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

Human Biology
General Course Year 12

Selected Unit 3 syllabus content for the

Externally set task 2026

This document is an extract from the *Human Biology General Course Year 12 syllabus*, featuring all of the content for Unit 3. The content that has been highlighted in the document is the content on which the Externally set task (EST) for 2026 will be based.

All students enrolled in the course are required to complete an EST. The EST is an assessment task which is set by the Authority and distributed to schools for administering to students. The EST will be administered in schools during Term 2, 2026 under standard test conditions. The EST will take 50 minutes.

The EST will be marked by teachers in each school using a marking key provided by the Authority. The EST is included in the assessment table in the syllabus as a separate assessment type with a weighting of 15% for the pair of units.

Unit 3

Unit description

The focus for this unit is on the reproductive choices that people make for personal reproductive health and the delivery of a healthy baby.

Offspring show features of both parents which result from new chromosomal combinations. Reproductive systems are specialised to produce differentiated gametes and ensure the chances of successful fertilisation and implantation. The healthy development of the embryo and foetus can be monitored and options are available for the safe delivery of the baby. Lifestyle choices can impact an individual's sexual health and their fertility may require the use of reproductive technologies.

Students apply their knowledge to construct a DNA model and demonstrate cell division processes. They analyse and evaluate the various contraceptive methods, assisted reproductive technologies and delivery methods in terms of risks, effectiveness and personal circumstances. Students are encouraged to use information and communication technology to interpret data and communicate their findings in a variety of ways.

Unit content

Each unit includes the knowledge, understandings and skills described below.

Scientific Method

- identify a topic for investigation; research and construct questions for investigation
- determine the appropriate methodology for investigations
- design scientific investigations, including the formulation of investigable questions and/or hypotheses, materials required, procedure to be followed to collect valid and reliable data, and identification of safety and ethical considerations
- conduct risk assessments to identify potential hazards and prevent potential incidents and injuries
- select appropriate equipment and techniques to safely, competently and methodically collect valid and reliable data, and use equipment with precision, accuracy and consistency
- represent qualitative and quantitative data in meaningful and useful ways, including the construction of appropriately labelled tables, process quantitative data using appropriate mathematical relationships and units, and draw appropriate graphs
- analyse data to identify and describe trends, patterns and relationships, including the use of appropriate mathematical techniques, and recognise errors and limitations in data
- draw conclusions consistent with the evidence and relevant to the question being investigated, identify further evidence that may be required, and recognise the limitations of conclusions
- evaluate the investigative procedure, including the relevance, accuracy, validity and reliability of data, and suggest improvements
- communicate information and ideas in a variety of ways using scientific conventions and terminology, including the selection and presentation of data and ideas to convey meaning to selected audiences in written, oral and multimedia formats

Scientific Literacy

- distinguish between opinion, anecdote and evidence, and scientific and non-scientific ideas
- use reasoning to construct scientific arguments, and to draw and justify conclusions consistent with the evidence and relevant to the question under investigation
- identify examples of where the application of scientific knowledge may have beneficial, harmful and/or unintended consequences

Science Understanding

Cell reproduction

- chromosomes are made up of large molecules of DNA found in the cell nucleus
- DNA has a double helix structure that is made up of nucleotides with complementary base pairing
- genes are units of inheritance and are responsible for carrying genetic information from one generation to the next
- mitosis produces diploid cells for the purpose of growth and repair and meiosis produces haploid cells for the purpose of gamete production (names and specific details of stages not required)

Reproductive systems

- the production and delivery of gametes is facilitated by the structures of the male and female reproductive systems; females have additional structures that support the development of the unborn baby
- the male reproductive hormones follicle stimulating hormone (FSH), luteinising hormone (LH) and testosterone have a role in the production and maturation of sperm
- the female reproductive hormones follicle stimulating hormone (FSH) and luteinising hormone (LH) have a role in the production, maturation and release of ova; oestrogen and progesterone have a role in preparing the uterus for implantation after fertilisation (detailed menstrual and ovarian cycle not required)
- sexually transmitted infections (STIs) can be prevented through safe sex methods and, if left untreated, can lead to serious health consequences

Pregnancy

- fertilisation combines the male and female gametes producing a zygote with genes from both parents and pregnancy will be established if implantation occurs
- embryonic and foetal development have a known and predictable sequence of events (details of specific milestone events not required)
- the placenta has an important role in the provision of nutrients to and removal of wastes from the developing baby
- the unborn baby can be monitored utilising a variety of techniques, including ultrasound and blood tests
- parental, embryonic and foetal testing can be done to detect a range of genetic and chromosomal abnormalities through the examination of karyotypes and DNA profiles

- maternal lifestyle choices, including the use of drugs, alcohol and smoking, will affect the developing baby and ongoing health of the child
- the sequence of events in the birth process prepare the baby and mother for delivery
- various methods of delivery of the baby are available

Reproductive technologies

- contraceptive methods or devices are used to prevent fertilisation or implantation
- there are a variety of infertility treatments which help overcome infertility problems; each has its limitations, risks and benefits