processing theories (i.e. processing speed, cognitive strategies and metacognition) of cognitive development.

Science as a human endeavour (SHE)

- Recognise that researchers build on and challenge the work of earlier researchers when developing psychological theory, e.g. key figures in the field of
  - attachment theory include Konrad Lorenz (1937), Harry Harlow (Harlow & Zimmermann 1958), John Bowlby (1969) and Mary Ainsworth (Ainsworth, Blehar, Waters & Wall 1978).
  - cognitive development include Piaget (1936) (cognitive theory) and Lev Vygotsky (1978) (sociocultural theory).
- Consider the impact of increased use of digital technology (e.g. smartphones, tablets, laptops) on children's cognitive development.
- Consider the interaction between biologically defined critical periods, and social and cultural contexts as factors affecting psychological development in adolescence.
- Appreciate that psychological scientists adhere to ethical principles when conducting research into the experiences of children who have suffered from abuse or deprivation.
- Draw conclusions from secondary sources about the effect of technology on the cognitive development of adolescents, considering the relationship between technology use and another variable such as the ability to plan, inhibit inappropriate behaviours, think flexibly and abstractly, or focus on relevant information.

Topic 3: Consciousness, attention and sleep (15 hours)

Science understanding

- Describe the continuum of arousal, from sleep through to hyperarousal.
- Discriminate between selective and divided attention.
- Explain how brain structures and hormones regulate and direct consciousness, e.g.
  - the interaction between the hypothalamus and the pineal gland to produce melatonin to regulate sleep
  - the interaction of the thalamus, the cortex and the reticular formation to focus conscious attention on a particular target.
- Describe techniques used to measure consciousness, including electroencephalography (EEG), electromyography (EMG), and electrooculography (EOG).
- Describe the sleep–wake cycle, with reference to the stages of sleep, including rapid eye movement (REM) and non-rapid eye movement (NREM) sleep.

- Discuss the purpose of sleep by comparing the restoration and evolutionary theories.
- Describe the changes in the sleep–wake cycle across the life span, including the sleep-wake shift in adolescence.
- Identify the physical and psychological consequences of total and partial sleep deprivation, including effects on concentration and mood.
- Compare common sleep disorders including narcolepsy, sleep-onset insomnia, sleep apnoea and sleep walking.
- Describe treatment interventions for sleep disorders, including cognitive behavioural therapy for insomnia, and bright light therapy for circadian phase disorders.
- Interpret correlational data about the relationship between normal hours of sleep and one other variable (e.g. listening to music, food before bed, amount of exercise in the day, reading on electronic devices).

Science as a human endeavour (SHE)

- Recognise that the nature and quality of sleep has changed in response to different priorities and expectations in modern society.
- Appreciate that an understanding of the role of sleep in human functioning can be used to develop and evaluate policy and laws, and inform the monitoring, assessment and evaluation of risks in the workplace.
- Consider that sleep serves a different purpose for humans than for other animals, reflecting on how sleep
  - could be adaptive, i.e. varying levels of consciousness as a protective factor — sleeping at night
  - patterns change across the human lifespan.

Science inquiry

- Investigate the relationship between normal hours of sleep and one other variable using a correlational research design, e.g. listening to music, food before bed, amount of exercise in the day, reading on electronic devices.
- Investigate the effect of divided attention on memory using an experimental research design and replicating an aspect of the investigation by Fergus Craik et al (1996).
- Investigate the effect of stimulus incongruence on processing time using an experimental research design that measures an aspect of the ‘Stroop effect’ (Stroop 1935).

Unit 2: Individual behaviour

In Unit 2, students explore the ways Psychology explains the development of individual behaviour. They will review the concepts underpinning psychological science. An understanding of theories of intelligence is essential to appreciate the role of nature and nurture in the development of self. Students examine diagnosis of psychological disorder, and investigate the effectiveness of various treatment interventions available to support individuals, families and the community. They develop scientific skills and conceptual understanding of the role that emotion plays in regulating and directing behaviour, and motivation in directing action.

Contexts that could be investigated in this unit include the extremes of intelligence, the use of intelligence tests by business in selecting and profiling employees, the importance of peer review in assessing journal articles and the importance of selecting the most appropriate support interventions for individuals, families and communities where psychological disorder is prevalent.

Participation in a range of experiments and investigations will allow students to progressively develop their suite of science inquiry skills while gaining an enhanced appreciation of theories about the effect of emotion on behaviour.

Throughout the unit, students develop skills in planning, conducting and interpreting the results of investigations; synthesising evidence to support conclusions; recognising and defining the realm of validity of psychological theories and models; and communicating these conclusions to others in a range of formats.

Unit objectives

1. Describe ideas and findings about intelligence, diagnosis, psychological disorders and treatments, and emotion and motivation.
2. Apply understanding of intelligence, diagnosis, psychological disorders and treatments, and emotion and motivation.
3. Analyse data about intelligence, diagnosis, psychological disorders and treatments, and emotion and motivation.
4. Interpret evidence about intelligence, diagnosis, psychological disorders and treatments, and emotion and motivation.
5. Evaluate processes, claims and conclusions about intelligence, diagnosis, psychological disorders and treatments, and emotion and motivation.
6. Investigate phenomena associated with intelligence, diagnosis, psychological disorders and treatments, and emotion and motivation.

Subject matter

Topic 1: Intelligence (10 hours)

Science understanding

- Describe the psychometric approach to intelligence (i.e. intelligence quotient, or IQ).
- Describe common methods by which intelligence is measured with reference to IQ tests and scales, including
  - Stanford–Binet scale
  - Wechsler's intelligence scales for adults (WAIS-IV) and children (WISC-IV).
- Discuss the significance of common uses of the psychometric approach to intelligence compared to
  - the information processing approach
  - Sternberg's triarchic theory of intelligence
  - Gardner's multiple intelligences
  - Goleman's emotional intelligence (EQ).
- Discuss the degree to which intelligence tests are valid and reliable.
- Discuss the extent to which intelligence is inherited, with reference to twin, family and adoption studies, e.g. the Minnesota study of twins reared apart (Bouchard, Lykken, McGue, Segal & Tellegen 1990).

Science as a human endeavour (SHE)

- Consider the validity and reliability of IQ and EQ testing to determine if these tests can be misleading and/or inaccurate.
- Discuss the applicability of theories of intelligence across social and cultural contexts.
- Evaluate the degree to which intelligence tests are culturally biased.
- Discuss the extent to which intelligence is inherited or learned, with reference to the broader nature–nurture debate in psychology.

Topic 2: Diagnosis (10 hours)

Science understanding

- Discriminate between adaptive and maladaptive behaviour.
- Discuss concepts of normality, including
  - sociocultural
  - functional
  - historical
  - situational
  - medical
  - statistical approaches.
- Describe the concept of psychological disorder.

- Compare diagnostic manuals in common use, including the Diagnostic and Statistical Manual of Mental Disorders (5th edition-TR, 2022), and the International Classification of Diseases (11th revision, 2022), discussing the uses that different professions make of these manuals.
- Describe the main categories of psychological disorders, including the schizophrenia spectrum and other psychotic disorders (e.g. schizophrenia), bipolar and depressive disorders (e.g. depression), anxiety disorders (e.g. phobias) and personality disorders (e.g. antisocial personality disorder).
- Discuss the reliability and validity of diagnosis.

Science as a human endeavour (SHE)

- Consider whether diagnostic manuals enable psychologists to offer valid explanations for maladaptive behaviour and make reliable predictions for prognosis.
- Evaluate the influence of social, cultural and ethical factors on diagnosis.
- Appreciate that providing a person with a diagnosis can have beneficial/harmful/unintended consequences.

Topic 3: Psychological disorders and treatments (15 hours)

Science understanding

- Describe the biopsychosocial approach to understanding psychological disorder.
- Classify risk factors for psychological disorder as
  - biological (genes, medication, sleep, substance use)
  - psychological (rumination, impaired reasoning and memory, stress)
  - social (disorganised attachment, significant relationships).
- Describe the prevalence, symptoms and perceived causes of anxiety disorders, including generalised anxiety disorder (GAD) and specific phobias.
- Describe the impact of stigma on help-seeking behaviours.
- Compare the use of psychotherapies, pharmacotherapies, electroconvulsive therapy (ECT) and psychosurgery in the treatment of psychological disorders.
- Explain the placebo effect.
- Analyse data identifying the prevalence of psychological disorders in different cultures.

Science as a human endeavour (SHE)

- Appreciate that
  - the biopsychosocial approach encompasses evidence from psychology, psychiatry and social work
  - the focus of psychological research has shifted from psychological disorder to psychological health
  - psychological disorders impact not only individuals, but also families and the wider community.
- Consider that appropriate support for people suffering from psychological disorder can alleviate the impacts felt by the individual, their families and the wider community.
- Evaluate the most appropriate support interventions available to the individual, family and wider community for various psychological disorders.

Topic 4: Emotion and motivation (10 hours)

Science understanding

- Compare the two-factor (Schachter & Singer 1962) and appraisal (Lazarus 1982) theories of emotion.
- Describe physiological processes associated with emotion, including autonomic arousal and activity in the limbic system, i.e. thalamus, hypothalamus, amygdala, hippocampus, basal ganglia and cingulate gyrus.
- Describe factors that affect happiness.
- Interpret data from an experiment comparing the effect of watching emotive (e.g. a scary movie) versus informative (e.g. an advertisement for toothpaste) stimuli on emotional responses (measured by changes in heart rate).
- Explain subjective wellbeing (Diener 1984), psychological wellbeing (Ryff & Keyes 1995), and the broaden-and-build theory (Fredrickson 2004) of positive emotions.
- Explain mindfulness, with reference to attention and acceptance.
- Describe the positive consequences of the flow experience (Nakamura & Csikszentmihalyi 2002), with reference to enhancing positive affect, life satisfaction, performance and learning.
- Compare the achievement goal (task orientation and ego orientation), cognitive evaluation (intrinsic and extrinsic motivation), and self-efficacy (outcome expectations and efficacy expectations) theories of motivation.
- Describe the role of goal setting in motivation (Locke 1996).

Science as a human endeavour (SHE)

- Explore the relationship between motivation and emotion to gain an appreciation of the importance of conducting research using psychological research methods.
- Appreciate that neuroimaging technologies can suggest a biological basis for the experience of emotion.
- Consider that psychological research into flow can influence strategies used by employers to motivate and engage employees.

Science inquiry

- Investigate the effect of watching emotive (e.g. a scary movie) versus informative (e.g. an advertisement for toothpaste) stimuli on emotional responses (measured as changes in heart rate).

Unit 3: Individual thinking

In Unit 3, students explore the ways psychology is used to describe and explain the role of the human nervous system in individual thinking, and the cognitive processes involved in perception, memory, and learning. They will develop an understanding of the structure and function of the human nervous system, including the role of specialised areas of the brain. Understanding the relationships between localised function and specific behaviours is essential to appreciating the impact of interference in the cognitive processes. Students investigate biological, psychological and social influences on sensation and perception. They also examine models of memory and explore the brain structures responsible for specific aspects of remembering. Students explore three theories of learning, including how fear can be a learnt response.

Contexts that could be investigated in this unit include how damage to areas of the brain can lead to changes in behaviour, the influence of experience and expectations on sensation and perception, how models of memory can be contested and refined based on new information, and how the media can influence learning.

Participation in a range of experiments and investigations will allow students to progressively develop their suite of science inquiry skills while gaining an enhanced appreciation of environmental effects on memory retrieval.

Throughout the unit, students develop skills in planning, conducting and interpreting the results of investigations; synthesising evidence to support conclusions; recognising and defining the realm of validity of psychological theories and models; and communicating these conclusions to others in a range of formats.

Unit objectives

1. Describe ideas and findings about brain function, sensation and perception, memory and learning.
2. Apply understanding of brain function, sensation and perception, memory and learning.
3. Analyse data about brain function, sensation and perception, memory and learning.
4. Interpret evidence about brain function, sensation and perception, memory and learning.
5. Evaluate processes, claims and conclusions about brain function, sensation and perception, memory and learning.
6. Investigate phenomena associated with brain function, sensation and perception, memory and learning.

Subject matter

Topic 1: Brain function (10 hours)

Science understanding

The following subject matter can be assessed in the external assessment.

- Describe the structure of the human nervous system, with reference to the central (i.e. brain and spinal cord) and peripheral (i.e. somatic and autonomic) nervous systems.
- Describe the role of the spinal cord in the human nervous system, with reference to monosynaptic and polysynaptic spinal reflexes.
- Describe how brain function can be viewed as both localised and distributed, with
  - some functions being identified with specific areas in the cerebral cortex, including the frontal, occipital, parietal and temporal lobes
  - some functions being distributed across large or multiple brain regions, e.g.
    - the storage of explicit memory is associated with the hippocampus, the neo-cortex and the amygdala
    - the formation of implicit memories relies upon the basal ganglia and cerebellum.
- Explain that Broca's area, Wernicke's area, and Geschwind's territory have specific roles in language processing.
- Explain the interaction of the primary motor cortex, cerebellum and basal ganglia in coordinating voluntary movement.
- Explain the importance of the limbic system and the prefrontal cortex for the experience of emotion.
- Describe neurotransmission, with reference to action potentials and synaptic transmission.
- Contrast excitatory and inhibitory neurotransmitters, e.g. glutamate (Glu) and gamma-amino butyric acid (GABA).
- Describe the physical and psychological function of acetylcholine, epinephrine, norepinephrine, dopamine and serotonin.
- Explain the impact of interference in neurotransmitter function, with reference to Parkinson's disease and Alzheimer's disease, considering causes, symptoms and treatments.

Science as a human endeavour (SHE)

The following subject matter may be assessed in the internal assessments.

- Consider how findings from behavioural neuroscience can be used by psychologists.
- Appreciate how plasticity assists in the recovery from brain injury.
- Recognise that all human behaviour has a biological basis.
- Recognise that changes to neurotransmitter function may have beneficial and/or harmful and/or unintended consequences.

Topic 2: Sensation and perception (10 hours)

Science understanding

The following subject matter can be assessed in the external assessment.

- Describe the processes of seeing and hearing, with reference to
  - reception by accessory structures)
  - transduction by sensory receptors and receptive fields
  - transmission to the CNS via the optic/acoustic nerves
  - preliminary processing in the thalamus
  - organisation and interpretation by the primary visual/auditory cortex.
- Explain psychological aspects of sensation and perception including
  - perceptual set with respect to past experience, context, motivation and emotional state
  - visual perception principles, e.g. Gestalt principles, depth cues, and visual constancies
  - loudness, pitch and timbre.
- Describe the effect of cultural influences on visual (de Bruine, Vredeveldt & van Koppen 2018) and auditory (Morrison & Demorest 2009) perception.

Science as a human endeavour (SHE)

The following subject matter may be assessed in the internal assessments.

- Consider that senses apart from seeing and hearing involve different modes of reception from the environment and different transmission pathways, e.g. the sense of smell is received chemically and is the only sense not transmitted by the thalamus.
- Appreciate that seminal research into the effect of cultural influences on perception (e.g. Hudson 1960; Deregowski 1972) has continued to be modified and replicated by later researchers (de Bruïne, Vredeveldt & van Koppen 2018; Morrison & Demorest 2009).
- Appreciate that the effort to understand perception is ongoing, with several theoretical approaches being taken, including computational, constructivist and ecological approaches.
- Consider the effect of expectation on perception, e.g. the role of frequency in developing perceptual sets in Bugelski & Alampay 1961.

Topic 3: Memory (15 hours)

Science understanding

The following subject matter can be assessed in the external assessment.

- Compare three models of memory, specifically
  - the multi-store model of memory, including sensory, short-term and long-term memory
  - the working memory model, including the central executive, phonological loop, visuospatial sketchpad, and episodic buffer
  - the levels of processing (LOP) model of memory, including the role of encoding in long-term memory.
- State the duration and capacity of sensory memory (including iconic and echoic), and short-term and long-term memory.

- Describe how information is stored in long-term memory with reference to implicit (i.e. procedural, priming, classical conditioning) and explicit (i.e. episodic and semantic) memory.
- Describe the role of the hippocampus, the neo-cortex and the amygdala in forming and storing explicit memories.
- Describe the role of the cerebellum in forming implicit memories.
- Contrast recall, recognition and relearning.
- Describe problems with memory such as encoding failure, retrieval failure and interference effects.
- Discuss strategies to improve memory, including spacing, interleaving, chunking, elaborative and maintenance rehearsal, and the method of loci.
- Interpret data about the context-dependency of memory from a modified experiment following Grant et al. (1998).

Science as a human endeavour (SHE)

The following subject matter may be assessed in the internal assessments.

- Discuss cases of models of memory being contested, refined and/or replaced as a result of new evidence, e.g.
  - how the working model of memory has greater explanatory power than previous models
  - developments in the concept of working memory from inception (Baddeley & Hitch 1974) to the present.
- Consider that investigations into memory can be limited in their ability to provide definitive answers as the evidence is open to interpretation.
- Identify the changes to memory associated with ageing.

Science inquiry

The following subject matter may be assessed in the internal assessments.

- Investigate
  - the context-dependency of memory by modifying an experiment (Grant et al. 1998)
  - the duration of short-term memory, e.g. Peterson & Peterson (1959)
  - the capacity of short-term memory, e.g. Miller (1956)
  - encoding in memory, e.g. Craik & Levy (1970)
  - context-dependent cues on memory, e.g. Tulving & Pearlstone (1966)
  - levels of processing theory
    - deep processing (semantic), e.g. Elias & Perfetti (1973)
    - deep and shallow processing (semantic, physical and phonemic), e.g. Hyde & Jenkins (1973)
    - evaluating the validity of depth of processing, e.g. Craik & Tulving (1975).

Topic 4: Learning (10 hours)

Science understanding

The following subject matter can be assessed in the external assessment.

- Compare classical conditioning, operant conditioning and social learning theory, and discuss the underlying theories of behaviourism and social and cognitive psychology.
- For classical conditioning
  - describe the concepts unconditioned stimulus (UCS), unconditioned response (UCR), neutral stimulus (NS), conditioned stimulus (CS) and conditioned response (CR)
  - distinguish between stimulus generalisation and discrimination
  - describe extinction and spontaneous recovery
  - describe learned fear responses, with reference to the 'Little Albert' experiment.
- For operant conditioning
  - distinguish between negative and positive reinforcement, and negative and positive punishment
  - describe stimulus generalisation and discrimination
  - describe extinction and spontaneous recovery
  - describe the operation of the 'Skinner box' in operant conditioning studies.
- For social learning theory
  - distinguish between modelling and vicarious conditioning
  - describe vicarious conditioning, as observed in the 'Bobo doll' experiments conducted by Bandura and colleagues.

Science as a human endeavour (SHE)

The following subject matter may be assessed in the internal assessments.

- Appreciate that theories of learning have been developed with reference to one another, and by an ongoing empirical process, e.g.
  - Skinner (1948) developed his theory of operant conditioning in response to Pavlov's (1897/1902) work on classical conditioning
  - Bandura (1977) developed his theory of observational (or social) learning to extend learning theory to account for the influence of models observed in social contexts.
- Consider the effect of learning theories on childrearing, schooling, and employment practices, and approaches to advertising and marketing.
- Recognise the significant ethical issues involved in early conditioning studies, including Pavlov (1897/1902) and Watson & Rayner (1920).
- Consider evidence for classical conditioning of immune responses in humans.
- Consider the impact of role models (music, film, television) on teenage behaviour.
- Explore how social media influences behaviour through the application of social learning theory.

Unit 4: The influence of others

In Unit 4, students explore the ways Psychology is used to describe and explain how others influence our development, behaviour and thinking. An understanding of the social processes involved in the development of relationships is essential to appreciating the responses and actions of others. Students investigate how stereotypes can directly affect behaviour. They examine how attitudes are formed and challenged, and analyse the complex cross-cultural nature of societies today.

Contexts that could be investigated in this unit include how the presence of others affects how we think, feel and behave; the impact that developing information communication technologies have on large-scale datasets; and the challenges faced with ever-increasing migrations of people in creating intercommunity and intercultural understanding.

Participation in a range of experiments and investigations will allow students to progressively develop their suite of science inquiry skills while gaining an enhanced appreciation of the impact of stereotypes on behaviour, and how easy it is to commit the fundamental attribution error (FAE).

Throughout the unit, students develop skills in planning, conducting and interpreting the results of investigations; synthesising evidence to support conclusions; recognising and defining the realm of validity of psychological theories and models; and communicating these conclusions to others in a range of formats.

Unit objectives

1. Describe ideas and findings about social psychology, interpersonal processes, attitudes and cross-cultural psychology.
2. Apply understanding of social psychology, interpersonal processes, attitudes and cross-cultural psychology.
3. Analyse data about social psychology, interpersonal processes, attitudes and cross-cultural psychology.
4. Interpret evidence about social psychology, interpersonal processes, attitudes and cross-cultural psychology.
5. Evaluate processes, claims and conclusions about social psychology, interpersonal processes, attitudes and cross-cultural psychology.
6. Investigate phenomena associated with social psychology, interpersonal processes, attitudes and cross-cultural psychology.

Subject matter

Topic 1: Social psychology (10 hours)

Science understanding

The following subject matter can be assessed in the external assessment.

- Explain the difference between primary (i.e. family) and secondary (e.g. media, schooling) socialisation.
- Describe gender and compare social learning, cognitive developmental and biological theories of gender role formation.
- Describe group social influence, with reference to compliance, identification and internalisation.
- Describe the effect of status, roles and power on social behaviour.
- Explain how obedience, conformity and social norms (as described by Cialdini et al. 2006) lead to behaviour change.
- Describe the findings of historical social psychological research, with reference to
  - Asch's (1955) research on compliance
  - Milgram's (1963) research on obedience
  - Haney, Banks and Zimbardo's (1973) research on status, roles and power.

Science as a human endeavour (SHE)

The following subject matter may be assessed in the internal assessments.

- Appreciate that the presence of others affects the way we think, feel and behave.
- Appreciate that research in social psychology is conducted in the context of cultural and historical movements and events, and that this affects both the relevance of the research and the perspective of the researchers.
- Explore the relative contributions of different factors to gender role formation.
- Discuss whether, and to what extent, social media is changing the nature of relationships.
- Evaluate historical social psychological research, considering the ethical and procedural challenges involved in producing reproducible results when conducting research in social psychology, e.g. consider
  - critiques of the Stanford Prison Experiment with respect to demand characteristics, data collection issues and the experience of participants (Le Texier 2019)
  - the effect that Milgram's (1963) study of obedience had on ethical guidelines for psychological researchers.

Topic 2: Interpersonal processes (15 hours)

Science understanding

The following subject matter can be assessed in the external assessment.

- Interpret the findings of Latané and Darley's (1969) study of bystander intervention.
- Describe social factors that influence prosocial behaviour, with reference to the reciprocity principle and social responsibility.
- Describe personal characteristics that influence prosocial behaviour, with reference to empathy, mood, competence and altruism.
- Describe social and cognitive factors that influence individual behaviour, including groupthink, diffusion of responsibility, audience inhibition, social influence and cost–benefit analysis.
- Make predictions using the general aggression model (GAM), with respect to single and multiple episodes.
- Explain how media can influence aggression, with reference to advertising, video games and social media.
- Describe biological and cultural explanations of attraction, with reference to Buss et al. (1990).
- Describe social and cognitive origins of attraction, including proximity, reciprocity, similarity and self-disclosure.
- Determine stages in relationship dissolution, with reference to Rollie & Duck's phase model, i.e. intrapsychic, dyadic, social, grave-dressing and resurrection phases.

Science as a human endeavour (SHE)

The following subject matter may be assessed in the internal assessments.

- Appreciate that psychology is limited in its ability to provide definitive solutions to the harmful expression of antisocial behaviour.
- Consider that a strength of the general aggression model (GAM) (Anderson & Bushman 2002) is that it encompasses evidence from multiple theories across multiple perspectives.
- Understand that the formation of relationships is influenced by cultural norms and expectations.

Topic 3: Attitudes (10 hours)

Science understanding

The following subject matter can be assessed in the external assessment.

- Describe the structure of attitudes using the tri-component model.
- Describe implicit and explicit attitudes.
- Describe how discrepancies between attitudes, cognitions and behaviours can lead to discomfort and a drive to reduce it, as described in cognitive dissonance theory.
- Explain social identity theory with reference to social categorisation, social identification and social comparison.
- Describe attributions, and recognise how attributions are used to explain behaviour, with reference to situational and dispositional attributions, and the fundamental attribution error.
- Describe self-serving and confirmation biases.
- Describe stereotypes and identify their advantages and disadvantages.
- Describe the formation of prejudice in terms of: scapegoating, direct experience and personal prejudice, group prejudice, and the prejudiced personality.
- Contrast prejudice and discrimination.
- Interpret data about the relationship between stereotype priming and behaviour from a modification of experiment 2 in Bargh, Chen & Burrows' (1996) study.

Science as a human endeavour (SHE)

The following subject matter may be assessed in the internal assessments.

- Appreciate that attributions influence our interpretation of the behaviour of others, and our corresponding responses (Ross et al. 1977).
- Explain that bias may have beneficial and/or harmful and/or unintended consequences on behaviour.
- Consider that stereotypical, prejudiced and/or discriminatory attitudes are influenced by social, economic, cultural and ethical contexts.
- Consider that Festinger's (1957) theory and subsequent findings (Festinger & Carlsmith 1959) regarding the effect of rewards on cognitive dissonance challenged the predictions of learning theory.

Science inquiry

The following subject matter may be assessed in the internal assessments.

- Investigate the effect of stereotype priming on behaviour by modifying experiment 2 in Bargh, Chen & Burrows' (1996) study.

Topic 4: Cross-cultural psychology (10 hours)

During the teaching of this topic, it is necessary to refer to the 'Safety and ethics' guideline for wellbeing in this syllabus due to the sensitive nature of the subject matter.

Science understanding

The following subject matter can be assessed in the external assessment.

- Explain how membership, influence, integration and fulfilment of needs, and shared emotional connection lead to a sense of community.
- Describe the concept of culture in the psychological context, with reference to behaviours, beliefs and values, and to individualist and collectivist cultures.
- Discriminate between multiculturalism and pluralism, on the basis of the absence or presence of a dominant culture.
- Describe the psychological challenges of immigration and acculturation, including culture shock, assimilation and marginalisation.
- Explain how cultural diversity can be a source of conflict, with reference to prejudice expressed as implicit and explicit racism.
- Describe ways to reduce prejudice, with reference to intergroup contact that is sustained, with superordinate goals, mutual interdependence and equality of status.

Science as a human endeavour (SHE)

The following subject matter may be assessed in the internal assessments.

- Recognise that the development of complex theories requires researchers to draw upon a wide range of evidence from multiple disciplines, such as the theory of the sense-of-community developed by McMillan & Chavis (1986).
- Appreciate that most psychological research has been performed in a specific cultural context (i.e. Western, educated, industrialised, rich and democratic societies) and may not be fully applicable in other contexts.
- Recognise the importance of international collaboration when investigating cross-cultural phenomena.
- Understand that while Australian First Nations peoples have shared experiences of colonisation and settlement, they are not homogenous, but represent many culturally distinctive groups.
- Recognise that the challenges of Australian First Nations peoples in responding to the processes of colonisation and settlement are ongoing.
- Appreciate that conflict resulting from cultural diversity can be alleviated by increasing intercultural understanding.
- Explore ways to increase intercultural understanding in order to reduce conflict as a result of cultural diversity.

Assessment

Internal assessment 1: Data test (10%)

Students respond to items using qualitative data and/or quantitative data derived from practicals, activities or case studies from Unit 3.

Assessment objectives

2. Apply understanding of brain function, sensation and perception, memory or learning to given algebraic, visual or graphical representations of scientific relationships and data to determine unknown scientific quantities or features.
3. Analyse data about brain function, sensation and perception, memory or learning to identify trends, patterns, relationships, limitations or uncertainty in datasets.
4. Interpret evidence about brain function, sensation and perception, memory or learning to draw conclusions based on analysis of datasets.

Specifications

The teacher provides an examination that may ask students to respond using:

- single words
- sentences (up to 150 words per question)
- calculations.

Question specifications

The examination must be aligned to the specifications provided in the table below.

Focus of question	Mark allocation (± 2%)	Objective	In these questions, students:
Unknown scientific quantities or features of datasets	~ 30%	2	calculate using algorithms, determine, identify, use
Trends, patterns, relationships, limitations or uncertainty in datasets	~ 30%	3	categorise, classify, compare, contrast, identify, organise, sequence
Conclusions based on analysis of datasets	~ 40%	4	deduce, determine, draw (a conclusion), extrapolate, infer, interpolate, justify, predict

Stimulus specifications

The teacher provides unseen stimulus that:

- uses qualitative data and/or quantitative data from the listed practicals, activities or case studies from Unit 3
- contains between two and four datasets.

Conditions

- Time allowed
  - Perusal time: 5 minutes
  - Working time: 60 minutes
- This is an individual supervised task.
- Students are permitted a QCAA-approved graphics or scientific calculator.

Mark allocation

Criterion	Assessment objectives	Marks
Data test	2, 3, 4	10
	Total marks:	10

Instrument-specific marking guide

Data test	Cut-off	Marks
The student response has the following characteristics:		
• consistent demonstration, across a range of scenarios, of – selection and correct application of scientific concepts, theories, models and systems to predict outcomes, behaviours and implications – correct calculation of quantities through the use of algebraic, visual and graphical representations of scientific relationships and data – correct and appropriate use of analytical techniques to correctly identify trends, patterns, relationships, limitations and uncertainty – correct interpretation of evidence to draw valid conclusions	> 90%	10
	> 80%	9
• consistent demonstration of – selection and correct application of scientific concepts, theories, models and systems to predict outcomes, behaviours and implications – correct calculation of quantities through the use of algebraic, visual and graphical representations of scientific relationships and data – correct use of analytical techniques to correctly identify trends, patterns, relationships, limitations and uncertainty – correct interpretation of evidence to draw valid conclusions	> 70%	8
	> 60%	7
• adequate demonstration of – selection and correct application of scientific concepts, theories, models and systems to predict outcomes, behaviours and implications – correct calculation of quantities through the use of algebraic, visual and graphical representations of scientific relationships and data – correct use of analytical techniques to correctly identify trends, patterns, relationships, limitations and uncertainty – correct interpretation of evidence to draw valid conclusions	> 50%	6
	> 40%	5
• demonstration of elements of – selection and correct application of scientific concepts, theories, models and systems to predict outcomes, behaviours and implications – correct calculation of quantities through the use of algebraic, visual or graphical representations of scientific relationships or data – correct use of analytical techniques to correctly identify trends, patterns, relationships, limitations or uncertainty – correct interpretation of evidence to draw valid conclusions	> 30%	4
	> 20%	3
• demonstration of elements of – application of scientific concepts, theories, models or systems to predict outcomes, behaviours or implications – calculation of quantities through the use of algebraic or graphical representations of scientific relationships and data – use of analytical techniques to identify trends, patterns, relationships, limitations or uncertainty – interpretation of evidence to draw conclusions.	> 10%	2
	> 1%	1
The student response does not match any of the descriptors above.	≤ 1%	0

Internal assessment 2: Student experiment (20%)

Students modify (i.e. refine, extend or redirect) an experiment relevant to Unit 3 subject matter to address their own related hypothesis or question. This assessment provides opportunities to assess science inquiry skills.

Assessment objectives

1. Describe ideas and experimental findings about brain function, sensation and perception, memory or learning.
2. Apply understanding of brain function, sensation and perception, memory or learning to modify experimental methodologies and process data.
3. Analyse experimental data about brain function, sensation and perception, memory or learning.
4. Interpret experimental evidence about brain function, sensation and perception, memory or learning.
5. Evaluate experimental processes and conclusions about brain function, sensation and perception, memory or learning.
6. Investigate phenomena associated with brain function, sensation and perception, memory or learning through an experiment.

Specifications

This task requires students to:

- identify an experiment to modify
- develop a research question to be investigated
- research relevant background scientific information to inform the modification of the research question and methodology
- conduct a risk assessment and account for risks in the methodology
- conduct the experiment
- collect relevant qualitative data and/or quantitative data to address the research question
- process and present the data appropriately
- analyse the evidence to identify trends, patterns or relationships
- analyse the evidence to identify uncertainty and limitations
- interpret the evidence to draw conclusion/s to the research question
- evaluate the reliability and validity of the experimental process
- suggest possible improvements and/or extensions to the experiment
- communicate findings in an appropriate scientific genre, e.g. report, poster presentation, journal article, conference presentation.

Scientific inquiry is a non-linear, iterative process. Students will not necessarily complete these steps in the stated order; some steps may be repeated or revisited.

It is recommended that this task is designed so that students can develop a response in approximately 10 hours of class time.

Conditions

- Students can develop their responses in class time and their own time.
- This is an individual task.
- The following aspects of the task may be completed as a group
  - identifying an experiment
  - developing a research question
  - conducting a risk assessment
  - conducting the experiment
  - collecting data.
- Students use a practical or simulation performed in class as the basis for their methodology and research question.

Response requirements

One of the following:

- Multimodal (at least two modes delivered at the same time): up to 11 minutes
- Written: up to 2000 words

Mark allocation

Criterion	Assessment objectives	Marks
Forming	1, 2, 6	5
Finding	6	5
Analysing	2, 3	5
Interpreting and Evaluating	4, 5	5
	Total marks:	20

Instrument-specific marking guide

Forming	Marks
The student response has the following characteristics:	
• a considered rationale for the experiment • justified modifications to the methodology • a specific and relevant research question • appropriate use of genre and referencing conventions • fluent and concise use of scientific language and representations	4–5
• a reasonable rationale for the experiment • feasible modifications to the methodology • a relevant research question • use of basic genre and referencing conventions • competent use of scientific language and representations	2–3
• a vague or irrelevant rationale for the experiment • inappropriate modifications to the methodology • an inappropriate research question • inadequate use of genre and referencing conventions • simplistic use of language and representations.	1
The student response does not match any of the descriptors above.	0

Finding	Marks
The student response has the following characteristics:	
• a methodology that enables the collection of sufficient, relevant data • considered management of risks/ethical issues/environmental issues • collection of sufficient and relevant raw data	4–5
• a methodology that enables the collection of relevant data • management of risks/ethical issues/environmental issues • collection of relevant raw data	2–3
• a methodology that causes the collection of insufficient and irrelevant data • inadequate management of risks/ethical issues/environmental issues • collection of insufficient and irrelevant raw data.	1
The student response does not match any of the descriptors above.	0

Analysing	Marks
The student response has the following characteristics:	
• correct and relevant processing of data • thorough identification of relevant trends/patterns/relationships • thorough and appropriate identification of the uncertainty and limitations of evidence	4–5
• basic processing of data • identification of obvious trends/patterns/relationships • basic identification of uncertainty/limitations of evidence	2–3
• incorrect or irrelevant processing of data • identification of incorrect or irrelevant trends/patterns/relationships • incorrect or insufficient identification of uncertainty/limitations of evidence.	1
The student response does not match any of the descriptors above.	0

Interpreting and Evaluating	Marks
The student response has the following characteristics:	
• justified conclusion/s linked to the research question • justified discussion of the reliability and validity of the experimental process • suggested improvements and extensions to the experiment that are logically derived from the analysis of evidence	4–5
• reasonable conclusion/s relevant to the research question • reasonable description of the reliability and validity of the experimental process • suggested improvements and/or extensions to the experiment that are related to the analysis of evidence	2–3
• inappropriate or irrelevant conclusion/s • cursory or simplistic statements about the reliability and validity of the experimental process • ineffective or irrelevant suggestions.	1
The student response does not match any of the descriptors above.	0

Internal assessment 3: Research investigation (20%)

Students gather evidence related to a research question to evaluate a claim relevant to Unit 4 subject matter. This assessment provides opportunities to assess science inquiry skills and science as a human endeavour (SHE) subject matter.

Assessment objectives

1. Describe ideas and findings about social psychology, interpersonal processes, attitudes or cross-cultural psychology.
2. Apply understanding of social psychology, interpersonal processes, attitudes or cross-cultural psychology to develop research questions.
3. Analyse research data about social psychology, interpersonal processes, attitudes or cross-cultural psychology.
4. Interpret research evidence about social psychology, interpersonal processes, attitudes or cross-cultural psychology.
5. Evaluate research processes, claims and conclusions about social psychology, interpersonal processes, attitudes or cross-cultural psychology.
6. Investigate phenomena associated with social psychology, interpersonal processes, attitudes or cross-cultural psychology through research.

Specifications

This task requires students to:

select a claim to be evaluated, from a list provided by the teacher

- identify the relevant scientific concepts associated with the claim
- conduct research to gather evidence from scientifically credible sources to evaluate the claim
- pose a research question that addresses an aspect of the claim
- identify relevant evidence to answer the research question
- identify the trends, patterns or relationships in the evidence
- analyse the evidence to identify limitations
- interpret the evidence to construct scientific arguments
- interpret the evidence to form a conclusion to the research question
- discuss the quality of the evidence
- evaluate the claim by applying the findings of the research to the claim
- suggest improvements and/or extensions to the investigation
- communicate findings in an appropriate scientific genre, e.g. report, journal article, essay, conference presentation.

Scientific inquiry is a non-linear, iterative process. Students will not necessarily complete these steps in the stated order; some steps may be repeated or revisited.

Evidence must be obtained by researching scientifically credible sources, such as:

- books and podcasts by well-credentialed scientists
- 'popular' science websites or magazines
- websites of governments, universities, independent research bodies or science and technology manufacturers
- scientific journals.

It is recommended that this task is designed so that students can develop a response in approximately 10 hours of class time.

Conditions

- Students can develop their responses in class time and their own time.
- This is an individual task.
- The following aspects of the task may be completed as a group
  - selecting a claim
  - identifying the relevant scientific concepts associated with the claim
  - conducting research.

Response requirements

One of the following:

- Multimodal (at least two modes delivered at the same time): up to 11 minutes
- Written: up to 2000 words

Mark allocation

Criterion	Assessment objectives	Marks
Forming and Finding	1, 2, 6	5
Analysing	3	5
Interpreting	4, 5	5
Evaluating	5, 1	5
	Total marks:	20

Instrument-specific marking guide

Forming and Finding	Marks
The student response has the following characteristics:	
• a considered rationale identifying clear development of the research question from the claim • a specific and relevant research question • selection of sufficient and relevant sources • acknowledgment of sources of information through appropriate use of referencing conventions • fluent and concise use of scientific language/representations	4–5
• a reasonable rationale that links the research question and the claim • a relevant research question • selection of relevant sources • use of basic referencing conventions • competent use of scientific language/representations	2–3
• a vague or irrelevant rationale for the investigation • an inappropriate research question • selection of insufficient or irrelevant sources • inadequate acknowledgment of sources • incorrect use of language/representations.	1
The student response does not match any of the descriptors above.	0

Analysing	Marks
The student response has the following characteristics:	
• the identification of sufficient and relevant evidence • thorough identification of relevant trends/patterns/relationships in evidence • thorough and appropriate identification of limitations of evidence	4–5
• the identification of relevant evidence • identification of obvious trends/patterns/relationships in evidence • basic identification of limitations of evidence	2–3
• the identification of insufficient and irrelevant evidence • identification of incorrect or irrelevant trends/patterns/relationships in evidence • incorrect or insufficient identification of limitations of evidence.	1
The student response does not match any of the descriptors above.	0

Interpreting	Marks
The student response has the following characteristics:	
• justified scientific argument/s • justified conclusion linked to the research question • justified discussion of the quality of evidence	4–5
• reasonable scientific argument/s • reasonable conclusion relevant to the research question • reasonable description of the quality of evidence	2–3
• inappropriate or irrelevant argument/s • inappropriate or irrelevant conclusion • cursory or simplistic statements about the quality of evidence.	1
The student response does not match any of the descriptors above.	0

Evaluating	Marks
The student response has the following characteristics:	
• extrapolation of credible findings of the research to the claim • suggested improvements and extensions to the investigation that are considered and relevant to the claim • appropriate use of genre conventions	4–5
• application of relevant findings of the research to the claim • suggested improvements and/or extensions to the investigation that are relevant to the claim • use of basic genre conventions	2–3
• application of insufficient or inappropriate findings of the research to the claim • ineffective or irrelevant suggestions • inadequate use of genre conventions.	1
The student response does not match any of the descriptors above.	0

External assessment: Examination — combination response (50%)

External assessment is developed and marked by the QCAA. The external assessment in Psychology is common to all schools and administered under the same conditions, at the same time, on the same day.

Assessment objectives

1. Describe ideas and findings about brain function, sensation and perception, memory, learning, social psychology, interpersonal processes, attitudes and cross-cultural psychology.
2. Apply understanding of brain function, sensation and perception, memory, learning, social psychology, interpersonal processes, attitudes and cross-cultural psychology.
3. Analyse data about brain function, sensation and perception, memory, learning, social psychology, interpersonal processes, attitudes and cross-cultural psychology to identify trends, patterns, relationships, limitations or uncertainty.
4. Interpret evidence about brain function, sensation and perception, memory, learning, social psychology, interpersonal processes, attitudes and cross-cultural psychology to draw conclusions based on analysis.

Specifications

This examination:

- includes two papers. Each paper consists of a number of different types of questions relating to Units 3 and 4
- may ask students to respond using
  - multiple choice
  - single words
  - sentences or paragraphs
- may ask students to
  - calculate using algorithms
  - interpret unseen stimulus, including graphs, tables or diagrams.

Conditions

Paper 1

- Time allowed
  - Perusal time: 5 minutes
  - Working time: 90 minutes
- Students may use a QCAA-approved graphics or scientific calculator.

Paper 2

- Time allowed
  - Perusal time: 5 minutes
  - Working time: 90 minutes
- Students may use a QCAA-approved graphics or scientific calculator.

Glossary

The syllabus glossary is available at www.qcaa.qld.edu.au/downloads/senior-qce/common/snr_glossary_cognitive_verbs.pdf.

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Version history

Version	Date of change	Information
1.0	January 2024	Released for familiarisation and planning (with implementation starting in 2025)