VCE Unit 4 Exam Revision Lectures 2022

What Will be Covered at the Unit 4 Exam Revision Lectures?

Each lecture draws on the key knowledge and key skills outlined in the current VCE Study Design and is presented by a qualified, experienced **VCE teacher who is current or recent VCE exam assessor (VCAA).**

You will work through key Unit 4 topics to an A+ standard in a relaxed, step-by-step manner. You'll also learn to dissect and confidently answer highly probable exam-style questions and learn how to spot and process the **tricks and traps** that result in the **loss of valuable examination marks.**

You will receive **first-hand advice** regarding how marks are awarded in the exams and what to include in your responses to get **full marks,** discover the **safest and most effective** way to work through questions you haven't seen before and learn new problem-solving strategies and strengthen exam skills so you can secure **every possible mark** in your exams.

Emphasis will be placed on the **harder concepts**, the topics that are most likely to be the focus of the forthcoming VCE exams.

Accounting (Unit 4)

Topics include: Recording and reporting financial data using a double entry accrual-based system, recording and reporting balance day adjustments (both expenses and revenues), the purchase and disposal of non-current assets, different methods of depreciation, analysing budgeted accounting reports and variance reports and the effect of alternative strategies on the performance of a business, as well as the ethical considerations of business owners when making decisions, including financial, social and environmental.

Biology (Unit 4)

Topics include: The immune response, inflammation, cellular response, acquiring immunity, the role of the lymphatic system, lymphocytes, antibodies & T cells in the immune response, natural vs artificial immunity, emergence of new pathogen, re-emergence of known pathogens, strategies to identify & control the spread of pathogens, vaccination programs, herd immunity, immunotherapy strategies including monoclonal antibodies in the treatment of autoimmune diseases & cancer. **Evolution:** changing allele frequencies & biological consequences (selection pressures, genetic drift, gene flow, mutations), selective breeding programs, bacterial resistance & viral antigenic drift, fossil records, dating of fossils, allopatric & sympatric speciation, determining the relatedness of species, human changes over time & the migration of human populations around the world over time.

Business Management (Unit 4)

Topics include: Business change, key performance indicators (KPI's) as sources for change, the Force Field Analysis theory, driving and restraining forces for change, theories on change (Lewin and Porter); the importance of leadership in change management; strategies to manage change in the most efficient and effective way so as to improve business performance, management strategies to respond to KPI's; the need to review KPI's during a period of change and corporate social responsibility.

Chemistry (Unit 4)

Topics include: Structure, nomenclature and reactions of organic compounds, trends in physical properties, designing reaction pathways for the synthesis of organic molecules, isomers, enantiomers, analysis of organic compounds (including IR spectroscopy, NMR, HPLC and volumetric analysis), proteins (including protein structure), carbohydrates, fats and oils and how the composition, structural arrangement and intramolecular and intermolecular bonding determines the properties and reactivity of chemical substances. Enzymes and the factors that affect enzymatic activity will also be investigated as well as denaturation, calorimetry and analysing the energy content of foods.

English (Unit 4)

Writing A+ Comparative Text Responses

This lecture will focus on the elements of high scoring comparative text responses including the mechanics involved in writing sophisticated, well-structured comparative essays in the exam. You will discover what the assessors expect from students aiming for the higher scores and learn how, why and where marks are often lost in the English exam. You will also develop further skills to improve the way you unpack and respond to the different types of comparative prompts, discuss how you can demonstrate that you have an insightful grasp of the meaningful connections, similarities and differences, and how to include meaningful comparative commentary that adeptly juxtaposes the two texts in response to the actual topic.

The features of comparative analysis: structure, conventions and language, including relevant metalanguage, as well as the auditing and editing process will also be discussed. A detailed, foolproof checklist will be provided to ensure you perform to your absolute best in this challenging section of the English exam. Note that this lecture is concerned with the mechanics of comparative text essay writing and not the specific analysis of text pairs.

"Gave me confidence, peace of mind and clarified every question I had. Over the few days I believe it raised my exam mark 10-15%. I sat an official practice exam & achieved 84%, which I attribute to these lectures."

Student – Ballarat Grammar School

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English (Unit 4)
Analysis of Specific Text Pairs

During these lectures, you will explore the meaningful connections between your chosen pair of texts and analyse the interplay between character and setting, voice and structure, and how ideas, issues and themes are conveyed. You will also explore important similarities and differences and how the texts deal with similar or related ideas, issues or themes from different perspectives to reflect particular values. You will also explore further perspectives and approaches regarding how to unpack essay prompts and formulate strong essay plans and how to use textual evidence to support comparative analysis in line with the examination criteria.

English Language (Unit 4)

Topics include: How Australian English varies according to geography and culture (including Aboriginal English & ethnolects), attitudes within society to different varieties of Australian English, metalanguage to discuss varieties of Australian English, social and personal variation in language, features of language that contribute to a sense of individual identity and group membership, how language is shaped by social expectations and community attitudes, the ways in which people draw on their linguistic repertoire to gain power and prestige, including exploiting overt and covert norms, the relationship between social attitudes and language choices, metalanguage to discuss representations of identity in texts.

Unit 4 Further Maths
Geometry and Measurement

Topics include: Measurement & Trigonometry (calculation of surface area and volume of spheres, cylinders, cones, pyramids and prisms, and their composites, scaling lengths, areas and volumes in practical applications, solving right and non right angled triangles and their applications in solving problems in 2 and 3 dimensions, specification of location in 2 dimensions using three-figure bearings) and Spherical Geometry (arc lengths, areas of sectors and segments with practical applications, using trigonometry and Pythagoras' theorem in 2 and 3 dimensions within a sphere, spheres as models of the Earth, meridians and parallels, measures of latitude and longitude, identifying time zones and determining travel times of journeys that cross multiple time zones).

Unit 4 Further Maths
Graphs and Relations

Topics include: Construction and Interpretation of Graphs (using straight line, line segment, step graphs and non-linear graphs to model and analyse practical situations, simultaneous linear equations and their applications, using interpolation and extrapolation to predict values, estimating maximum/minimum values, location and points of intersection, graphical representation of relations of the form for and and their use in modelling practical situations, linearising data and the use of linearization to test the validity of a proposed model) and Linear Programming (linear inequalities and their graphical representations, systems of linear equations, formulation and solutions of linear programming problems including optimisation problems, using graphical methods to solve linear programming problems, the sliding-line method and corner-point principle).

"Absolutely incredible lecture series! The notes are clear & well presented, the teachers were paced perfectly, and the questions covered were absolutely ideal! My confidence has grown significantly. And they have actually saved me hundreds of hours of revision."

Student – Ballarat Grammar School

Unit 4 Further Maths – Matrices

Topics include: Matrices and applications (Matrix arithmetic (types of matrices, matrix operations, transpose of a matrix), inverses and determinants, binary and permutation matrices, communication and dominance matrices, representing and solving systems of linear equations) and Transition Matrices (Generating state matrices, the equilibrium state matrix, transition diagrams and their associated transition and state matrices, using transition matrices and state matrices to model and analyse practical situations, using first-order linear matrix recurrence relations to model a range of situations and solve related problems.).

Unit 4 Further Maths
Networks and Decision Maths

Topics include: The definition and representation of different kinds of undirected and directed graphs, use of matrices to represent graphs, digraphs and networks and their applications, Eulerian trails and circuits, bridges, Hamiltonian paths and cycles, and the use of networks to model and solve problems involving travel, connection, flow, matching, allocation and scheduling.

Health & Human Development (Unit 4)

Topics include: Characteristics of, and similarities and differences in health status and burden of disease in high-, middle- and low-income countries, changes in burden of disease over time, sustainability, human development and the HDI, implications for health and wellbeing due to climate change, conflict, mass migration, tourism, digital technologies and world trade, rationale, objectives and key features of the UN's SDGs, relationships between SDG 3 and SDGs 1, 2, 4, 5, 6 and 13, priorities and the work of the WHO.

Legal Studies (Unit 4)

Topics include: The role of the Crown and the Houses of Parliament in law-making, the division of constitutional law-making powers of the state and Commonwealth parliaments, Section 109 of the Australian Constitution, the means by which the Australian Constitution acts as check on parliament in law-making, factors that affect the ability of parliament and the courts to make law, the roles of the Victorian courts and the High Court in law-making, statutory interpretation, the relationship between courts and parliament in law-making, and law reform.

Unit 3 & 4 Exam Highlights Lectures

Shorter, Focused Revision to Kick Start Your Exam Preparations

The focus of these comprehensive **3.5 hour lectures** is on the development of problem-solving skills and exam techniques and learning how to structure answers that would be awarded full marks in the exams.

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Maths Methods (Unit 4)

Topics include: Applications of differentiation (Differentiability, strictly increasing and decreasing functions, maxima, minima and stationary points, worded optimisation questions, graphs of the derivative function, rates of changes, tangents and kinematics), integration and its applications (integration techniques, properties of definite integrals, integration by recognition, definite integrals, areas under and between curves, area approximations, average values) and the general discrete, binomial, general continuous and normal distribution (graphs, calculating probabilities, means, standard deviations, variance and dissecting worded applications) and statistical inference.

Physical Education (Unit 4)

Topics include: Fitness components (aerobic power, agility, anaerobic capacity, balance, body composition, coordination, flexibility, muscular endurance, muscular power, muscular strength, reaction time and speed), monitoring and recording physiological, psychological and sociological training data, components of an exercise training session, training program principles, training methods (aerobic, anaerobic, flexibility & resistance), psychological strategies used to enhance performance and aid recovery, nutritional and rehydration recovery strategies, chronic adaptations of the cardiovascular, respiratory and muscular systems to aerobic, anaerobic and resistance training.

"Fantastic lecture. One which will help to achieve my desired goal."

Student – Loreto Mandeville Hall

Physics (Unit 4)

Topics include: Properties of mechanical and electromagnetic waves, wave behaviour reflection, refraction, diffraction, transmission, waves interacting with other waves (interference patterns, resonance and standing waves), the development of the wave theory and particle theory for light, the photon model for light, the electromagnetic spectrum, Young's double slit experiment, the photoelectric effect and Planck's constant, matter waves, the de Broglie wavelength of matter, similarities between light and matter (photons, atomic absorption and emission spectra, energy levels, the quantum nature of light, the single photon/electron double slit experiment and Heisenberg's Uncertainty Principle.

Psychology (Unit 4)

Topics include: The nature of consciousness, the importance of sleep, effects of sleep disturbances and possible treatments, defining and understanding mental health as a continuum, applying the biopsychosocial approach to explain phobias, the maintenance of mental health and applications of integrated research methods including the challenging research scenarios.

Specialist Maths (Unit 4)

Topics include: Partial fractions, applications in integration, setting up and solving differential equations (including exponential growth & decay, the logistic equation, Newton's Law of Cooling, mixing problems, Euler's Method, direction (slope) fields), kinematics (displacement, velocity, acceleration, motion under constant acceleration, vertical motion under gravity, motion in a resisting medium, velocity-time graphs & setting up and solving differential equations in kinematics), vector calculus (parametric & cartesian equations, differentiation and integration of vectors, kinematics in 2 and 3 dimensions), Newtonian mechanics (Newton's Laws of Motion, resolving forces, inclined planes, connected objects and gravity, variable force), Probability and Statistics (statistical inference related to the definition and distribution of sample means, simulations and confidence intervals).

I wasn't expecting what I got. Truly exceptional. All the teachers are so enthusiastic about their subject and approachable too. Been hearing it from people that TSFX is awesome, experienced it myself today.

Student – Ilim College

Unit 3 & 4 Exam Essentials Lectures

In-Depth Revision of Examinable Materials

The "Exam Essentials Lectures" are designed to **thoroughly & comprehensively** revise examinable materials, giving significant attention to the development of problem-solving skills and exam techniques. Emphasis will be placed on the skills, concepts and applications required to achieve a **30 – 39 study score.** Students aiming for a 40+ study score are invited to attend the "Exam Extension Lectures" in the corresponding units /subjects at **no additional charge!**