

Human Biology A/T

Human Biology examines the human body and its interaction with the environment. This interdisciplinary study develops skills and understanding from a range of subjects, including anatomy, physiology, epidemiology, anthropology and ecology.

Rationale

Why would you do this course?

Human Biology is perfect for those students who want to pursue a health-related career. In this course, students will explore what it means to be human in an integrative way. It combines an interdisciplinary study, ranging from molecules to cells, tissues and systems to how humans interact with their environment. This course will also have a strong focus on the basic principles that underlie normal human physiology and the genetics, environmental and molecular basis of disease.

Beyond the classroom, this subject offers you:

- Excursions to the Canberra Fertility Clinic
- Excursions to the ANU, UC and CIT
- Guest Speakers
- STEM Camps
- Activities during National Science Week



Learner dispositions

What type of person usually studies this course?

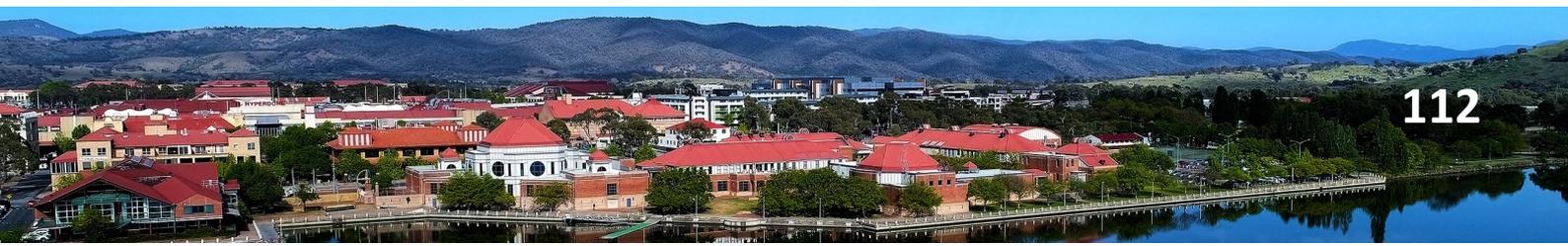
The type of person who usually studies this course is naturally curious, likes to conduct scientific investigations and appreciates how socio-scientific issues can impact their community. They also like to solve problems and critically analyse issues using an interdisciplinary approach.

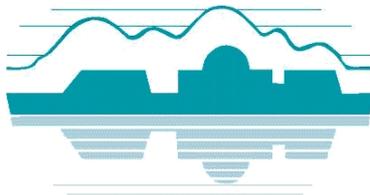
Learners who study this subject will often go on to work in/ study biological and biomedical sciences. The study of Human Biology is fundamental for careers in medicine, nursing, physiotherapy, global health and disease, laboratory research, pharmaceutical industry, biotechnology and teaching.

Readiness

What courses or previous experience would make a student ready to study this subject at LTC?

You are ready to study this subject if you are interested in the biology of the human body. This course can be studied with other sciences including Biology, though, you don't have to be studying Biology to study Human Biology.





Content and Assessment Overview

In Year 11, students will continue to build on their understanding of the human body introduced in the Australian Curriculum from high school. The focus here, will be on understanding normal human physiology from conception to old age.

In Year 12, students will focus on the environmental causes of human disease and examine different research approaches in the diagnosis and treatment of illnesses.

Unit Breakdown and Course Pattern

Year 11: Units 1 and 2

Year 12: Units 3 and 4

Unit 1: The Essentials of Human Life

Students learn about the stem cells from which tissue form in the embryo and which are the foundation for the growing therapeutic treatment of a number of degenerative diseases. They also focus on the anatomy and physiology of different tissue types and their purposes in the mature human body.

Unit 2: The Aging Human Body

This unit investigates human reproduction and the development of the foetus in order to understand the sources of variation that make each of us unique individuals. Students learn about the mechanisms of transmission of genetic materials to the next generation, the role of gametes in reproduction, the development of the embryo and tests for screening both the embryo and the newly born child for abnormalities.

Unit 3: Human Health & the Environment

This unit investigates the impact of environmental conditions upon the health of humans both at the individual and population level. The environmental causes of disease will be considered, based on the nature of the risk: biological, chemical, physical and social.



Unit 4: Treating the Human Body

In this unit, students study the exponential growth of research and knowledge about the functioning of the human body that informs the Western mode of treating illness, and also consider alternative ways of treating illness in Australia. The veracity of alternative diagnosis and treatment methods will be interrogated.

Types of assessment items:

- Research reports
- News and Views articles
- Practical laboratories and reports
- Exams
- Posters
- Presentations (Individual, Group, Podcasts)

For more information, visit the BSSS website, speak to the SLC of **Science/PE**, or visit the LTC website:

http://www.ltc.act.edu.au/Learning/unit_outlines

