

# Diploma of Science

## Course Outline (T3 2020)

<b>Campus</b>	Geelong Waurm Ponds Campus
<b>Intake</b>	March, June, November
<b>CRICOS</b>	063387K
<b>Course Duration</b>	The duration of the Diploma course is three trimesters (12 months). There is an option, however, to fast track the course and complete it in two trimesters (8 months).
<b>Teaching Methods</b>	Instruction for all units is classroom based. Generally, four hours of class contact per week are allocated to each unit. Some units have additional laboratory hours/practical classes.
<b>Assessment</b>	Assessment for all units is ongoing and continuous consisting of tests, assignments and case study analysis. Most units have a final two-hour examination.
<b>Course Structure</b>	Eight units must be completed and passed to be awarded the Diploma.
<b>Units</b>	<p>HBS107 Understanding Health  HBS109 Introduction to Anatomy and Physiology  HSN101 Foundations of Food Nutrition and Health (available in T1 and T3)  SLE102 Physical Geography*  SLE103 Ecology and the Environment  SLE111 Cells and Genes*  SLE112 Fundamentals of Forensic Science*  SLE115 Essential Skills in Bioscience  SLE121 Environmental Sustainability  SLE123 Physics for the Life Sciences  SLE132 Biology: Form and Function*  SLE133 Chemistry in Our World*  SLE155 Chemistry for the Professional Sciences**  SIT191 Introduction to Statistics and Data Analysis  SIT194 Introduction to Mathematical Modelling</p>

	<p>Note: All Diploma of Science students must complete a Laboratory and Fieldwork Safety Induction Program (SLE010), which is a 50-minute safety training program and STP050 Academic Integrity which is a three hour training module. These units are 0 credit point units and do not count toward your total units. * For SLE102, SLE111, SLE112, SLE132, SLE133 and SLE155 you must complete SLE010 Laboratory and Fieldwork Safety Induction Program as a co-requisite unit ** You must successfully complete SLE133 Chemistry in our World before enrolling in SLE155 Chemistry for the professional sciences (Pre-requisite).</p>
<p><b>Transfer to Deakin University</b></p>	<p>The following transfer criteria apply:</p> <ul style="list-style-type: none"> <li>• You must complete and pass eight Deakin College Diploma of Science units*.</li> <li>• You must achieve the required Weighted Average Mark (WAM) for your Deakin College diploma taking into account all units attempted at Deakin College (required WAM's are included under each Deakin degree on the following pages).</li> </ul> <p>* Transfer to some degrees requires specific Deakin College units to be completed in order to receive the appropriate credits (see Deakin University degrees below). It is strongly recommended that students consult the Deakin University Handbook to check the academic requirements of their proposed course.</p>

## Diploma of Science (Geelong) Example Course Plans for Students

### Example Course Plans for Students

The following are a series of example course plans for students studying in the Diploma of Science at Deakin College.

The following course plans should be used as a guide only. In some cases the order of units may be varied. However, choosing course plans that are the same or similar to the suggested plans below should, in most cases, minimise clashes and the time taken to complete your diploma.

### How to use the Plans

Students need to select or choose which Deakin University Course they wish to transfer into once they have completed their studies at Deakin College. Deakin University offers direct transfer into the following courses

- Bachelor of Science
- Bachelor of Biomedical Science
- Bachelor of Forensic Science
- Bachelor of Zoology & Animal Science
- Bachelor of Environmental Science (Environmental Management & Sustainability)
- Bachelor of Environmental Science (Wildlife & Conservation Biology)

### Optional Support Program

The Support Program is optional and involves the addition of a foundation level chemistry unit FNDH021 Chemistry to the normal track program in the first trimester. As a consequence the diploma chemistry units (SLE133 and SLE155) occur one trimester later than the normal track program, but can be completed within three trimesters. The Support Program is recommended for those students who wish to establish a stronger basis in chemistry. A fee (up-front) is applicable to FNDH021.

### Unit Availability –Diploma of Science (Waurm Ponds)

Unit	Trimester 1	Trimester 2	Trimester 3
HBS107 Understanding Health	✓	✓	✓
HBS109 Introduction to Anatomy and Physiology	✓	✓	✓
HSN101 Foundations of Food Nutrition and Health	✓	X	✓
SLE102 Physical Geography	✓	✓	✓
SLE103 Ecology & the Environment	✓	✓	✓
SLE111 Cells and Genes	✓	✓	✓
SLE112 Fundamentals of Forensic Science	✓	✓	✓
SLE115 Essential Skills in Bioscience	✓	✓	✓
SLE121 Environmental Sustainability	✓	✓	✓
SLE123 Physics for the Life Sciences	✓	✓	✓
SLE132 Biology: Form and Function	✓	✓	✓
SLE133 Chemistry in our World	✓	✓	✓
SLE155 Chemistry for the Professional Sciences	✓	✓	✓
SIT191 Introduction to Statistics and Data Analysis	✓	✓	✓
SIT194 Introduction to Mathematical Modelling	✓	✓	✓

### Support Units

Unit	Trimester 1	Trimester 2	Trimester3
FNDH021 Chemistry	✓	✓	✓

**When I transfer to Deakin University I want to study:**

**Bachelor of Science (B, WP, WB)**

**Entry to Deakin University T1 T2**

International Students WAM: **B 50 WP 50**

Australian Students WAM: **B 50 WP 50**

Credits for Transfer: 8

**Please note students must complete one of the following majors**

- Animal Biology (B,WP) ● Cell Biology (B,WP) ● Chemistry (WP) ● Chemistry and Material Science (B) ● Environmental Science (B) ● Human Biology (B,WP) ● Mathematical Modelling (B,WP) ● Plant Biology (B) ● Geography (B) ● Genomics (B, WP)

<b>Fast Track (Completing In 8 months/2 trimesters)</b>						
1 <sup>st</sup> Trimester	<b>CORE</b> SLE111 Cells and Genes*	<b>CORE</b> SLE133 Chemistry in our World*	<b>CORE</b> SIT191 Introduction to Statistics and Data Analysis	<b>Elective</b>	<b>Safety Unit</b> (required) SLE010	<b>Academic Integrity</b> (required) STP050
2 <sup>nd</sup> Trimester	<b>CORE</b> SLE103 Ecology and Environment	<b>CORE</b> SLE123 Physics for the Life Sciences	<b>CORE</b> SLE155 Chemistry for the Professional Sciences**	<b>Elective</b>		

<b>Normal Track (Completing course in 12 months/ 3 Trimesters)</b>					
1 <sup>st</sup> Trimester	<b>CORE</b> SLE111 Cells and Genes*	<b>CORE</b> SLE133 Chemistry in our World*	<b>CORE</b> SIT191 Introduction to Statistics and Data Analysis	<b>Safety Unit</b> (required) SLE010	<b>Academic Integrity</b> (required) STP050
2 <sup>nd</sup> Trimester	<b>CORE</b> SLE103 Ecology and Environment	<b>CORE</b> SLE155 Chemistry for the Professional Sciences**	<b>Elective</b>		
3 <sup>rd</sup> Trimester	<b>CORE</b> SLE123 Physics for the Life Sciences	<b>Elective</b>			

### Optional: Support Study Program (Only for Local Australian Students)

Support Program (Completing course in 12 months/ 3 Trimesters – see note 3 below)					
1 <sup>st</sup> Trimester	<b>SUPPORT</b> FNDH021 Chemistry	<b>CORE</b> SLE111 Cells and Genes*	<b>CORE</b> SIT191 Introduction to Statistics and Data Analysis	<b>Safety Unit</b> (required) SLE010	<b>Academic Integrity</b> (required) STP050
2 <sup>nd</sup> Trimester	<b>CORE</b> SLE103 Ecology and Environment	<b>CORE</b> SLE133 Chemistry in our World*	<b>Elective</b>		
3 <sup>rd</sup> Trimester	<b>CORE</b> SLE123 Physics for the Life Sciences	<b>CORE</b> SLE155 Chemistry for the Professional Sciences**	<b>Elective</b>		

#### Electives

Students wishing to major in the following areas should include the following units in their electives:

- Environmental Science (B) – SLE102 Physical Geography
- Mathematical Modelling (B,WP)– SIT194 Introduction to Mathematical Modelling
- Geography (B) – SLE102 Physical Geography\*

#### Other Electives can include any of the following:

- HBS107 Understanding Health
- HBS109 Introduction to Anatomy and Physiology
- HSN101 Foundations of Food, Nutrition and Health (available in T1 and T3)
- SLE102 Physical Geography
- SLE115 Essential Skills in Bioscience
- SLE112 Fundamentals of Forensic Science
- SLE121 Environmental Sustainability
- SLE132 Biology: Form and Function\*
- SIT194 Introduction to Mathematical Modelling

\* For SLE111, SLE132, SLE112, SLE155 and SLE133 you must complete SLE010 Laboratory and Fieldwork Safety Induction Program as a co-requisite unit.

\*\* You must successfully complete SLE133 Chemistry in our World before enrolling in SLE155 Chemistry for the professional sciences (Pre-requisite).

#### Additional 1st Year Units to be taken at Deakin University

All students are required to complete STP010 Introduction to Work Placements at Deakin University. Students wishing to undertake the majors listed below will need to complete additional units:

Major	Additional Units
Natural History (B)	SLE136 Life On An Evolving Planet
Mathematical Modelling (B, WP, online)	SIT192 Discrete Mathematics
Fisheries and Aquaculture (WP)	SLE134 Recreational Fisheries Science (T3)
Geography (B)	AIG103 People and Place: An Introduction to Human Geography

**When I transfer to Deakin University I want to study  
Bachelor of Biomedical Science (B G)  
Entry to Deakin University T1, T2**

International Students WAM: **B 50 WP 50**  
Australian Students WAM: **B 70 WP 60**  
Credits for Transfer: 8

- Molecular Life Sciences (B) ● Environmental Health (B,WP) ● Infection and Immunity (B,WP)
- Medical Biotechnology (B,WP) ● Pharmaceutical Science (B,WP) ● Medical Genomics (B, WP)

<b>Fast Track (Completing In 8 months/2 trimesters)</b>						
1 <sup>st</sup> Trimester	<b>CORE</b> SLE111 Cells and Genes*	<b>CORE</b> SLE115 Essential Skills in Bioscience	<b>CORE</b> SLE133 Chemistry in our World*	<b>Elective</b>	<b>Safety Unit</b> (required) SLE010	<b>Academic Integrity</b> (required) STP050
2 <sup>nd</sup> Trimester	<b>CORE</b> SLE123 Physics for the Life Sciences	<b>CORE</b> SLE132 Biology: Form and Function*	<b>CORE</b> SLE155 Chemistry for the Professional Sciences**	<b>Elective</b>		

<b>Normal Track (Completing course in 12 months/ 3 Trimesters)</b>					
1 <sup>st</sup> Trimester	<b>CORE</b> SLE111 Cells and Genes*	<b>CORE</b> SLE115 Essential Skills in Bioscience	<b>CORE</b> SLE133 Chemistry in our World*	<b>Safety Unit</b> (required) SLE010	<b>Academic Integrity</b> (required) STP050
2 <sup>nd</sup> Trimester	<b>CORE</b> SLE132 Biology: Form and Function*	<b>CORE</b> SLE155 Chemistry for the Professional Sciences**	<b>Elective</b>		
3 <sup>rd</sup> Trimester	<b>CORE</b> SLE123 Physics for the Life Sciences	<b>Elective</b>			



### Optional: Support Study Program (Only for Local Australian Students)

Support Program (Completing course in 12 months/ 3 Trimesters - see note 3 below)					
1 <sup>st</sup> Trimester	<b>SUPPORT</b> FNDH021 Chemistry	<b>CORE</b> SLE111 Cells and Genes*	<b>CORE</b> SLE115 Essential Skills in Bioscience	<b>Safety Unit</b> (required) SLE010	<b>Academic Integrity</b> (required) STP050
2 <sup>nd</sup> Trimester	<b>CORE</b> SLE132 Biology: Form and Function*	<b>CORE</b> SLE133 Chemistry in our World*	<b>Elective</b>		
3 <sup>rd</sup> Trimester	<b>CORE</b> SLE123 Physics for the Life Sciences	<b>CORE</b> SLE155 Chemistry for the Professional Sciences**	<b>Elective</b>		

### Electives

Students who are planning to major in Environmental Health (B) should take HBS107 Understanding Health and HSN101 Foundations of Food, Nutrition and Health as their electives

### Other Electives can include any of the following:

- HBS107 Understanding Health
- HBS109 Introduction to Anatomy and Physiology
- HSN101 Foundations of Food, Nutrition and Health (available in T1 and T3)
- SLE102 Physical Geography
- SLE103 Ecology and the Environment
- SLE112 Fundamentals of Forensic Science
- SLE121 Environmental Sustainability
- SIT191 Introduction to Statistics and Data Analysis
- SIT194 Introduction to Mathematical Modelling

\* For SLE111, SLE132, SLE112, SLE155 and SLE133 you must complete SLE010 Laboratory and Fieldwork Safety Induction Program as a co-requisite unit.

\*\* You must successfully complete SLE133 Chemistry in our World before enrolling in SLE155 Chemistry for the professional sciences (Pre-requisite).

### Additional 1st Year Units to be taken at Deakin University

Students wishing to undertake the majors listed below will need to complete additional units:

Major	Additional Units
Infection and Immunity (B, WP)	HMM103 Cell Technology and HMM104 Immunology and Haematology
Medical Biotechnology (B, WP)	HMM101 Introduction to Medical Biotechnology and HMM102 Principles of Gene and Genomic Technology
Medical Genomics (B, WP)	HMM102 Principals of Gene and Genomic Technology

**When I transfer to Deakin University I want to study:  
Bachelor of Forensic Science (WP)  
Entry to Deakin University T1 T2**

International Students WAM: **WP 50**  
Australian Students WAM: **WP 50**  
Credits for Transfer: 8

- Forensic Biology
- Forensic Chemistry

<b>Fast Track (Completing In 8 months/2 trimesters)</b>						
1 <sup>st</sup> Trimester	<b>CORE</b> SLE111 Cells and Genes*	<b>CORE</b> SLE133 Chemistry in our World*	<b>CORE</b> SIT191 Introduction to Statistics and Data Analysis	<b>Elective</b>	<b>Safety Unit (required)</b> SLE010	<b>Academic Integrity (required)</b> STP050
2 <sup>nd</sup> Trimester	<b>CORE</b> SLE112 Fundamentals of Forensic Science*	<b>CORE</b> SLE132 Biology: Form and Function*	<b>CORE</b> SLE155 Chemistry for the Professional Sciences**	<b>Elective</b>		

<b>Normal Track (Completing course in 12 months/ 3 Trimesters)</b>					
1 <sup>st</sup> Trimester	<b>CORE</b> SLE111 Cells and Genes*	<b>CORE</b> SLE133 Chemistry in our World*	<b>CORE</b> SIT191 Introduction to Statistics and Data Analysis	<b>Safety Unit (required)</b> SLE010	<b>Academic Integrity (required)</b> STP050
2 <sup>nd</sup> Trimester	<b>CORE</b> SLE112 Fundamentals of Forensic Science *	<b>CORE</b> SLE132 Biology: Form and Function*	<b>CORE</b> SLE155 Chemistry for the Professional Sciences**		
3 <sup>rd</sup> Trimester	<b>Elective</b>	<b>Elective</b>			

### Optional: Support Study Program (Only for Local Australian Students)

Support Program (Completing course in 12 months/ 3 Trimesters - see note 3 below)					
1 <sup>st</sup> Trimester	<b>SUPPORT</b> FNDH021 Chemistry	<b>CORE</b> SLE111 Cells and Genes*	<b>CORE</b> SIT191 Introduction to Statistics and Data Analysis	<b>Safety Unit</b> (required) SLE010	<b>Academic Integrity</b> (required) STP050
2 <sup>nd</sup> Trimester	<b>CORE</b> SLE112 Fundamentals of Forensic Science*	<b>CORE</b> SLE132 Biology: Form and Function*	<b>CORE</b> SLE133 Chemistry in our World*		
3 <sup>rd</sup> Trimester	<b>CORE</b> SLE155 Chemistry for the Professional Sciences**	<b>Elective</b>	<b>Elective</b>		

#### Other Electives can include any of the following:

- HBS107 Understanding Health
- HBS109 Introduction to Anatomy and Physiology
- HSN101 Foundations of Food, Nutrition and Health (available in T1 and T3)
- SLE102 Physical Geography
- SLE103 Ecology and the Environment
- SLE115 Essential Skills in Bioscience
- SLE121 Environmental Sustainability
- SLE123 Physics for the Life Sciences
- SIT194 Introduction to Mathematical Modelling

\* For SLE111, SLE132, SLE112, SLE155 and SLE133 you must complete SLE010 Laboratory and Fieldwork Safety Induction Program as a co-requisite unit.

\*\* You must successfully complete SLE133 Chemistry in our World before enrolling in SLE155 Chemistry for the professional sciences (Pre-requisite).

#### Additional 1st Year Units to be taken at Deakin University

All students are required to complete ACR102 Introducing Crime and Criminal Justice and STP010 Introduction to Work Placements (0 credit point) at Deakin University.

**When I transfer to Deakin University I want to study:  
Bachelor of Zoology and Animal Science (WP)  
Entry to Deakin University T1 T2**

International Students WAM: **WP 50**  
Australian Students WAM: **WP 50**  
Credits for Transfer: 8

<b>Fast Track (Completing In 8 months/2 trimesters)</b>						
1 <sup>st</sup> Trimester	<b>CORE</b> SLE102 Physical Geography	<b>CORE</b> SLE111 Cells and Genes*	<b>CORE</b> SLE133 Chemistry in our World*	<b>Elective</b>	<b>Safety Unit</b> (required) SLE010	<b>Academic Integrity</b> (required) STP050
2 <sup>nd</sup> Trimester	<b>CORE</b> SLE103 Ecology and Environment	<b>CORE</b> SLE123 Physics for the Life Sciences	<b>CORE</b> SLE132 Biology: Form and Function*	<b>CORE</b> SLE155 Chemistry for the Professional Sciences**		

<b>Normal Track (Completing course in 12 months/ 3 Trimesters)</b>					
1 <sup>st</sup> Trimester	<b>CORE</b> SLE102 Physical Geography	<b>CORE</b> SLE111 Cells and Genes*	<b>CORE</b> SLE133 Chemistry in our World*	<b>Safety Unit</b> (required) SLE010	<b>Academic Integrity</b> (required) STP050
2 <sup>nd</sup> Trimester	<b>CORE</b> SLE103 Ecology and Environment	<b>CORE</b> SLE132 Biology: Form and Function*	<b>CORE</b> SLE155 Chemistry for the Professional Sciences**		
3 <sup>rd</sup> Trimester	<b>CORE</b> SLE123 Physics for the Life Sciences	<b>Elective</b>			

### Optional: Support Study Program (Only for Local Australian Students)

Support Program (Completing course in 12 months/ 3 Trimesters - see note 3 below)					
1 <sup>st</sup> Trimester	<b>SUPPORT</b> FNDH021 Chemistry	<b>CORE</b> SLE102 Physical Geography	<b>CORE</b> SLE111 Cells and Genes*	<b>Safety Unit</b> (required) SLE010	<b>Academic Integrity</b> (required) STP050
2 <sup>nd</sup> Trimester	<b>CORE</b> SLE103 Ecology and Environment	<b>CORE</b> SLE132 Biology: Form and Function*	<b>CORE</b> SLE133 Chemistry in our World*		
3 <sup>rd</sup> Trimester	<b>CORE</b> SLE123 Physics for the Life Sciences	<b>CORE</b> SLE155 Chemistry for the Professional Sciences**	<b>Elective</b>		

#### Other Electives can include any of the following:

- HBS107 Understanding Health
- HBS109 Introduction to Anatomy and Physiology
- HSN101 Foundations of Food, Nutrition and Health (available in T1 and T3)
- SLE112 Fundamentals of Forensic Science
- SLE115 Essential Skills in Bioscience
- SLE121 Environmental Sustainability
- SIT191 Introduction to Statistics and Data Analysis
- SIT194 Introduction to Mathematical Modelling

\* For SLE111, SLE132, SLE112, SLE155 and SLE133 you must complete SLE010 Laboratory and Fieldwork Safety Induction Program as a co-requisite unit.

\*\* You must successfully complete SLE133 Chemistry in our World before enrolling in SLE155 Chemistry for the professional sciences (Pre-requisite).

#### Additional 1st Year Units to be taken at Deakin University

All students are required to complete STP010 Introduction to Work Placements (0 credit points) at Deakin University.

**When I transfer to Deakin University I want to study:  
 Bachelor of Environmental Science (Environmental Management and Sustainability) (B)  
 Entry to Deakin University T1 T2**

International Students WAM: **B 50**  
 Australian Students WAM: **B 50**  
 Credits for Transfer: 8

<b>Fast Track (Completing In 8 months/2 trimesters)</b>						
1 <sup>st</sup> Trimester	<b>CORE</b> SLE102 Physical Geography	<b>Elective</b>	<b>Elective</b>	<b>Elective</b>	<b>Safety Unit</b> (required) SLE010	<b>Academic Integrity</b> (required) STP050
2 <sup>nd</sup> Trimester	<b>CORE</b> SLE103 Ecology and Environment	<b>CORE</b> SLE121 Environmental Sustainability	<b>Elective</b>	<b>Elective</b>		

<b>Normal Track (Completing course in 12 months/ 3 Trimesters)</b>					
1 <sup>st</sup> Trimester	<b>CORE</b> SLE102 Physical Geography	<b>Elective</b>	<b>Elective</b>	<b>Safety Unit</b> (required) SLE010	<b>Academic Integrity</b> (required) STP050
2 <sup>nd</sup> Trimester	<b>CORE</b> SLE103 Ecology and Environment	<b>CORE</b> SLE121 Environmental Sustainability	<b>Elective</b>		
3 <sup>rd</sup> Trimester	<b>Elective</b>	<b>Elective</b>			

**Other Electives can include any of the following:**

- HBS107 Understanding Health
- HBS109 Introduction to Anatomy and Physiology
- HSN101 Foundations of Food, Nutrition and Health (available in T1 and T3)
- SLE111 Cells and Genes\*
- SLE112 Fundamentals of Forensic Science
- SLE115 Essential Skills in Bioscience
- SLE123 Physics for the Life Sciences
- SLE132 Biology: Form and Function\*
- SLE133 Chemistry in Our World\*
- SLE155 Chemistry for the Professional Sciences\*\*
- SIT191 Introduction to Statistics and Data Analysis
- SIT194 Introduction to Mathematical Modelling

\* For SLE111, SLE132, SLE112, SLE155 and SLE133 you must complete SLE010 Laboratory and Fieldwork Safety Induction Program as a co-requisite unit.

\*\* You must successfully complete SLE133 Chemistry in our World before enrolling in SLE155 Chemistry for the professional sciences (Pre-requisite).

**Additional 1st Year Units to be taken at Deakin University**

All students are required to complete SLE101 Techniques in Environmental Science and STP010 Introduction to Work Placements at Deakin University.

**When I transfer to Deakin University I want to study:  
 Bachelor of Environmental Science (Wildlife and Conservation Biology) (B)  
 Entry to Deakin University T1 T2 T3**

International Students WAM: <b>B 50</b> Australian Students WAM: <b>B 50</b> Credits for Transfer: 8
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<b>Fast Track (Completing In 8 months/2 trimesters)</b>						
1 <sup>st</sup> Trimester	<b>CORE</b> SLE102 Physical Geography	<b>CORE</b> SLE111 Cells and Genes*	<b>Elective</b>	<b>Elective</b>	<b>Safety Unit</b> (required) SLE010	<b>Academic Integrity</b> (required) STP050
2 <sup>nd</sup> Trimester	<b>CORE</b> SLE103 Ecology and Environment	<b>CORE</b> SLE132 Biology: Form and Function*	<b>Elective</b>	<b>Elective</b>		

<b>Normal Track (Completing course in 12 months/ 3 Trimesters)</b>					
1 <sup>st</sup> Trimester	<b>CORE</b> SLE102 Physical Geography	<b>CORE</b> SLE111 Cells and Genes*	<b>Elective</b>	<b>Safety Unit</b> (required) SLE010	<b>Academic Integrity</b> (required) STP050
2 <sup>nd</sup> Trimester	<b>CORE</b> SLE103 Ecology and Environment	<b>CORE</b> SLE132 Biology: Form and Function*	<b>Elective</b>		
3 <sup>rd</sup> Trimester	<b>Elective</b>	<b>Elective</b>			



**Other Electives can include any of the following:**

- HBS107 Understanding Health
- HBS109 Introduction to Anatomy and Physiology
- HSN101 Foundations of Food, Nutrition and Health (available in T1 and T3)
- SLE112 Fundamentals of Forensic Science
- SLE115 Essential Skills in Bioscience
- SLE121 Environmental Sustainability
- SLE123 Physics for the Life Sciences
- SLE133 Chemistry in Our World\*
- SLE155 Chemistry for the Professional Sciences\*\*
- SIT191 Introduction to Statistics and Data Analysis
- SIT194 Introduction to Mathematical Modelling

\* For SLE111, SLE132, SLE112, SLE155 and SLE133 you must complete SLE010 Laboratory and Fieldwork Safety Induction Program as a co-requisite unit.

\*\* You must successfully complete SLE133 Chemistry in our World before enrolling in SLE155 Chemistry for the professional sciences (Pre-requisite).

**Additional 1st Year Units to be taken at Deakin University**

All students are required to complete SLE151 Biodiversity: A Global Perspective, SLE114 Introduction to Parks and Wildlife Conservation and STP010 Introduction to Work Placements at Deakin University.

### **Deakin University Campuses and Trimester codes**

**B** Melbourne Burwood Campus **WP** Geelong Waurm Ponds Campus **WB** Warrnambool Campus

**T1** Trimester 1 entry **T2** Trimester 2 entry **T3** Trimester 3 entry

NOTE: for Australian students entry is for T1 only. T2 entry is subject to availability of places.

CRICOS Codes: Bachelor of Science 083996G, Bachelor of Biomedical Science 085577M, Bachelor of Forensic Science 073106G, Bachelor of Zoology and Animal Science 075365F, Bachelor of Environmental Science (Environmental Management and Sustainability) 075361K, Bachelor of Environmental Science (Wildlife and Conservation Biology) 055286D.

## Unit Outlines

**PLEASE ENSURE YOU CHECK THE TRIMESTER 3 2020 UNIT OUTLINE FOR ANY CONTENT AND ASSESSMENT UPDATES.**

### **HBS107 Understanding Health**

The concepts of health, the social determinants of health, academic integrity, health systems, the biological and environmental determinants, health promotion, indigenous health, settings for health, marginalised populations and global health.

This interdisciplinary unit examines a determinants approach to health and wellbeing, including: the complex range of interactions that influence the health of individuals and populations; the determinants of selected health issues in urban and rural Australia, as well as in global contexts, and explores a range of models and approaches and their impact on health outcomes.

**Assessment: Self-awareness audit and reflection 25%, health plan review 40% and group oral presentation 35%**

### **HBS109 Introduction to Anatomy and Physiology**

This interdisciplinary unit provides an overview of the basic sciences of human anatomy and physiology, exploring issues of relevance to the health sciences. Specific topics to be addressed will include: organisation of the human body, outlining anatomical terms, chemical and structural bases of cell function, body tissues including integument, homeostasis and physiological control via neural and hormonal mechanisms that maintain a constant internal environment. Support and movement through an understanding of the musculo-skeletal system, and maintenance of key systems, including cardiovascular, respiratory, digestive, urinary and immune systems.

**Assessment: Case based learning (30%), multiple choice tests (3 x 6.67%, total 20%), Practical portfolio (20%), Final exam 30%**

### **HSN101 Foundations of Food, Nutrition and Health (available in T3 2020 and T1 2021)**

This unit provides students with foundation knowledge in food, nutrition and health, including food sources of nutrients, food and nutrient recommendations for health and methods for measuring food intake and behaviour, historical perspective of why we consume the foods we do today and how our scientific knowledge may influence foods we eat in the future. Students also gain an understanding of interactions between the environment, technologies developed to produce and harvest foods and scientific advances in food and nutrition. The topics include: food history, Australian food culture, food production, food sources of nutrients, food and nutrient recommendations and their relationship with health and methods used to measure food intakes and behaviours. Students also have an opportunity to align their interests and values to future career options.

**Assessment: Assessment task 1 – Written assignment (1300 words) 30%, Assessment task 2 – Case Study 15%, Assessment Task 3 Career Activity and Reflection and Infogram (500 words) 20%, Final examination 35%**

### **SLE102 Physical Geography**

This unit will examine interactions between the major components of planet Earth - the geosphere, hydrosphere, biosphere and atmosphere. A particular emphasis is placed on the study of natural disasters and extreme natural events. Major topics will include the formation and subsequent evolution of the earth; plate tectonics; soils, weathering and erosion; the hydrological cycle - including interactions between oceans, rivers, groundwater and polar ice: Earth weather. Minor topics will include studies in the origin of the universe and solar system; the relationship between earth landforms and climate, global environmental change and the earth's energy and mineral resources.

**Assessment: 20% practical tests (2 x 10%), 30% Class test 1, 20% assignment, 30% Class test 2**

### **SLE103 Ecology and the Environment**

SLE103 introduces students to the science of ecology, investigating relationships between organisms and the environment. In this unit, students will also explore climate change and energy issues. They will learn about the nature of science and the scientific method and how to use a systems framework to investigate environmental issues. This will equip students with the capacity to study key environmental issues such as climate systems and ecological systems and make a difference.

**Assessment: 15% group poster presentation, 20% mid trimester test, 25% report, 40% final examination**

### **SLE111 Cells and Genes\***

In this unit, students will be able to study the characteristics of life that are fundamental for every field in biology. Upon successful completion of Cells and Genes, students will be able to explore, examine and describe the characteristics and structures of prokaryotic and eukaryotic cells as well as understand cellular mechanisms such as reproduction, transport across the membrane and cellular respiration. The genetic basis of cell biology is focused on in the latter part of the unit starting with Mendelian genetics. This leads on to interpreting patterns of inheritance, mechanisms and control of gene expression and the principles of DNA technologies.

**Assessment: Class test 15%, bioinformatics assignment 7%, practical exercises 33%, examination 45%. To obtain a pass in the unit, students must submit and pass at least 4 of the 5 practical class assessments.**

### **SLE112 Fundamentals of Forensic Science\***

SLE112 is a fundamental forensics unit, during which students will explore forensic science in an Australian context and learn the challenges and differences of forensic science in a global context. This includes some of the key principles used to study the science, including Locard's exchange principle, principle of individuality, comparative analysis, and class and individual characteristics. Students will engage in activities that will require them to apply forensic processes from a

crime scene to the court. It will also require them to apply introductory forensic analysis including chemical, biological and physical techniques and learn about the legal system including how law is developed, criminal vs civil law, and the laws of evidence.

**Assessment: Two in-class tests (15% each) 30%, a reflective report 25%, practical report and practical skills demonstration (3 x 15%) 45%. To be eligible to obtain a pass in this unit, students must achieve at least 50% in the practical report and practical skills demonstration assessment.**

### **SLE115 Essential Skills in Bioscience**

This is the first of a sequence of professional practice units designed specifically for students in the first year of biosciences. In this unit we will focus on the development of generic skills and will draw upon and extend the scientific content of other, core, first-year units. Through exercises and seminars, you will develop skills in data analysis and presentation, basic mathematics and statistics, library research methods, evaluation of scientific literature and scientific writing and referencing. You will also be introduced to the practice of being an ethical student and professional, and develop your skills in career planning, problem solving and oral and written presentation.

**Assessment: literature search 10%, mid-trimester test 20%, careers report 20%, group presentation 10%, examination 40%**

### **SLE121 Environmental Sustainability**

The aim of SLE121 is to examine the scientific, social, cultural and environmental factors that are all integral components of Environmental Sustainability, on International, National and Local scales. This will necessitate a review of what definitions of sustainability there are and how they inter-relate in regards to environmental, social and economic management. The unit aims to develop the ability to: appreciate the diversity and complexity of environmental issues, identify environmental impacts due to human activities, appreciate the range of stakeholders and their viewpoints in relation to particular issues, understand

the necessary measures and associated problems in achieving effective sustainable environmental management and understand the principles and applications of sustainable development.

**Assessment: Reflective journal and report 30%, sustainability communication tasks (in-class debate 5%, written report 35%) 40%, examination 30%.**

### **SLE123 Physics for the Life Sciences**

Students of the life sciences have a growing need to acquire an effective working knowledge of the physical sciences. In this unit, physics concepts such as energy, sound and waves, the properties of atoms, electric fields, optics, fluids and mechanics will be explored and related to biology and medicine. Students will use evidence to demonstrate and evaluate knowledge of fundamental physics principles, and will also have the opportunity to design and conduct their own experiments to evaluate how physics enables life.

**Assessment: Assessment task 1 – Online quizzes (20%), Assessment task 2 - Experimental demonstration (30%), Assessment task 3- Final examination 50%**

### **SLE132 Biology: Form and Function**

SLE132 introduces students to animal and plant biology. Students will explore the relationships between animal structures and their functions, and investigate the physiological processes that enable animals to adjust to environmental changes. They will also learn aspects of animal diversity and behaviour. As students progress learning in this unit, they will study the evolutionary diversity of plants, their structure and functions, morphology and growth, reproductive biology, nutrient acquisition and transport, and their applications in biotechnology, with an emphasis on flowering plants. Examples from other plant groups and the non-plant eukaryotes, fungi and algae, will also be used for comparison and as examples during discussion.

**Assessment: 15% Mid trimester tests, 35% practical exercises, 10% Assignment; 40% final examination**

### **SLE133 Chemistry in Our World\***

SLE133 is a foundation unit designed to develop and consolidate student understandings and skills in basic chemistry. The learning and assessment activities provide students with the opportunity to study atoms, molecules, and ions, how they change during a chemical reaction and how bonding affects properties such as intermolecular interactions, boiling points, ease of evaporation and the ability of substances to dissolve in water. Students will engage in laboratory work in order to develop their hands on skills in chemical safety and measurement and their ability to perform calculations related to substance measurement. Students will then apply these concepts of bonding, chemical change and measurement to determine the acidity and basicity of substances and the formation of buffers.

This unit can be taken as a stand-alone unit for students who need some awareness of chemistry to broaden their degree, or can be taken as a foundation for further studies in biochemistry, chemistry, and related areas like food and nutrition, molecular biology and science education.

You must have completed SLE010 in the current or a previous trimester, before you can attend any laboratory sessions.

**Assessment: Assessment task 1 – Online quizzes 20%, Assessment task 2 - Laboratory exercises and reports 30%, Assessment task 3 – Active tutorial participation 10%, Final examination 40%. To be eligible to obtain a pass in the this unit, students must achieve at least 50% in the practical component**

### **SLE155 Chemistry for the Professional Sciences\***

SLE155 builds on the student's previous chemistry knowledge about atoms, molecules, properties, reactions, measurement and acidity. Students will extend their knowledge to more advanced chemical naming, structures, and hypervalent bonding. They will be introduced to additional topics such as, chemical equilibria, solution chemistry, simple organic compounds, chirality and thermochemistry.

This unit will lead to further studies in biochemistry, chemistry, and related areas **such as** food and nutrition, molecular biology and science education. This unit can also be taken as an elective unit for students who want a broader knowledge of chemistry to enhance their degree.

Students must successfully complete SLE133 before enrolling in SLE155.

**Assessment: Assessment task 1 – Online quizzes 20%, Assessment task 2 - Laboratory exercises and reports 40%, Final examination 40%. To be eligible to obtain a pass in the this unit, students must achieve at least 50% in the practical component**

#### **SIT191 Introduction to Statistics and Data Analysis**

Data is everywhere in the world. Without knowing how to interpret or use information from the data it would be difficult to understand its meaning. Statistics is both a method and a tool for interpreting information, testing hypotheses and analysing the inferences people make about the real-world. SIT191 aims to aid students develop knowledge in using statistics to summarise, describe and interpret numerical and graphical data and perform statistical inferences. In this unit, students will develop knowledge of the fundamentals of probability for reasoning real-world situations. Students will be required to use statistical software and calculators to analyse data and interpret results for tests on population means and proportions, chi-square tests, correlation and linear regression, and one-way ANOVA.

**Assessment: Examination 40%, three problem solving tasks (10%, 15% and 15%) 40%, quiz 10%, class participation and attendance 10%. To be eligible to obtain a pass in this unit, students must achieve a mark of at least 40% in the examination and an overall pass.**

#### **SIT194 Introduction to Mathematical Modelling**

This unit includes: functions and limits; derivatives and integrals of combinations of polynomials, exponential, logarithmic and trigonometric functions; sequences,

series tests and power series; vectors, lines and planes; first order differential equations. Applications studied include graph sketching; approximations to solutions of equations and integrals; formulation of models to solve science and engineering problems.

**Assessment: 40% class tests (5 x 8%), 60% final examination.**

#### **SLE010 Laboratory and Fieldwork Safety Induction Program**

In SLE010, students will develop an awareness of safety measures and protocols to be followed in scientific laboratory work and fieldwork. The unit encompasses information about biological and chemical hazards, building evacuation procedures, laboratory accident management, first aid procedures and safety work procedures. Attendance in all practical classes and/or field trips may be restricted unless you have passed the online quiz with a mark of 70% or greater. Results for all units requiring the completion of SLE010 as a co-requisite may not be released until the quiz is passed.

**Assessment: 100% multiple-choice examination (60 minutes) to be completed by the end of week 2. To be eligible to obtain a pass in this unit students must achieve a minimum mark of 70%. Multiple attempts at the quiz are allowed and students will print a certificate which is valid for three years.**

#### **STP050 Academic Integrity**

STP050 is a compulsory zero credit point unit in all courses in the Faculty of Science, Engineering and Built Environment. The unit learning and assessment activities provides students with guidance on what constitutes academic integrity. It will allow students to develop knowledge, skills and good practice principles to avoid plagiarism and collusion and thereby maintain academic integrity.

**Assessment: Multiple-choice test 100%. To be eligible to obtain a pass in this unit, students must achieve a minimum mark of 85%. Unlimited attempts of the online assessment are permitted.**