LA TROBE
College Australia

Foundation Studies (LFS0)

Course Outline

Version: 1

Contents

Foundation Studies (LFS0)

1. Summary Information

Program Title	**Foundation Studies (LFS0)**
Home campus:	Bundoora
Award “ownership”	La Trobe College Australia
Year and trimester of introduction	Trimester 1, 2013
Total Credit Points	100
Mode of Delivery	Face to Face on Campus
Intake Trimesters	Trimester 1, 2 and 3
Duration	28 weeks (Full time) or equivalent
Articulation options	La Trobe University Bachelor Degree

2. Course Overview

The Foundation Studies Program at La Trobe University is designed to prepare students for entry into either a bachelor or diploma program by providing the essential academic and language skills needed for success in tertiary education. The program is delivered over two stages, A and B, and consists of eight credit-bearing subjects (four per stage) along with two non-credit academic support subjects. Students can choose from four academic streams. Humanities, Business and Information Technology; Science/Health Science; or Engineering/Computer Science. Each stream is tailored to align with their intended field of further study. To progress from Stage A to Stage B, students must achieve a minimum of 50% in each of the four subjects. Successful completion of the entire program requires passing all subjects. Entry into a diploma program requires a minimum 50% pass in all subjects, while entry into a bachelor's degree is based on a student's Weighted Average Mark (WAM) from the four Stage B credit subjects, as well as their Academic Communication 2 score. Specific bachelor's degree requirements can be found using the Course Finder on the La Trobe University website.

3. National Standards for Foundation Programs

The National Standards for Foundation Programs (Standards) are a uniform set of standards to be applied by designated authorities in approving non-award Foundation Programs to be placed on the Commonwealth Register of Institutions and Courses for Overseas Students (CRICOS).

The Standards comprise the following:

Standard 1 The program must be based on a curriculum which prepares students for further study in higher education programs.

Standard 2 The program must reflect minimum entry requirements:
successful completion of Australian Year 11 or a comparable educational level ;
attainment of English language proficiency comparable to an overall score of 5.5 in the International English Language Testing System (IELTS) or equivalent.

Standard 3 The program must contain a number of discipline based subjects.

Standard 4 The program must contain dedicated English studies to develop English language proficiency required for entry to higher education studies.

Standard 5 The program must offer pedagogies and learning opportunities that maximise student engagement and provide opportunities for regular feedback on student progress.

Standard 6 The program must have compulsory assessment procedures for determining and reporting to students on academic progress.

Standard 7 Standard Foundation Programs must contain a minimum of 720 scheduled course contact hours over not less than 26 weeks and not more than 40 weeks of full-time study and must include scheduled holiday breaks.

4. Level of Award

The National Standards for Foundation Programs (Standards) are applied to the Foundation Studies program for CRICOS registration.

5. Program Duration

The program can be completed in two trimesters.

6. Entry requirements

The program must reflect minimum entry requirements:

a) Academic requirements

successful completion of Australian Year 11 or a comparable educational level attainment of English language proficiency comparable to an overall score of 5.5 in the International English Language Testing System (IELTS) or equivalent. Foundation is only offered on a case-by-case basis.

Subject to 5.5 on IELTS with no band less than 5.0, PTE overall 36 no skill less than 29 or successful completion of La Trobe College Australia stage 4 B EFS (>60%).

b) English requirements

English Language qualification	Foundation studies
Cambridge English	B2
English for Further Studies at La Trobe College Australia	EFS 4B (>60)
IELTS Academic	Overall score of 5.5 (no band score below 5.0)
PTE Academic	36 (no skill less than 29)
TOEFL iBT	55 (Writing no less than 16)

c) Minimum age requirement

17 Years

7. Program approval

Providers must demonstrate compliance to achieve approval, registration and re-registration as a Foundation Program on CRICOS. La Trobe College Australia Academic Board have also approved this course.

8. Program Structure

Trimester	Unit Code	Name of Unit	Core / Elective	Credit points
1	LTM1AIM	Academic Integrity Module	Required	0
1	LFS00IN1	Independent Learning 1	Required	0
1	LFS00AS1	Academic Communication 1	Core	12.5
1	LFS00EM1	Essential Mathematics 1	Core	12.5
1	LFS00AC1	Accounting 1	Elective	12.5
1	LFS00AM1	Advanced Mathematics 1	Elective	12.5
1	LFS00BY1	Biology 1	Elective	12.5
1	LFS00CY1	Chemistry 1	Elective	12.5
1	LFS00EC1	Economics 1	Elective	12.5
1	LFS00PY1	Physics 1	Elective	12.5
2	LFS00IN1	Independent Learning 2	Required	0
2	LFS00AS2	Academic Communication 2	Core	12.5
2	LFS00EM2	Essential Mathematics 2	Core	12.5
2	LFS00AC2	Accounting 2	Elective	12.5
2	LFS00AM2	Advanced Mathematics 2	Elective	12.5
2	LFS00BY2	Biology 2	Elective	12.5
2	LFS00CY2	Chemistry 2	Elective	12.5
2	LFS00EC2	Economics 2	Elective	12.5
2	LFS00PY2	Physics 2	Elective	12.5

*LFS00IN1 & 2 Independent Learning 1 & 2 are not-for-credit subjects which students are required to complete. The subjects are designed to enhance students' independent research skills.

**Elective subject selection will be influenced by the undergraduate or diploma progression course.

9. Study Plans according to Stream for Bachelor Course:

Study Plan for Students in the Business, Information Technology and Humanities stream
To complete Foundation Studies you need to pass 4 Stage 1 subjects, Independent learning 1 and 4 Stage 2 subjects and Independent Learning 2. Students must also complete the LTM1AIM – Academic Integrity Module before the end of Week 4 in their first trimester. Electives are selected depending on the stream that a student is enrolled into. **Subjects to enrol in:**

Stage 1 1st Trimester	LFS00AS1 (Core) Academic communication 1	LFS00EM1 (Core) Essential Mathematics 1	LFS00IN1 (Required) Independent Learning 1	LFS00AC1 (Elective) Accounting 1	LFS00EC1 (Elective) Economics 1
Stage 1 2nd Trimester	LFS00AS2 (Core) Academic communication 2	LFS00EM2 (Core) Essential Mathematics 2	LFS00IN2 (Required) Independent Learning 2	LFS00AC2 (Elective) Accounting 2	LFS00EC2 (Elective) Economics 2

Study Plan for Students in the Health and Life Sciences stream
To complete Foundation Studies you need to pass 4 Stage 1 subjects, Independent learning 1 and 4 Stage 2 subjects and Independent Learning 2. Students must also complete the LTM1AIM – Academic Integrity Module before the end of Week 4 in their first trimester. Electives are selected depending on the stream that a student is enrolled into. **Subjects to enrol in:**

Stage 1 1st Trimester	LFS00AS1 (Core) Academic communication 1	LFS00EM1 (Core) Essential Mathematics 1	LFS00IN1 (Required) Independent Learning 1	LFS00BY1 (Elective) Biology 1	LFS00CY1 (Elective) Chemistry 1		
Stage 1 2nd Trimester	LFS00AS2 (Core) Academic communication 2	LFS00EM2 (Core) Essential Mathematics 2	LFS00IN2 (Required) Independent Learning 2	LFS00AM2 (Elective) Advanced Mathematics 2	LFS00BY2 (Elective) Biology 2	LFS00CY2 (Elective) Chemistry 2	LFS00PY2 (Elective) Physics 2

** WAM = Weighted average mark. That is, the average mark achieved across all completed subjects in a course, including any failed and repeated units. Bachelor courses have a WAM requirement for entry into course.*

10. Overview of Subjects:

LFS00AC1 Accounting 1

Accounting is the process of recording, reporting, analysing and interpreting financial data and information. In this subject you will be focussing on recording, reporting and analysing financial data for small business. Your study will initially focus on accounting for a sole proprietor/trader operating in a service business. We will then look at accounting for a trading business. You will be introduced to the two-fold effect of transactions that are vital to your progress into Accounting 2 in the future.

Subject Learning Outcomes

1. Describe the resources and explain and apply the knowledge and skills necessary to set up a small business.
2. Identify, record, report and explain the financial data and information for the owner of a service business.
3. Apply accounting skills to evaluate financial and non-financial information in order to make informed decisions for a small business.
4. Record and report financial data and information for a sole trader.
5. Select and use financial and non-financial information to evaluate a business and suggest strategies that will improve business performance

Class requirements

The subject is delivered over a 12-week teaching period, consisting of 2 x 2.5 - hour classes per week.

Assessments

Assessment Piece	Weighting	Subject Learning Outcomes
Online Quiz	2%	1
Test 1	24%	1-4
Test 2	25%	1-4
Test 3	24%	1-5
Test 4	25%	1-5

LFS00AC2 Accounting 2

This subject will introduce you to general concepts, terminology and methodology used in accounting, in preparation for your studies at Diploma level or at first year University. You are introduced to the double-entry recording system.

Subject Learning Outcomes

1. Record and report financial data into appropriate accounting records using a double entry accrual-based system for a single-entry activity sole trader and explain related aspects of this accounting system.
2. Record every day and special transactions into a general journal.
3. Correct incorrect entries.
4. Account for non-current assets by calculating and recording depreciation.
5. Prepare an income statement for a trading business and calculate profitability ratios to assess performance.
6. Record balance day adjustments to equate revenues earned with expenses incurred and incorporate these into a final income statement and balance sheet.
7. Complete a cash flow statement, budgeted cash flow statement, variance analysis and debtor collection schedule.

Class requirements

The subject is delivered over a 12-week teaching period, consisting of 3 x 2-hour classes per week.

Assessments

Assessment Piece	Weighting	Subject Learning Outcomes
Introductory Quiz	5%	1
Test 1	20%	1
Test 2	25%	1-5
Test 3	30%	1, 4, 5, 6
Test 4 – FINAL TEST	20%	1, 7

LFS00AM2 Advanced Mathematics 2

This subject explores the graphs of other functions but relies on the knowledge gained from the functions studied in Advance Mathematics 1. Common differentiation rules are introduced and followed up with applications of differentiation to sketching graphs and in particular, maximum and minimum problem solving. Integration rules are introduced followed by applications of integration to calculation of areas.

Subject Learning Outcomes

At the end of this subject, students will be able to:

1. Successfully construct graphs of other types of functions.
2. Evaluate limits and differentiate power functions by rule.
3. Implement the rules of differentiation and use them to solve maximum/minimum problems.
4. Antidifferentiate various functions and apply to calculation of areas.

Class requirements

The subject is delivered over a 12-week teaching period, consisting of 3 x 2-hour classes per week.

Assessments

Assessment Piece	Weighting	Subject Learning Outcomes
Revision quizzes	20%	1-4
Topic Tests	50%	1-4
Exam	30%	1-4

LFS00AS1 Academic Communication 1

The primary aims of the Academic Communication 1 course are the consolidation and extension of students' understanding of, and ability to use, written and spoken English for the purposes of tertiary study. The subject will specifically extend language skills through thinking, reading, writing, speaking and listening. Students will be assessed on their ability to communicate ideas, feelings, observations and information effectively both in writing and oral expressions.

Subject Learning Outcomes

1. Understand and demonstrate academic communication skills strategies essential in tertiary studies.
2. Use academic expression and critical thinking to compose structured paragraphs, balanced essays and oral presentation.
3. Critically analyse and evaluate academic sources essential in synthesising information for oral and written communication.
4. Effectively paraphrase and synthesise main ideas from auditory and written texts through notetaking.
5. Competently use referencing in all research-based tasks.
6. Evaluate own academic oral and written communication skills employed through feedback application and reflective writing.

Class requirements

The subject is delivered over a 12-week teaching period, consisting of 2 x 2.5-hour classes per week.

Assessments

Assessment piece	Weighting	Subject Learning Outcomes
EAP-Quiz on Introduction to AS1	2%	1, 4
Listening Test	5%	1, 4
Reading and short answer Test	10%	1, 3
Paraphrasing and Paragraph Test	10%	2, 3, 4
Essay plan and notes	5%	3-6
Research Essay	10%	2-6
Oral Presentation and reflective writing on Oral Presentation	13%	1, 2, 4, 5, 6
Final Examination Part 1 and 2	45%	1-5

LFS00AS2 Academic Communication 2

This subject is designed to enhance your academic success in English-medium universities by consolidating your knowledge of academic values in Australian universities and enhancing your proficiency in academic English. In addition to learning about academic integrity, participation in tutorials and group work, various academic writing functions, advanced grammar, research and argumentative essays, text response and language skills are also taught in this course to prepare you for university studies.

Subject Learning Outcomes

1. Develop the capacity for critical and abstract thinking.
2. Discuss and present various positions on a variety of topical issues.
3. Write appropriately worded and structured academic texts.
4. Develop independent research skills.
5. Complete in text citations and write reference lists in appropriate style
6. Develop spoken communication skills
7. Demonstrate an understanding of academic integrity.

Class requirements

The subject is delivered over a 12-week teaching period, consisting of 3 x 2 hour classes per week.

Assessments

Assessment Piece	Weighting	Subject Learning Outcomes
Academic Integrity and referencing quiz	2%	5, 7
Set Text Written Responses	8%	1-3
Argumentative Essay Plan and reference list	5%	1-5
Argumentative Essay 700-900 words	10%	1-5
Research Report - Introduction and outline (written) **Research Report - Progress Report and PPT. (oral)**	2% and 3%	3-5
Research Report - 1000-2000 words	10%	3-5
Research Report Oral Presentation	10%	1, 6
Final Test Response Test	10%	1-3
Final Exam: Reading, plan and argumentative essay	40%	1-5

LFS00BY1 Biology 1

Foundation Studies Biology aims to provide students with the biological background necessary for tertiary studies in Health and the Sciences. Biology 1 introduces students to the study of biology. Along with learning key concepts, students will develop biological language skills, interpret data and diagrams, and develop practical skills in a laboratory setting. Workload: The subject is scheduled for 13 weeks of teaching as per table below. Weekly Timetabled Hours * Recommended Study Hours ** Lectures 5 4 * Time spent in direct class contact time ** Time students are expected to spend per week outside timetabled hours, studying and completing assignments Resources There is no prescribed text All resources available on the student portal. Websites Student portal at https://www.latrobecollegeaustralia.edu.au/ gives you access to news, documents, timetable, results and learning management system called Moodle.

Subject Learning Outcomes

On completion of the study area of this subject the student should be able to demonstrate an understanding of:

1. biological molecules - specifically carbohydrates, lipids, nucleic acids and proteins
2. the structure and properties of water and the role of water in living organisms
3. cells as units of life with reference to the structure and function of organelles
4. cells types with particular reference to the comparison of prokaryotic and eukaryotic cells, and the comparison of plant and animal cells
5. the structure and function of cell membranes
6. transport across cell membranes with particular reference to active and passive transport
7. mitosis
8. cell differentiation and the levels of organisation of cells in a multicellular organism
9. the basic principles of aerobic respiration, photosynthesis ad protein synthesis
10. principles of homeostasis
11. the nervous system and endocrine system as information transport systems for homeostatic mechanisms
12. thermoregulation, blood glucose regulation and osmoregulation as examples of homeostasis
13. human reproduction, including the principles of sexual reproduction and the male and female reproductive systems

In conjunction, students should be able to:

14. analyse data and draw conclusions
15. demonstrate biological language skills via written communication
16. interpret diagrams and graphs relating to biological concepts
17. manipulate laboratory equipment (not in trimester 1 2022)
18. interpret experimental outcomes
19. demonstrate the ability to work collaboratively in a laboratory setting. (not in trimester 1 2022)

Class requirements

The subject is delivered over a 12-week teaching period, consisting of 2 x 2.5 -hour classes per week.

Assessments

Assessment Piece	Weighting	Subject Learning Outcomes
Practical 1	2%	
Introductory quiz	3%	
Study Area 1: Test 1	12%	1-6
Practical 2	2%	
Study Area 2: Test 2	13%	7-12
Practical 3	4%	
Study Area 3: Test 3	16%	13, 14, 15
Study Area 4 and Study Area 5: Test 4	23%	16-19
Subject Review Assessment	25%	

LFS00BY2 Biology 2

Foundation Studies Biology aims to provide students with the biological background necessary for tertiary studies in Health and the Sciences.

Biology 2 builds on the knowledge and skills of Biology 1. Along with the content, students gain knowledge in biological language and the interpretation of data, along with practical applications gained in a laboratory setting.

Biology 2 requires students to undertake study within 3 areas:
Study Area 1: Energy in Cells
Cellular respiration, photosynthesis, enzymes and ATP.
Study Area 2: Genetics
DNA, DNA replication, meiosis, patterns of inheritance, transcription, translation and mutations.
Study Area 3: Evolution
Microevolution, macroevolution and evidence for evolution.

Subject Learning Outcomes

At the end of this subject, students will be able to demonstrate an understanding of:

1. ATP as an energy provider in cells
2. enzymes as biological catalysts that function optimally within environmental limits.
3. aerobic cellular respiration as biological pathway with reference to stages, inputs, outputs and chemiosmosis
4. fermentation as a biological pathway with reference to inputs and outputs
5. photosynthesis as a biological pathway with reference to stages, inputs, outputs and chemiosmosis.
6. DNA structure, chromosomes, genes, alleles and the nature if homologous chromosomes.
7. karyotypes and the distinction of autosomes and sex chromosomes
8. genotype and phenotype
9. replication as an essential event before cell division
10. meiosis as a process (oogenesis and spermatogenesis) that produces gametes and adds to genetic variation through the events of crossing over and independent assortment
11. non-disjunction with reference to Down Syndrome
12. the comparison of meiosis with mitosis
13. patterns of inheritance through the study of dominant/recessive inheritance, monohybrid crosses, test crosses, dihybrid crosses, multiple alleles, codominance, sex determination, X-linked inheritance, polygenes, pedigrees and environment
14. gene expression as being a process involving transcription and translation with reference to mRNA, tRNA and rRNA and the genetic code
15. mutagens, types of gene mutations, and the effect of mutations on protein production
16. the concept of a species, a population and a gene pool
17. microevolution as being a change in allele frequency with reference to natural selection, gene flow, genetic drift, non-random mating and mutations
18. macroevolution with reference to the process of speciation, types of reproductive isolating mechanisms, patterns of evolution and extinction
19. evidence for evolution with reference to fossils, homologous DNA sequencing, homologous, analogous and vestigial structures, comparative embryology and biogeography.

In conjunction, students should be able to

20. analyse data and draw conclusions demonstrating biological language skills via written and verbal communication
21. interpret diagrams and graphs relating to biological concepts
22. manipulate laboratory equipment

23. interpret experimental outcomes
24. demonstrate the ability to work collaboratively in a laboratory setting.

Class requirements

The subject is delivered over a 12-week teaching period, consisting of 2 x 3-hour classes per week and 4 x 3-hour practicals throughout the trimester.

Assessments

Assessment Piece	Weighting	Subject Learning Outcomes
Introductory Quiz	3%	
Test 1	15%	1-5, 20, 21
Test 2	20%	6-15, 20, 21
Oral Presentation	15%	2, 5, 9-12, 20, 21
Test 3	10%	16-21
Practical 1	3%	2, 20-24
Practical 2	3%	5, 20-24
Practical 3	3%	6, 20-24
Practical 4	3%	13, 20-24
Subject Review Quiz	25%	Study Areas 1 and 2

LFS00CY1 Chemistry 1

Foundation Studies Chemistry aims to provide students with the chemistry knowledge necessary for tertiary studies across the Sciences.

Chemistry 1 will ensure students have a strong foundation of chemistry knowledge and the language to discuss and convey concepts. A series of experiments will allow students to gain experience in a laboratory setting, observing chemical processes and applying their subject knowledge to understand what is occurring at the atomic level.

Chemistry 1 requires students to undertake study of four Study Areas:
Study Area 1: Introduction to Chemistry
Properties and states of matter; elements, compounds and mixtures; atoms, molecules and ions.

Study Area 2: Quantitative Chemistry
Scientific notation, significant figures, units; formulae, masses and moles; stoichiometric calculations.

Study Area 3: Atomic Theory and the Periodic Table
Electron configuration and orbitals, absorption and emission spectra, Periodic Table trends, metallicity.

Study Area 4: Chemical bonding
Ionic and covalent bonding, molecular shape; electronegativity, polarity, intermolecular forces.

Subject Learning Outcomes

1. Define matter, its states, and terms used for changes of state
2. Distinguish physical and chemical properties of elements, compounds and mixtures
3. Describe methods used to separate mixtures, including distillation and chromatography
4. Define: atomic number, mass number, isotope, ion
5. Write balanced ionic equations (including states) for chemical reactions including: redox, acid-base neutralisation, precipitation, combustion, decomposition and combination.
6. Use scientific notation and perform calculations using appropriate significant figures
7. Convert between units and use the correct units in calculations
8. Define relative atomic mass, and calculate molecular and formula masses
9. Calculate amounts in mol from masses of substances or numbers of atoms and vice versa
10. Perform stoichiometric calculations involving masses or reactions with a limiting reagent
11. Write electron configurations of atoms using subshells
12. Explain the patterns in properties (electronegativity, ionization energy, atomic radii) observed in the Periodic Table, both down Groups and across Periods
13. Recall the properties of elements of Group 1, 2, 17 and 18 and the Transition Metals, and relate these to their outer shell electronic configurations
14. Describe the metallic bonding model and relate it to the properties of metals
15. Describe the ionic bonding model and relate it to the properties of ionic compounds
16. Draw valence dot diagrams for a variety of molecules including double or triple bonds
17. Predict shape, and polarity of covalent molecules, and the resultant physical properties
18. Relate the covalent lattice structures for graphite and diamond to their physical properties
19. Use the Kinetic Molecular Theory to explain the properties of gases
20. Apply the gas laws to solve general gas problems
21. Solve problems involving molar gas volumes at SLC and STP
22. Solve mass/volume stoichiometric problems

In conjunction, students should be able to

23. consult information sources, analyse data, and communicate conclusions using appropriate chemical language
24. interpret diagrams and graphs relating to chemical concepts
25. perform a calculation on quantities in various units, and appropriately report the result
26. demonstrate the ability to work collaboratively and safely in a laboratory setting
27. manipulate laboratory equipment, record observations and measurements, and interpret experimental outcomes

Class requirements

The subject is delivered over a 12-week teaching period, consisting of 2 x 2.5-hour classes per week, including two (2) laboratory-based practicals over the trimester.

Assessments

Assessment piece	Weighting	Subject Learning Outcomes
Introductory Quiz	4%	23, 25, 26, 27
Study Area 1 Quiz	8%	1-5
Study Area 2 Quiz	8%	6-10
Study Area 3 Quiz	12%	11-14
Study Area 4 Quiz	12%	15-22
Chromatography Report	4%	2, 3
Types of Reactions Report	4%	1, 5
Magnesium Oxide Report	4%	6, 8, 9
Period 3 Elements Report	4%	5, 12, 13, 14
Critical Assessment 1	15%	1-10, 21, 22, 23
Critical Assessment 2	25%	11-23

LFS00CY2 Chemistry 2

Foundation Studies Chemistry aims to provide students with the chemistry knowledge necessary for tertiary studies across the Sciences.

Chemistry 2 builds on the knowledge and skills already gained in Chemistry 1. Students will continue to extend their chemistry knowledge and language, making predictions about model scenarios, as well as gaining further practical experience in a laboratory setting.

Chemistry 2 requires students to undertake study of four (4) Study Areas:
Study Area 1: Acids, Bases and Solutions
Solubility, concentration, conjugate acids and bases, pH.

Study Area 2: Energy, Rates and Equilibrium
Heat capacity, enthalpy, activation energy, chemical equilibrium.

Study Area 3: Organic Chemistry
Homologous series, hydrocarbons, functional groups, biological molecules.

Study Area 4: Redox Reactions and Electrochemistry
Oxidation number, half-equations, galvanic cells, electrochemical series, electrolysis.

Subject Learning Outcomes

At the end of this subject, students will be able to:

1. assess the polarity of solvents and solutes to predict solubility
2. calculate the concentration of a solution and perform calculations involving dilutions
3. perform a titration and use experimental results to calculate an unknown concentration
4. use the Brønsted-Lowry definition of acids and bases to identify conjugate pairs
5. calculate the pH of strong acids and bases in aqueous solution and describe the purpose of a buffer
6. distinguish between exothermic and endothermic reactions, and perform calculations involving reaction enthalpy (ΔH)
7. describe the dynamic nature of the state of chemical equilibrium
8. apply the Equilibrium Law relating concentrations and the equilibrium constant
9. apply Le Chatelier's Principle to predict shifts in equilibrium after disturbance
10. use Ka and Kw to calculate the pH of weak acids and bases in aqueous solutions
11. distinguish and name saturated, unsaturated, branched and cyclic hydrocarbons, and describe their properties and reactions
12. identify and name compounds with functional groups (alcohols, aldehydes, ketones, carboxylic acids, esters); describe their properties and reactions
13. assign and interpret IUPAC names for organic molecules, and write their structural, semi-structural, and molecular formulae
14. given its component amino acids, draw a tripeptide and vice-versa; likewise relate a triglyceride to its component fatty acids
15. assign oxidation numbers within molecules and ions, and recognise redox reactions
16. identify the anode, cathode, half reactions, direction of current, and movement of ions in an electrochemical cell
17. use the Electrochemical Series to predict spontaneous redox reactions
18. predict the products of electrolysis in aqueous solution and molten states
19. apply Faraday's laws to relate electric current, time and amount of substance produced

In conjunction, students should be able to

20. consult information sources, analyse data, and communicate conclusions using appropriate chemical language

21. interpret diagrams and graphs relating to chemical concepts
22. perform a calculation on quantities in various units, and appropriately report the result
23. demonstrate the ability to work collaboratively and safely in a laboratory setting
24. manipulate laboratory equipment, record observations and measurements, and interpret experimental outcomes

Class requirements

The subject is delivered over a 12-week teaching period, consisting of 3 x 2-hour classes per week, including two (2) laboratory-based practicals over the trimester.

Assessments

Assessment Piece	Weighting	Subject Learning Outcomes
Introductory Quiz	4%	Revision of CY1
Study Area 1 Quiz	10%	1, 2, 4, 5
Study Area 2 Quiz	10%	6-10
Study Area 3 Quiz	10%	11-14
Study Area 4 Quiz	10%	15-19
Titration Experiment Report	4%	2, 3, 4, 22, 23, 24
Organic Chem Expt. Report	4%	11, 12, 23, 24
Equilibrium Expt. Report	4%	6, 7, 9, 20
Electrochem Expt. Report	4%	15-19, 20, 22
Critical Assessment 1	20%	1-10, 20, 21, 22
Critical Assessment 2	20%	11-22

LFS00EC1 Economics 1

Economics involves a study of how a nation organizes to provide the material things which its population needs to live. It involves a study of markets, producing, buying and selling goods and services and allocating resources (microeconomics). It also involves a study of how a nation's economic system operates, and how its performance can be measured and monitored (macroeconomics). This subject introduces students to economics terms, concepts and theories and provides an opportunity to research an economic issue.

Subject Learning Outcomes

1. Identify and apply the tools of economic analysis and define economic concepts.
2. Explain the role of markets in allocating resources.
3. Describe the main characteristics of each of the four market structures and analyse the importance of competition and the degree of market power.
4. Explain the meaning of economic activity and economic growth and examine these concepts using the Five Sector Model and the Business Cycle.
5. Examine the causes of economic growth and consider possible advantages and cost associated with economic growth.
6. Research issues such as globalisation, income distribution or economic growth and explain them within an economic framework.

Class requirements

The subject is delivered over a 12-week teaching period, consisting of 2 x 2.5 - hour classes per week.

Assessments

Assessment Piece	Weighting	Subject Learning Outcomes
Quiz	5%	1-4
Test 1	20%	1-4
Test 2	25%	1-4
Test 3	25%	1-4
Test 4	25%	1-4

LFS00EC2 Economics 2

Economics is a core business subject. It involves a study of how a nation organizes to provide the material goods and services which its population needs to live. It involves a study of markets, producing, buying and selling goods and services and allocating resources (microeconomics). It also involves a study of how a nation's economic system operates, and how its performance can be measured and monitored (macroeconomics). In addition, the subject includes some of the issues which relate to particular current economic circumstances.

Subject Learning Outcomes

At the end of this subject, students will be able to:

1. To understand general concepts, models and terminology used in Economics.
2. Apply these concepts, models and terminology to problem solving both simulated and real life events.
3. Demonstrate self-reliance, independence and initiative in the learning environment.

Class requirements

The subject is delivered over a 12-week teaching period, consisting of 3 x 2-hour classes per week.

Assessments

Assessment Piece	Weighting	Subject Learning Outcomes
Quiz	5%	1
Test 1	20%	1-3
Test 2	25%	1-3
Test 3	25%	1-3
Test 4	25%	1-3

LFS00EM1 Essential Mathematics 1

The major objective of this course is to provide students with the necessary mathematical knowledge and skills required to proceed to Essential Mathematics 2 with the view to meet the prerequisites for entry into Degree or Diploma courses offered by La Trobe University.

Skills gained should include the ability to define and explain key terms and concepts, obtain skills which can be applied to solve simple problems, and extrapolate these skills to solve given practical situations which may involve analysis, problem solving, modelling or investigative techniques.

Subject Learning Outcomes

At the end of this subject, students should be able to:

1. Display univariate data and determine appropriate summary statistics.
2. Find perimeter, area surface area and volume of common shapes and make unit and scale factor conversions.
3. Investigate gradient and intercepts to sketch straight line graphs and use them to perform break even analysis on worded problems.
4. Become familiar with matrices and able to solve matrix operations and equations.
5. Define basic concepts of a network and identify trails and circuits of a network.

Class requirements

The subject is delivered over a 12-week teaching period, consisting of 2 x 2.5 - hour classes per week.

Assessments

Assessment Piece	Weighting	Subject Learning Outcomes
Introductory Quiz	4%	1
Test 1 – Data	16.5%	1
Test 2 – Geometry	16.5%	2
Test 3 – Graphs	16.5%	3
Test 4 – Matrices and Networks	16.5%	4, 5
Final Assessment/Exam	30%	1-5

LFS00EM2 Essential Mathematics 2

The main objective of this course is to provide students with mathematical knowledge and skills that will support them as they proceed through tertiary studies. Skills developed are also likely to be useful as part of a general life skills set.

The areas of study are statistics, finance and linear programming. Technology, including scientific calculators and online resources, are used to support the learning process.

Skills gained will include the ability to define and explain key terms and concepts, obtain skills which can be applied to solve simple problems, and extrapolate these skills to solve given practical situations which may involve analysis, problem solving, modelling or investigative techniques.

Subject Learning Outcomes

At the end of this subject, students should be able to:

1. Apply the rules of rounding.
2. Describe univariate data, through the calculation and interpretation of mean, standard deviation, z scores and analysis of normal distributions.
3. Display, summarise and describe relationships in bivariate data, through construction and interpretation of back-to-back stem plots, parallel boxplots, two-way frequency tables.
4. Determine response and explanatory variables.
5. Construct and interpret scatterplots.
6. Calculate and interpret Pearson's product-moment correlation coefficient and coefficient of determination.
7. Fit and interpret regression lines and use regression lines to interpolate and extrapolate.
8. Perform residual analysis.
9. Display, summarise and describe time series data.
10. Smooth time series data
11. Seasonally adjust time series data.
12. Calculate and compare simple and compound interest in investment and loans with periodic payments.
13. Calculate and compare flat rate, reducing balance and unit cost depreciation.
14. Construct and interpret graphs representing linear inequalities.
15. Use graphical methods to solve linear programming problems.

Class requirements

The subject is delivered over a 12-week teaching period, consisting of 3 x 2-hour classes per week.

Assessments

Assessment Piece	Weighting	Subject Learning Outcomes
Introductory Quiz	3%	Review from EM1
Test 1	20%	1-6
Test 2	20%	6-11
Test 3	20%	12, 13
Test 4	12%	14, 15
Subject Review/Exam	25%	1-11

LFS00IN1 Independent Learning 1

Independent Learning is a supervised 2-hour weekly session. It is designed to give students time to complete additional work from other subjects; help promote the acquisition of good study skills; and to improve English language skills by encouraging group and informal discussions. Various seminars may be introduced from time-to-time such as “Academic Integrity”. It also provides students with an additional point of reference with a teacher mentor.

Subject Learning Outcomes

At the end of this subject, students will:

1. Be more independent learners
2. Have improved study skills
3. Had the opportunity to improve English language skills
4. Be more confident in their learning environment

Class requirements

The subject is delivered over a 12-week teaching period, consisting of 1 x 2 -hour class per week.

Assessments

Your final mark and grade for this subject is determined as follows:
Attendance will be recorded and students will be expected to have attended at least 80% of scheduled class time. The final grade available will be either a P for Ungraded Pass or an N for an Ungraded Fail.

LFS00IN2 Independent Learning 2

Independent Learning is a supervised 2-hour weekly session. It is designed to give students time to complete additional work from other subjects; help promote the acquisition of good study skills; and to improve English language skills by encouraging group and informal discussions. Various seminars may be introduced from time-to-time such as “Academic Integrity”. It also provides students with an additional point of reference with a teacher mentor.

Subject Learning Outcomes

At the end of this subject, students will:

1. Be more independent learners
2. Have improved study skills
3. Had the opportunity to improve English language skills
4. Be more confident in their learning environment

Class requirements

The subject is delivered over a 12-week teaching period, consisting of 1 x 2 -hour class per week.

Assessments

Your final mark and grade for this subject is determined as follows:
Attendance will be recorded and students will be expected to have attended at least 80% of scheduled class time. The final grade available will be either a P for Ungraded Pass or an N for an Ungraded Fail.

LFS00PY2 Physics 2

The course structure has the objectives of:

- providing a firm foundation of knowledge in key areas of physics as a basis for further study in a degree level course
- developing interpretive and analytical skills that reflect a scientific approach.
- providing a framework to assess the skill level of students with regard to their suitability for entry into a degree level course.
- improve the scientific literacy of students with experimentation, questioning and introduces them to the major areas of study which includes motion (energy, Newton's Laws), circular motion, electromagnetism, light and matter.

Subject Learning Outcomes

At the end of this subject, students will be able to:

1. Demonstrate knowledge in key areas of physics as a basis for further study in a degree level course.
2. Communicate their ideas and solutions effectively using the language of the course both orally and in writing.
3. Apply understanding of concepts, use problem solving skills in the areas of Work, energy and collisions, Curvilinear, Electromagnetism and Light and matter.
4. Analyse and interpret data, graphs and diagrams related to physical phenomena encountered in the course

Class requirements

The subject is delivered over a 12-week teaching period, consisting of 3 x 2-hour classes per week.

Assessments

Assessment Piece	Weighting	Subject Learning Outcomes
Quiz	5%	1-4
Topic Test 1 - Work, Energy and Collisions	20%	1-4
Topic Test 2 - Curvilinear	25%	1-4
Topic Test 3 - Electromagnetism	25%	1-4
Topic Test 4 – Light and Matter	25%	1-4

11. Rules for Program Completion

To complete the Foundation Studies program, students must successfully complete 100 credit points and achieve a minimum score of 50% in each subject. Successful completion allows articulation into a Diploma at the college.

Students must also meet the English and academic entry requirements for their chosen bachelor degree. English proficiency can be demonstrated by achieving over 60% in Academic Communication 2 or through an external English test such as IELTS or PTE. Each Bachelor program requires a specific English requirement and minimum Weighted Average Mark (WAM), calculated from the average of all Stage 2 passed subjects. Some Bachelor courses have quota restrictions.

Elective subjects will vary depending on the chosen Stream and intended bachelor degree. Refer to the Study Plans on page 6 for details.

12. Program articulations

Graduates of this program can articulate into any of the bachelor courses at La Trobe University if they have met each course's specific Academic and English entry requirements. Further detail may be obtained on the La Trobe University Courses website at https://www.latrobe.edu.au/courses

13. Facilities and Resources

Type of facilities and resources required	**Explanation**
Teaching rooms	There is one lecture theatre (capacity 90) and three computer labs capacity 25. The college has seminar style classrooms that are designed as team-work hubs. Each room has audio visual equipment including, data projectors with multiple screens wireless microphones, visualisers, high speed Wi-Fi and desk-based power points. **Seminar rooms:** 5 capacity 50 7 capacity 40 3 capacity 30 21 capacity 20
Computer Laboratory	Students have access to three dedicated computer laboratories and access to a shared computer hub. All are equipped to a standard equivalent to those provided at the partner University. This includes wireless computer access, printers and scanners. All computers contain a range of specialist software and the MS Office Suite. All hardware is replaced on a three-year cycle. **Computer labs:** 2 capacity 20 2 capacity 30
Library	Students have access to the LTU library which supports ELICOS and pathways programs. The library facilities include a specific lending collection aligned to programs offered, student computers, quiet study areas, access to online resources and library staff for research assistance and direction.
Learning Management System	The Learning Management system (Moodle) contains all subject information for students including subject outline, assessments, tutorial activities, and collaborative learning activities. LTCA delivers all subjects using the face to face delivery mechanism, onsite for all students onshore on a student visa.

14. Measurement of student outcomes

The Grading Scale is included in every course outline. The assessment grade is a measure of the extent to which the desired learning outcomes have been achieved in the units of the program. Grades the students achieve are descriptive rather than numeric and are officially defined as:

Grade	Percentage Range
A	80 – 100
B	70 – 79
C	60 – 69
D	50 – 59
N	0 – 49