

# TSFX VCE EXAM REVISION LECTURES

## TOPICS THAT WILL BE ADDRESSED

You will receive a comprehensive and detailed coverage of examinable materials as specified in each subject's Study Design, to **VCAA examination standard**.

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### ACCOUNTING

**Unit 3:** Topics that will be addressed include recording financial data using a double entry system, the role of the General Journal, General Ledger and inventory cards in the recording process, accounting systems and ethical considerations and preparing, interpreting and analysing accounting reports for a trading business.

**Unit 4:** Topics that will be addressed include recording financial data and balance day adjustments using a double entry system, reporting accounting information using an accrual-based system, balance day adjustments, methods of depreciation, preparing budgeted accounting reports and variance reports and the effect of alternative strategies on the performance of a business.

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### BIOLOGY

**Unit 3:** Topics that will be addressed include plasma membranes, nucleic acids and proteins, gene structure and regulation, structure and regulation of biochemical pathways, photosynthesis, cellular respiration, cellular signals, responding to antigens, immunity.

**Unit 4:** Topics that will be addressed include changes in the genetic makeup of a population, changes in biodiversity over time, determining relatedness between species, human change over time, DNA manipulation, biological knowledge and society, experimental design.

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### BUSINESS MANAGEMENT

**Unit 3:** Topics that will be addressed include businesses and their objectives, the key characteristics of businesses and stakeholders, features of, and the relationship between corporate culture, management styles and management skills, theories of motivation, training options, performance management strategies, termination management, human resource managers, unions and the Fair Work Commission, awards, agreements and dispute resolution processes, characteristics of, and relationships between business objectives and operations management, improving the efficiency and effectiveness of operations, corporate social responsibility and global considerations in operations management.

**Unit 4:** Topics that will be addressed include business change, KPI's, the Force Field Analysis theory, driving and restraining forces for change, strategies used to implement change and their effectiveness and the effect of change on stakeholders.

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## CHEMISTRY

**Unit 2:** Topics that will be addressed include structure, bonding and properties of water, solubility tables and curves, specific heat capacity, latent heat, writing balanced equations, gravimetric, acid-base and redox reactions, stoichiometry, concentration and unit conversions, the pH scale, spectroscopy and chromatography.

**Unit 3:** Topics that will be addressed include fuel comparisons and energy outputs, thermochemical equations, gas stoichiometry, specific heat capacity, the electrochemical series, galvanic and electrolytic cells, fuel cells, rechargeable batteries, reaction rates and their optimisation, equilibrium and production of chemicals by electrolysis.

**Unit 4:** Topics that will be addressed include structure, nomenclature and reactions of organic compounds, trends in physical properties, designing reaction pathways for the synthesis of organic molecules, isomers, analysis of organic compounds (including mass spectroscopy, IR spectroscopy, NMR, HPLC and volumetric analysis, proteins (including protein structure), carbohydrates, fats, oils and vitamins, metabolism of food, enzymes and coenzymes and energy content of fuels.

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## ECONOMICS

**Unit 3:** Topics that will be addressed include relative scarcity, competitive markets, the demand and demand curve, price elasticity, economic efficiency, market failure, the effect of government intervention on market outcomes, living standards, the circular flow model of income, the business cycle, aggregate demand and aggregate supply, inflation, sustainable economic growth, the labour force, aggregate demand and aggregate supply factors that have influenced inflation, economic growth, the unemployment rate and living standards in the past two years, the relationship between trade and living standards, the balance of payments, Australia's current account, net foreign debt and equities, the exchange rate, factors that may influence Australia's international competitiveness and trade liberalisation.

**Unit 4:** Topics that will be addressed include government expenses and revenue, the budget outcome, automatic and discretionary stabilisers, budgetary policy, budget initiatives, using budgetary policy and aggregate supply policies to achieve the Australian Government's domestic macroeconomic goals, domestic economic stability, monetary policy, aggregate supply policies, macroeconomic goals, welfare and tax reform policies and the effect of immigration on aggregate supply.

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## ENGLISH

**Unit 2:** These important lectures will focus on the skills and techniques you will need to achieve high marks in the two areas of study that make up Unit 2.

**AOS 1 – Reading & Comparing Texts:** You will explore the ways authors convey ideas, issues and themes (such as settings, events and characters) in texts and the features of comparative analysis. Structure, conventions and language, including relevant metalanguage, will also be discussed.

**AOS 2 – Analysing Argument:** You will extend on your ability to dissect and present your analysis about how points of view are presented in both written and visual texts, and learn how to write controlled, high quality responses which present arguments and points of view using language that is specific to the exam assessment criteria.

**Unit 3: Analysing Argument in the Exams.** You will extend on your ability to dissect & present your analysis about how points of view are presented & learn how to write controlled, high quality responses which present arguments & points of view using language that is specific to the exam assessment criteria.

**Unit 3: Individual Text Lectures.** Each session will explore the context, themes, plots, characters, settings & language style of each individual text. You will also be shown how to use specific evidence from the text in your response, & participate in a detailed examination of all key passages of the text.

**Unit 4: Text Pair Analysis.** You will extend your understanding of the meaningful similarities and differences between your texts, including comparing the features of the texts. You will focus on how to use textual evidence to support comparative analysis in line with the examination criteria.

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## **ENGLISH LANGUAGE**

**Unit 3:** Topics that will be addressed include standard and non-Standard English, the nature and functions of formal and informal texts, the relationship between the context and the features of language in informal texts, discourse features and lexical choice, stylistic features in informal speech and writing, features of spoken discourse and major discourse strategies, the use of informal language for various social purposes, symbols, legend, and line numbers, metalanguage to discuss informal language in texts, the relationship between the context and the features of language in formal texts, the features and functions of formal writing and formal speech, stylistic features in formal speech and writing, the use of formal language for various social purposes, metalanguage to discuss formal language in texts.

**Unit 4:** Topics that will be addressed include the characteristics of Australian English in contrast to Englishes from other continents, how Australian English varies according to geography and culture, attitudes within society to different varieties of Australian English, the role of language in constructing national identity, 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 relationship between social attitudes and language choices, metalanguage to discuss representations of identity in texts.

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## **FURTHER MATHEMATICS**

**Unit 3 Lectures (Core Topics):** Topics that will be addressed include data distributions, associations between two variables, modelling linear associations, time series, depreciation of assets, compound interest investments and loans, reducing balance loans, annuities and perpetuities, compound interest investment

**Unit 4 Lectures (Modules):** Detailed instruction will be provided in all four Modules that will be assessed in the VCE Further Mathematics exams.

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## HEALTH AND HUMAN DEVELOPMENT

**Unit 3:** Topics that will be addressed include health and wellbeing, prerequisites for health as determined by the WHO, indicators used to measure and understand health status, the health status of Australians, the burden of disease, improvements in Australia's health status since 1900, Australia's health system, the role of health promotion in improving population health, initiatives introduced to bring about improvements in Indigenous health and wellbeing in Australia, initiatives to promote healthy eating in Australia.

**Unit 4:** Topics that will be addressed include characteristics of, and similarities and differences in health status in high-, middle- and low-income countries, sustainability, human development and the HDI, implications for health and wellbeing due to climate change, conflict, mass migration, tourism digital technologies, rationale, objectives and key features of the UN's SDGs, relationships between SDG 3 and SDGs 1, 2, 4, 5, 6 and 13, the WHO, Australia's aid programs, promoting health and wellbeing, and human development.

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## LEGAL STUDIES

**Unit 3:** Topics that will be addressed include the principles of justice, key concepts in the Victorian criminal justice system, the rights of victims and the accused, Victoria Legal Aid and Victorian community legal centres, committal proceedings, plea negotiations and sentence indications, Victorian court hierarchy, the responsibilities of key personnel in a criminal trial, the purposes of sanctions, fines, community corrections orders and imprisonment, factors considered in sentencing, reforms, key concepts in the Victorian civil justice system, factors to consider when initiating a civil claim, Consumer Affairs Victoria (CAV) and the Victorian Civil and Administrative Tribunal (VCAT), civil pre-trial procedures, the responsibilities of key personnel in a civil trial, judicial powers of case management, the methods used to resolve civil disputes, remedies, damages and injunctions, reforms.

**Unit 4:** Topics that will be addressed include the Crown and the Houses of Parliament, the division of constitutional law-making powers of the state and Commonwealth parliaments, section 109 of the Australian Constitution, the Australian Constitution, the significance of one High Court case interpreting sections 7 and 24 of the Australian Constitution, a referendum in which the Australian people have protected or changed the Australian Constitution, High Court cases which have had an impact on the division of constitutional law-making powers, international declarations and treaties, 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, law reform.

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## LITERATURE

**Unit 3 & 4:** This lecture will offer an overview of the Literature examination tasks and criteria for assessment. The skills required to complete a Close Analysis response and a Perspectives essay will be discussed, and sample responses will be provided. Consideration will be given to the different skills required for each task. Time will also be spent exploring effective and efficient approaches to revising texts and honing exam technique.

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## **MATHEMATICAL METHODS**

**Unit 2:** Topics that will be addressed include exponential, logarithmic, circular and inverse functions, finding derivatives by rule and by using first principles, applications in differentiation, integration techniques and definite integrals, probability and statistics.

**Unit 3:** Topics that will be addressed include algebra of exponential, logarithmic & trigonometric functions & functional equations, functions & graphs, transformations, algebra of functions, composite & inverse functions, modelling & differentiation techniques.

**Unit 4:** Topics that will be addressed include applications of differentiation, integration, discrete random variables & their probability distributions, the binomial distribution, continuous random variables & their probability distributions, the normal distribution, sampling & estimation

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## **PHYSICS**

**Unit 3:** Topics that will be addressed include gravitational, magnetic and electric fields, vector field model for magnetic phenomena, static/changing/uniform/non-uniform fields, the use of an electric field to accelerate a charge, the use of a magnetic field to change the path of a charged particle, the use of gravitational fields to accelerate mass, satellites in uniform and circular motion, the interaction of two fields, the force on a current carrying conductor due to an external magnetic field, simple DC motors, particle accelerators, generation of electricity, magnetic flux, EMF, alternators and generators, transmission of electricity including DC and AC voltages, transformers, power supply, transmission losses), Newton's laws of motion (including uniform circular motion, satellite motion, circular motion, projectile motion), air resistance, momentum, Einstein's theory of special relativity.

**Unit 4:** Topics that will be addressed include properties of mechanical waves, the Doppler effect, resonance, standing waves, diffraction, light as a wave, the electromagnetic spectrum, polarisation of visible light, Snell's Law, total internal reflection and critical angle, colour dispersion in prisms and lenses, Young's double slit experiment, behaviour of light, the photoelectric effect, limitations of the wave model of light, matter as particles or waves, the de Broglie wavelength of matter, similarities between light and matter (photon, atomic absorption and emission line spectra, the single photon/electron double slit experiment, Heisenberg's uncertainty principle).

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## **UNIT 3 & 4 PSYCHOLOGY**

**Unit 3:** Topics that will be addressed include the functioning of the nervous system, stress as an example of a psychobiological process, the neural basis of learning and memory, models to explain learning, process of memory and the reliability of memory

**Unit 4:** Topics that will be addressed include the nature of consciousness, the importance of sleep, effects of sleep disturbances and possible treatment, factors contributing to the development and progression of mental health disorders, phobias and the maintenance of mental health.

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## **PHYSICAL EDUCATION**

**Unit 3:** Topics that will be addressed include classification of movement skills, influences on movement, motor skill development, qualitative movement analysis principles, biomechanical principles for analysis of human movement (angular and linear kinetic concepts, Newton's three laws of motion, inertia, mass, force, momentum and impulse), equilibrium and human movement, direct and constraints based approaches to coaching and instruction, the three stages of learning, practice strategies to improve movement skills, feedback, fuels, the three energy systems, oxygen uptake, acute physiological responses to exercise in the cardiovascular, respiratory and muscular systems.

**Unit 4:** Topics that will be addressed include activity analysis, aerobic power, agility, anaerobic capacity, balance, body composition, coordination, flexibility, muscular endurance, power and strength, reaction time and speed, assessment of fitness, recognised tests for aerobic power, agility, anaerobic capacity, body composition, flexibility, muscular endurance, power and strength and speed, monitoring and recording physiological, psychological and sociological training data, components of an exercise training session, training program principles, training methods, 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.

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## **UNIT 3 & 4 SPECIALIST MATHS**

**Unit 3:** Topics that will be addressed include coordinate geometry, vectors, circular (trigonometric) functions, complex numbers, differential calculus & integral calculus.

**Unit 4:** Topics that will be addressed include applications in integration, differential equations, kinematics, vector calculus, mechanics, probability & statistics.

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