UNL44 Biology

Your Teacher for UNL44 Biology is **Dr Jenelle Benson; BS Biology, MA Environmental Science, EdD Educational Strategies and Assessment.** Dr Benson is currently the Lead Vocational Teacher for Unilearn. She has worked with BNIT and Unilearn for the last four years. Jenelle taught high school Honours Biology, Honours Anatomy, Physiology, Chemistry and Mathematics courses for 16 years before moving to Australia. Additionally, she taught Biology Advanced Placement courses equivalent to undergraduate courses at University. She has taught Biology for Unilearn since 2009. She is an experienced educator and researcher and uses this expertise to help students be successful.

The unit is a preparatory biology unit designed to help you gain the necessary knowledge to enter into a tertiary study. This unit highlights basic concepts of biology and builds skills required to be successful in obtaining a health science or biological sciences degree. The unit explores modern biology by considering the structure and function of biological systems at various levels of organisation across a range of biological subjects.

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This unit includes individual tutorial support with an experienced high school biology teacher. Tutorial support is via email, phone and an online classroom with discussion forums. There is also a Unilearn Student Support Officer available to help you throughout your study.

The unit has flexible enrolment dates to meet your needs. Start your study when you want and complete the unit any time within the 12 month enrolment window. This unit is equivalent to year 11/12 Biology. This unit requires a minimum of 220 hours or 18 weeks to complete. The 18-week option is only available to you if you complete the unit in the online classroom. For international students, an additional $150 is applied to your unit for postage and handling of overseas materials. The cost of the textbook is not included in the unit price.

The final exam is not included in the unit price. For 2015, the cost of the exam is $70 (International exams $140). For more information please call the Student Advisor team on

Aim

The main aim of this course is to assist you in obtaining the skills and knowledge to confidently approach tertiary studies in any of the biology disciplines.

On successful completion of this course you will be able to:

- write short notes on or give definitions of the technical terms used in general biology
- write short notes to explain the meaning or significance of key concepts in biology write brief essays to outline the structure or functioning of biological systems or to explain the unifying concepts.

You will be able to demonstrate an understanding of the following key concepts:

- Vell theory
- Role of nucleic acids (DNA/RNA)
- Genetics and inheritance
- Homeostasis
- Evolution.

You will be able to apply these skills across a range of organisms:

- Microbes
- Animals
- Plants.

You will also be able to apply these skills (as appropriate) across a range of levels of biological organisation:

- Cells, tissues
- Organs, organ systems
- Individuals and ecological aggregates.

Structure

UNL44 Biology consists of a study plan within the online classroom as well as the Biology an Australian Perspective Second Edition by Lorraine Huxley and Margaret Walter - OXFORD, lecture notes and videos in the online classroom. A range of Activities are included for the learner to work through to develop experience in problem solving. Detailed solutions for all Activities are included in each Module through the instructor's Wiki.

Progress Tests and lab activities are also provided at appropriate points in the course. Students are required to successfully complete nineteen (19) of these progress tests and eight (8) lab activities to be eligible to sit for the final examination.

Tutorial Support is available from the UNL44 Biology Teacher. This support, which can be accessed by the online classroom, mobile phone or email, is designed to help students clarify their understanding of concepts, to provide details of solutions to exercises, and to answer other relevant queries.

Pre-requisite knowledge

Normally, candidates for UNL44 Biology should be competent in year 10 science. Students who feel they need to develop their mathematical skills are referred to UNL31 Introductory Mathematics however this is not required.

On enrolment students receive the first few chapters of their text book in the online classroom to begin. When the course package is received the student is encouraged to make contact with the UNL44 Biology Teacher. The content of each Topic is studied with the Activities providing learning experiences with the lab activities.

Specimen Examination

The Specimen Examination kit contains the Specimen Examination paper, a set of model solutions and a list of study hints and is contained within the online classroom. This kit, together with the progress tests and the exercises, gives the student a good indication of the types of questions they will be required to answer in the final examination. It also gives the opportunity to ascertain the knowledge achieved prior to the real examination.

Hours of Study

In general the course should be completed in a minimum of 220 hours of study. The actual time required by an individual student to receive a successful result, however, will depend on the background, time available and needs of the learner.

Assessment

The chapter questions, examples, progress tests and the Specimen Examination are designed to help students prepare for the final examination for UNL44 Biology. Examinations are prepared and assessed by the UNL44 Biology Teacher and monitored by the Unilearn Examinations Committee.

To be eligible to sit for the final, closed book, examination students are required to achieve a mark of 60% or higher each on ALL progress tests and lab activities. The formal, supervised examination covers the content specified by the study plan. Candidates, who successfully complete the course, are awarded a Statement of Achievement, which lists the percentage mark gained and a grade of Pass, Credit, Distinction or High Distinction. Any candidate who fails to obtain the minimum mark required for a Pass grade in the examination will be eligible to sit for a second examination.

Examinations are not held at set times. Rather, they are arranged through the Unilearn office after the student has successfully completed the required materials with a score of 60% or higher on each. Students within the Brisbane CBD area are required to sit their final exam at our Southbank office, for those outside of the Brisbane CBD a supervisor can be arranged. For more details on this process please visit our website at www.unilearn.net.au under Current Students/Final Exam.

Practical Components

At the moment UNL44 Biology consists of eight practical lab activities, additional lab activities may be developed in the future. These lab activities account towards your final grade and can be done either in your home, office or even your backyard if required. Lab activities are hosted through our online classroom, so there is no need to go to a campus or book a room anywhere, they have been developed to be conveniently accessible online or in your own backyard.

Biology consists of the following lab activities:

- Dichotomous Key Lab
- Gram Staining Lab
- Carrying Capacity Lab
- Microscope Lab
- Mitosis Lab
- Fetal Pig Lab
- Genetic Inheritance Lab
- Fruit Fly Lab

Grading Scheme

Students are required to complete all required materials (progress tests and lab activities) with a score of 60% or above on each in order to be eligible to sit the final exam. A student's final grade is an accumulation of all required content and will be weighted as follows:

Progress Tests - 15%
Lab Activities - 15%
Final Exam - 70%

The final grading scale is as follows:

Pass (P) - 50-64%
Credit (C) - 65-74%
Distinction (D) - 75-84%
High Distinction (HD) - 85% and above

Content

Text - Biology an Australian Perspective, second edition.

UNIT 1: Introduction of Biology
- Chapter 1 - The nature of biology

UNIT 2: The Diversity of Life
- Chapter 2 – Classifying organisms
- Chapter 3 – Overview of living organisms
- Chapter 4 – Phylogenetic relationships
- Chapter 5 – The effect of organisms on humans

UNIT 3: Ecology
- Chapter 6 – Organisms and their environment
- Chapter 7 – Populations
- Chapter 8 – Ecosystem dynamics
- Chapter 9 – Communities and their habitats
- Chapter 10 – Human impact on the environment

UNIT 4: Animal Behaviour
- Chapter 11 – Animal behaviour

UNIT 5: Cell Biology
- Chapter 12 – Chemicals of life
- Chapter 13 – Cell structure
- Chapter 14 – Cell functions

UNIT 6: The Functioning Organism
- Chapter 15 – Plant Physiology
- Chapter 16 – Plant reproduction, growth and development
- Chapter 17 – Animal physiology
- Chapter 18 – The human body
- Chapter 19 – Human reproduction, growth and development

UNIT 7: Genetics
- Chapter 20 – The inheritance of characteristics
- Chapter 21 – Gene action

UNIT 8: Evolution
- Chapter 22 – Theories of evolution
- Chapter 23 – The mechanisms of evolution

UNIT 9: Biotechnology
- Chapter 24 – Biotechnology