YEAR 11
SUBJECT OVERVIEWS
TERM 3, 2022

Islamic College of Brisbane Ltd t/a Islamic College of Brisbane
CRICOS Provider No: 02435A

Introduction

This document should be used as a guide only. The busy nature of schools means that schedules are sometimes disrupted and dates need to be changed.

Whilst we try to avoid this as much as possible, it will happen from time to time and we will keep families informed of changes.

Contents

English General	11

Year Level Subject

Unit 2 – Texts and Culture (*The Dry* by Jane Harper)

Overview of topics to be covered

WEEK	Student Learning
1	Recall and summarise reading of novel (completed over the break) Discuss the cultural of the novel and understand the conventions of a crime thriller.
2	In-depth study of setting and plot
3	In-depth study of characters and theme
4	Recall and revise creative writing. Develop understanding of how to plan a response to stimulus. Develop and apply knowledge and understanding of aesthetic features and stylistic devices along with language and grammar to create purposeful and intended effects to position audiences.
5	Produce aspects of creative writing and receive peer and teacher feedback.
6	Assessment Task 4 – Seen topic for creative response (exam conditions)
7	Revise literary features of novel such as plot, character, themes, symbolism, language and genre conventions.
8	Recall and develop knowledge and understanding of critical responses to texts. Deconstruct examples.
9	Produce aspects of critical writing and receive peer and teacher feedback.
10	Unpacking the assessment – what does the criteria ask for? Assessment Task 3 – Unseen essay in exam conditions.

Assessment	1. Creative Response to Text (seen topic for exam) 2. Critical Response to Text (unseen topic for exam)
Timing	1. Task 3 - Week 6 2. Task 4 - Week 10
Resources used	*The Dry* by Jane Harper

11	Essential Mathematics

Year Level Subject

Topics:
Unit 2 - Money, Travel and Data

WEEK	Student Learning
1	Distance-time Graphs • Time of Journey • Distance time graphs
2	Calculation with Motion • Motion in everyday life • Energy in food and Activity ***Assignment given out on Wednesday 20 July 2022***
3	Earning Money • Wages and Salaries • Commission, piece work and Royalties
4	Earning Money • Taxations and Deductions
5	Earning Money • Performing Financial calculations
6	Budgeting • Household water bills • Council rates
7	Budgeting • Purchasing a vehicle • Fuel consumption rates, servicing and tyres ***Assignment due on Friday 26 August 2022***
8	Budgeting • Fixed and discretionary spending • Preparing a personal budget
9	Data Collection • Surveys and Sampling • Simple Survey procedures
10	Data Collection • Source of Bias • Misinterpretation and misunderstanding

Assessment	Assignment given out Week 2/ Assignment due Week 7
Timing	5 Weeks
Resources used	Maths Quest 11 – Essential Mathematics

Unit 2 : _Applied Trigonometry, Algebra, Matrices and Univariate Data
TOPICS- TOPIC: 1. APPLICATIONS OF TRIGONOMETRY
TOPIC 2. ALGEBRA AND MARTICES (Ch 10)
TOPIC 3. UNIVARIATE DATA ANALYSIS (CH 11 &12)

General Mathematics	11

Year Level Subject

WEEK	Student Learning
1.	TOPIC 1: APPLICATIONS OF TRIGONOMETRY • True Bearings • Overview of Chapter 8 – Applications of trigonometry
2.	Linear and Non Linear Relationships • Substitution of formulas • Transposition of formulas
3.	• Transposition of formulas • Chapter 2 Review Ch 10 Matrices • Types of matrices
4	• Operations with matrices • Matrix multiplications
5	• Applications of matrices Chapter review TOIPC 3 UNIVARIATE DATA ANALYSIS (CH 11 & 12) • Classifying and displaying data
6	• Construct , describe and interpret dot plots and stem plots and leaf plots • Construct, describe and interpret column graphs and histograms
7	• Measure of centre • Measure of spread • Constructing boxplots
8	• Parallel boxplots • Comparing box plots • Chapter review
9	• Chapter 10 quiz • Revision unit 2 • **Supervised Exam Unit 2**
10	• Revision unit 1 and 2 • **Supervised Exam Unit 1 and 2**

Assessment	Written exam Unit 2– week 9; Written exam Units 1 & 2– week 10
Resources used	Jacaranda Math Quest General Mathematics 11

11	Mathematical Methods

Year Level Subject

Unit 2: *Calculus and further functions*

- Topic 4: *Introduction to differential calculus*
- Topic 5: *Further differentiation and applications 1*
- *Topic 5: Discrete random variables 1*

Overview

T3 Week	Subject matter
1	***Topic 3: Trigonometric functions 1*** • unit circle definitions • exact values and symmetry properties
2	• graphs of the sine, cosine and tangent functions
3	***Topic 4: Introduction to differential calculus*** • exploring rates of change • the difference quotient • differentiating simple functions
4	• interpreting the derivative • differentiation by formula
5	• the derivative as a function • properties of the derivative • differentiation of power and polynomial functions • gradient and equation of a tangent
6	• displacement–time graphs • sketching curves using derivatives • modelling optimisation problems
7	***Topic 5: Further differentiation and applications 1*** • the product rule • the quotient rule • the chain rule
8	• applications of the product, quotient and chain rules ***Topic 6: Discrete random variables 1*** • discrete random variables • expected values
9	• variance and standard deviation • applications of discrete random variables FA3 - examination
10	Revision Assessment - Examination: Paper 1 (Technology free); Paper 2 (Technology active)

Resources	Maths Quest 11 – Mathematical Methods
Assessment	Written examination – W9 – FA3 exam (2 hours + 5 minutes perusal) Mock external exam – W10

Islamic Studies	Eleven

Year Level Subject

Fiqh (Islamic jurisprudence)
Hadith (Prophetic Traditions and sayings)
Sirah /Tareekh (Islamic History)

Overview of topics to be covered

Week	Theory	Quran recitation	Memorisation Surah and Dua
1	Unit E Chapter 1 – As Sunnah The prophets way	Tanzil.net Pg 370	Al-Waqiah Revision
2	Unit E Chapter 2 – The basics of Uloomul hadith	Tanzil.net Pg 371	Al-Waqiah Revision
3	Unit E Chapter 3 - Recording of Hadith	Tanzil.net Pg 372	Al-Waqiah Revision
4	Unit E Chapter 4 – Major books of hadith(P1 &2)	Tanzil.net Pg 373	Al-Waqiah Revision
5	Unit E Chapter 4 – Major books of hadith(P1 &2)	Tanzil.net Pg 374	Al-Waqiah Revision
6	Unit E Chapter 4 – Major books of hadith(P1 &2)	Tanzil.net Pg 375	Al-Waqiah Revision
7	Unit D Chapter 1 Ghazwat Tabook	Tanzil.net Pg 376	Al-Waqiah Revision
8	Unit D Chapter 2 The story of the 3 who missed Tabook	Tanzil.net Pg 377	Al-Waqiah Revision
9	Unit D Chapter 2 The story of the 3 who missed Tabook	Tanzil.net Pg 378	Al-Waqiah Revision
10	Unit D Chapter 2 The story of the 3 who missed Tabook	Tanzil.net Pg 379	Al-Waqiah Revision

Assessment	Summative written assessment	Oral assessment	Oral assessment
Timing	2 Lessons per week 50 minutes per lesson	1 Lessons per week 50 minutes per lesson	1 Lessons per week 50 minutes per lesson
Resources used	Learning Islam 3 Supporting videos Supplementary notes.	tanzil.net	Quran mushaf Essential duas in the life of a Muslim

Level: Year 11 Subject: Biology (Term 3, 2022)

This unit introduces students to regulatory mechanisms and internal stability. The definitions of all key terms needed for future studies are also provided. It helps students with the understandings of homeostasis in animals and plants. It describes the stimulus-response model and the structure and function of the human nervous system. It emphasises the importance of negative feedback in producing stability. It describes the role of liver in homeostasis in mammals, hormonal control of blood glucose levels.

Overview of topics to be covered

Week	Topic	Student Learning
1	Chapter 10 Control of temperature and water balance	• Tolerance ranges for environmental temperature and water • Thermoregulation • Conservation of heat in endothermal animals • Endothermic survival in a hot environment
2	Chapter 10 Control of temperature and water balance *FA3 given out*	• Homeostatic control of body temperature • Regulation of body fluids • Hormonal control of water balance in mammals • Osmoregulation in plants and plant adaptations for osmoregulation
3	Chapter 11 Diseases and their causes	• Animal defence mechanisms against pathogens • Immunity • Infectious diseases in plants
4	Chapter 11 Diseases and their causes	• Animal defence mechanisms against pathogens • Immunity • Infectious diseases in plants
5	Chapter 11 Diseases and their causes *FA3 draft due*	• Animal defence mechanisms against pathogens • Immunity • Infectious diseases in plants
6	Chapter 12 Identifying, monitoring and controlling diseases	• Transmission and the spread of diseases • Identifying the cause of infectious diseases • Monitoring diseases
7	Chapter 12 Identifying, monitoring and controlling diseases *FA3 Final submission*	• Treating diseases • Preventing and controlling diseases
8	Chapter 12 Identifying, monitoring and controlling diseases	• Treating diseases • Preventing and controlling diseases

9	Exam preparation.	Revision
10	Exam preparation.	Revision
Assessment		• Research Investigation
Timing		10hrs of in-class research time is given to students
Resources used		• Textbook: Biology for Qld an Australian Perspective • Online resources • Worksheets • Video clips

Chemistry – term 3	11

Year Level Subject

Overview of topics to be covered

Intermolecular Forces - chromatography

Aqueous solutions and acidity – solutions and molarity; identifying ions in solution; solubility; pH, reactions of acids and bases

Rates of chemical reactions – rates of reaction

WEEK	Student Learning
1. Intermolecular forces	Applying VSEPR theory to predict shapes of molecules; Using shape, symmetry and electronegativity to predict polarity of molecules; relationship between properties and intermolecular forces.
2 Ch 21 Rates of Reaction	Rate of a chemical reaction; what is needed
3 Rates of Reaction	Factors that affect reactions
4 Rates of Reaction	Enzymes
5 Investigation	Students choose investigation practical.
6 Ch 16 Aqueous Solutions, Ch 18 Solubility	Dilutions; solubility and intermolecular bonding
7 Solubility.	Effect of temperature on solubility; solubility curves; solubility rules.
8 Ch 17 Ions in Solution Ch 14 Chromatography	Determining presence of ions; precipitation reaction equations; Chromatography techniques;
9 Chromatography	Separating components.
10 Ch 19 pH;	Interpreting data; pH; pH scale

Assessment	Experimental Investigation – week 5
Timing	All chapters take 1-3 weeks
Resources used	Text book, web sites for research, laboratory equipment for practicals

Modern History	11

Unit 3.1: Australian Indigenous rights movement since 1967 (Australian referendum of 1967 takes place)
Unit 3.2: Women's movement since 1893

Overview of topics to be covered:

Week	**Student Learning**
1	Understand the significance of the Mabo High Court Challenge Evaluate the importance of the Mabo case • Hand out FA3 Task
2	**Concluding Study** Understand contemporary Indigenous rights movements • Describe the importance of visibility and reconciliation • Explain 'Closing the Gap' Working on FA3
3	Working on FA3
4	Working on FA3
5	Submit FA3 Task **Contextual Study** Understand the beginnings of the Women's Rights Movement • Identify the roles and rights of women in 19th century Britain, America and Australia • Explain the significance of the suffrage campaigns
6	**Depth Study:** Understand how second wave feminism contributed to changes in women's rights and roles • Explain the impacts of women in World War I and II • Explain the impact of the Great Depression
7	Understand the equal pay for equal work movement • Explain the changing nature of feminist movements in the 1960s and 1970s
8	Understand the Women's Liberation Movement • Compare the movements in the USA and Australia • Analyse the significance of International Women's Day Marches
9	Understand other forms of activism • Evaluate the impact of changes in girls' education
10	**Concluding Study** Understand the ongoing hurdles to equality and opportunity for women and girls • Explain backlash to women's rights movements • Understand other women's rights issues in the developed world

Resources	• Modern History Textbook • Resources uploaded to Teams
Assessment	FA3 – Due Week

Physics	11

Overview of topics to be covered:

Newtons laws of motion, forces, momentum, energy, waves, light, all the good stuff really.

Week	Student Learning
1.	Measuring and drawing forces Newton's first law Newton's second law Newton's third law of motion
2.	Force, weight and gravity Friction Terminal velocity and drag forces
3.	Momentum and impulse Conservation of linear momentum Science as a human endeavour: Car collisions
4.	Forms of energy Work done by a force Solving problems: Kinetic energy and gravitational potential energy Energy changes and collisions
5.	IA3 In class experimenting
6.	IA3 Continued
7.	Mechanical model of waves Characteristics of waves Waves and boundaries Superposition of waves
8.	Refraction and diffraction of waves Properties of sound waves Standing waves in strings and pipes Resonance and natural frequency
9.	The wave model of light Light: a transverse wave Intensity Reflection in plane mirrors
10.	Refraction of light Total internal reflection Ray diagrams and lenses Diffraction and interference of light

Resources	New Century Physics for Queensland Units 1 & 2
Assessment	IA3 Student Experiment

Physical Education	11

Year Level Subject

Athletics + Sport Psychology - 9 Weeks

Students are provided opportunities to move through the stages of inquiry by studying about Athletics through and in physical activity for 9 weeks.

Blue= Theory Yellow=Integration Pink= practical Orange= Assessment

WEEK		Monday	Tuesday	Wednesday	Friday
1.	15/06	4.1 Introduction to Sport Psychology	Athletics; Skill Development	Athletics; Skill Development	4.2 Motivation 4.3 Confidence
2.	22/06	4.4 Arousal 4.5 Attention/ concentration	Athletics; Skill Development	Athletics; Skill Development	4.6 Team Dynamics 4.11 Team Cohesion Dynamics
3.	13/07	4.9 Mental Rehearsal 4.8 Goal Setting	Athletics; Skill Development	Athletics; Skill Development	4.10 Affirmations 4.14 Positive Self-Talk
4.	20/07	4.7 Psychology Techniques for Performance	Athletics; Skill Development	Athletics; Skill Development	4.12 Pre-Competition Routines 4.13 Relaxation and energising tech
5.	27/07	4.16 Pre-Task Routines 4.17 Performance segmenting	Class Athletics Carnival	Class Athletics Carnival	Athletics; Skill Development
6.	03/08	Athletics; Tactical awareness	Athletics; Strategies	Athletics; Skill Development	Athletics; Skill Development
7.	10/08	Futsal; Tatics and strategies	School Athletics Carnival	School Athletics Carnival	Athletics; Post performance review
8.	24/08	How to write assignment	Write Draft	Write Draft	Draft Due
9.	31/08	ISMG explanation	Assignment Writing	Assignment Writing	Assessment Due

Assessment		**Investigation Report**	**Physical Activity**
Timing/ Conditions		1500-2000 words	Individual-
Resources used		Computer lab, Classroom, Textbook – Oxford Senior PE, Phones, GoPro, Ipad	

YEAR 11 BUSINESS OUTLINE TERM 3, 2022

Overview of topics to be covered

In this topic, students investigate concepts, processes and strategies to manage human resources and to finance a start-up business. The case study provides opportunity for students to analyse, interpret and evaluate the marketing and financial strategies for a new franchisee at the start-up stage of the business life cycle.	
WEEK	**Student Learning**
1.	• **Topic 1: Establishment of a business (Chapter 6)** - -Financing a Business by examining financial objective • **Evaluate** macro- environmental factors influencing financing of a start-up business, Sources of Finance (Equity and Debt finance) • Explain the relationship retained profit and strategic planning
2.	• **Chapter 7**- Explain - the stages of the employment cycle, including acquisition, development, maintenance and separation • Explain the role of - job design and recruitment in the strategic planning of a start-up business, including emerging recruitment and selection techniques (digital platforms)
3.	• **Investigation – Business Report Issued -** Explain the relationship between human resources objectives and the achievement of business goals in the start-up stage • Select data and information relating to recruitment (e.g. position descriptions, role specifications, position advertisements, statistics on unemployment and skills shortages) for a start-up business to analyse the strengths, weaknesses, opportunities and threats (SWOT analysis)
4.	• **Investigation – Business Report-** Evaluate - two alternative employment acquisition strategies for a business in the start-up stage to make a decision and recommendation using criteria. 'Understanding recruitment: How to hire staff for your business' and 'HR management system for time-poor small business owners' - create paragraph responses explaining the role and importance of job design and selecting appropriate HRM strategies in a start-up business.
5.	• **Investigation – Business Report-** • Investigate existing and emerging recruitment and selection techniques (digital platforms) that support HR, e.g. Seek, LinkedIn, Found - explain why different recruitment and selection techniques are emerging and speculate about what
6.	• **Investigation – Business Report-** • Explain the planning, organising, leading and controlling (POLC) responsibilities of a manager in the start-up stage • Separation and maintenance of employees.
7.	• **Investigation – Business Report Due (Mon)** • **Topic 2: Entering market-** Describe the legislative factors affecting market entry of a business • Explain the evolution of marketing to understand the varying strategies businesses use and how they aim to influence consumer buying behaviour**.**

8.	• Explain - marketing objectives in relation to the growth stage, including sales, market share and brand awareness - target market and market segmentation - 'total product concept', including tangible and intangible aspects • Explain the role of - market research - sales forecasting • Select data and information relating to consumer buying behaviour and sales to analyse customer power interest (power interest grid) • Interpret the relationships, patterns and trends in the customer power interest grid to draw conclusions about the implications of marketing mix
9.	• **Evaluate** marketing strategies used by a business in the growth stage to make a decision or recommendation using criteria • Entering markets — Entering markets case study will provide data and information relating to a business (not including a franchise) in the growth stage of the business life cycle and that represents any of the following: • • small business to medium business • digital business • local or national business • describe business facts and characteristics for the case study business, including - the position in the business life cycle - operating environmental factors - target market - total product concept.
10.	• Explain the marketing mix implemented by the case study business, e.g. price, product, place and promotion • Analyse strengths, weaknesses, opportunities and threat of the environmental factors for the case study business • Interpret the relationships and patterns in the SWOT analysis and draw conclusions about the implications of market entry
ASSESSMENT	**Investigation- Business Report** (4 weeks)

Health Education	11

Year Level Subject

Body Image

Unit 2 - Peers and family as resources for healthy living. In Unit 2, students develop their skills to plan, implement and evaluate an action strategy to advocate, mediate and enable change in relation to body image in a peer and family health context. An inquiry approach is used to define and understand alcohol or body image as the broad health-related topic and reframe the chosen topic into a narrow-contextualised health issue.

WEEK	Student Learning
1	investigate primary data collection pretest methods to make decisions about the significance of body image in a local peer or family context
2	comprehend and use social cognitive theory to investigate environment-based protective approaches that can be used to influence body image
3	critique information to evaluate the extent to which these approaches are strengthened, maintained or limited by community barriers and enablers — social justice, health literacy, moral disengagement, key stakeholder engagement
4	critique information to select the most appropriate social justice principle for body image in a specific peer or family context informed by primary data
5	synthesise information to make decisions about how the broad, health related topic of body image is reframed as a specific contextualised health issue in a peer or family context through the use of issue statements and questions that include
6	comprehend and use social cognitive theory and the Ottawa Charter to identify and categorise information about the chosen approach that addresses the contextualised health issue related to body image
7	recognise and describe RE-AIM as a tool for evaluating action comprehend and use RE-AIM to make decisions about the approach, strategy, action area and data collection methods.
8	synthesise pre-test primary data and secondary data to plan and justify an action strategy to strengthen, maintain or adapt peers or family as a resource • evaluate the capacity of the proposed action to enhance peers or family as a resource using the reach, effectiveness and implementation steps of RE-AIM • critique information to make decisions about refinements needed for the proposed action strategy and develop the resources needed to implement action • implement action strategy
9	synthesise information to develop and implement primary data collection to evaluate implemented action using the reach, effectiveness and implementation steps of RE-AIM
10	reflect on the impact of the chosen action and justify recommendations that advocate, mediate and enable further health promotion to strengthen, maintain or adapt peers or family as a resource

Assessment	Exam- Extended response
Timing/ Conditions	800- 1000 words
Resources used	Microsoft teams

YEAR 11 ACCOUNING OUTLINE

TERM THREE - 2022

OVERVIEW OF THE TOPICS

- Accounting for subsidiary ledgers in an Accounting Package
- Internal Controls
- End of year reporting

WEEK	LEARNING INTENTION
1	▪ Explain the relationship between subsidiary ledgers and the general ledger. ▪ Explain, illustrate and interpret the posting to a ledger system incorporating subsidiary ledgers for accounts receivable and accounts payable.
2	▪ Describe the items classified under the term "inventories". ▪ Describe various inventory costing methods.
3	▪ Explain the perpetual inventory system, ▪ Explain, interpret accounting for inventories using the perpetual inventory system and an inventory subsidiary ledger.
4	▪ Explain the 7 principles of internal accounting controls. ▪ Describe the administrative controls and accounting controls for controlling credit-accounts receivable, accounts payable and inventories.
5	▪ Revision. ▪ Combination Response Examination.
6	▪ Balance day adjustments. ▪ Prepaid Expenses and Accrued Revenues (PEAR) experience ▪ Unearned Revenues and Accrued Expenses (URAE) experience ▪ **Introduce the assessment task.**
7	▪ describe the end-of-year reporting process for determining profit ▪ closing entries and reversing entries ▪ explain the effect of closing and reversing entries ▪ apply accrual accounting principles and processes (handwritten and/or spreadsheet) for a trading GST business to prepare an adjusted trial balance and record closing entries
8	▪ apply accrual accounting principles and processes for a trading GST business to prepare the Statement of Profit or Loss and prepare the Statement of Financial Position . ▪ graph gross profit and net profit ▪ graph individual and total revenue and expenses ▪ graph individual and total assets, liabilities and owner's equity ▪ **ASSESSMENT CHECKPOINT 1**: submit general journal (extract), adjusted trial balance, Statement of Profit or Loss, Statement of Financial Position and financial ratios.
9	▪ **describe liquidity** - turnover of inventories and turnover of accounts receivable ▪ explain the effect of a low gross profit figure

	▪ explain the relationship between control of inventories and the effect on profitability and liquidity ▪ -control of credit accounts and the effect on profitability and liquidity - low inventory turnover ratio and high inventory turnover ratio - low accounts receivable turnover ratio and high accounts receivable turnover ratio ▪ **ASSESSMENT CHECKPOINT 2**: draft business report
10	▪ Business Report due-Wednesday September 14th.

ASSESSMENT	Written Exam
TIME	2hours 15 mis
RESOURCES	Computer/laptop
DATE	Wednesday-August 10th

ASSESSMENT	Business Report
TIME	4 weeks including 7 hours class time
RESOURCES	Computer/laptop
DATE	Wednesday-September 14th

Module 5: Sport, Recreation &
Blue= Theory Pink= Practical Orange= Assessment

3, 2022	Sport and Recreation	11
Term		Year Level Subject

WEEK	Monday	Tuesday	Wednesday	Thursday
1.	**Sports Coaching: Intro to Coaching**	Volleyball: Intro to Volleyball	Volleyball: Intro to the 4 Basic Skills	Volleyball: Intro to the 4 Basic Skills
2.	**Sports Coaching: Coaching Basics**	Volleyball: Serving	Volleyball: Serving	Volleyball: Serving
3.	**Sports Coaching: Using Equipment**	Volleyball: Digging	Volleyball: Digging	Volleyball: Digging
4.	**Sports Coaching: Coaching Logistics**	Volleyball: Setting	Volleyball: Setting	Volleyball: Setting
5.	**Sports Coaching: Coaching Inside**	Volleyball: Spiking/ 3rd Hit	Volleyball: Spiking/ 3rd Hit	Volleyball: Spiking/ 3rd Hit
6.	**Sports Coaching: Coaching Outside**	Volleyball: Attacking Formation	Volleyball: Attacking Formation	Volleyball: Attacking Formation
7.	**Sports Coaching: Planning a Coaching Session**	Volleyball: Defensive Formations	Volleyball: Defensive Formations	Volleyball: Defensive Formations
8.	**Sports Coaching: Planning a coaching Session**	Volleyball: Game Play Coaching	Volleyball: Game Play	Volleyball: Game Play Coaching
9.	**Sports Coaching: Differentiations for Mental /Physical Disabilities**	Volleyball: Game Play	Volleyball: Game Play Coaching	Volleyball: Game Play
10.	**Sports Coaching: Practical Assessment**	Volleyball: Game Play for Assessment	Volleyball: Game Play for Assessment	Volleyball: Game Play for Assessment

Assessment	**Assessment Task 3**	**Physical Activity**
Timing/ Conditions	Project – Spoken, Written, Performance Components	Volleyball

Resources used	All HPE Equipment and spaces, Personal Devices	Volleyballs, Net, Volleyball Poles, Cones, MPH, Basketball Courts

Digital Solutions Term 3/2022	11

Overview of topics to be covered

Term 3

Students will optimise a given database and use programming skills to write procedural text-based code to generate a solution that interacts with an existing database via structured query language (SQL). Students will plan, develop and generate the interface and code to enable the user to insert, update, retrieve and delete data using an existing database via SQL. Students are required to understand the structure of a database, along with how primary and foreign keys and data types affect the performance of the database. Students will evaluate the security, privacy and ethical effects of storing data in databases from individual, organisational and government perspectives.

WEEK	**Student Learning**
1&2	Understand the nature of data-driven problems analyse problems associated with data insertion, including variations in data formats, data structures, validation rules and data requirements. Recognise data types, constraints, and primary and foreign keys. Recognise and describe useability principles including accessibility, effectiveness, safety, utility and learnability.
3&4	Symbolise the links between external entities, data sources, data flow, processes and data storage in annotated context diagrams or data flow diagrams. Recognising and using algorithmic steps as pseudocode. Understand and use the basic constructs of an algorithm including assignment, sequence, selection, condition, iteration and modularisation
5	Recognise the personal, social and economic impacts of storing data in databases for individuals, organisations and governments. Understand the difference between data, information and wisdom. Understand SQL syntax and use SQL statements to solve a problem. That simple algorithms consist of input, process and output at various stages that data is organised in tabular form and the skills and knowledge used to normalise and link tables together. Reasons and methods of database structure modification to third normal form (3NF).
6	Interpret the structure of a database represented by a relational schema (RS) to determine the relationship between data. Explain data principles including, acquisition organisation, representation, integrity, anomalies, redundancy and security. Explain the difference between data validation and data verification, referential integrity, normalisation and third normal form, relational database management system the difference between primary key and foreign key relations (tables) including rows; columns; primary, secondary and foreign keys; nulls; and views within a database management system.
7&8&9	Identify the prescribed and self-determined criteria to plan the user interface and programmed components of proposed solutions. Evaluate data quality using the prescribed criteria of accuracy and completeness. Evaluate the prototype digital solution against prescribed and self-determined criteria. Generate SQL SELECT statements, including WHERE, GROUP BY, HAVING, ORDER BY, COUNT, MIN, MAX, AVG, IN, inner-joins and sub-queries to retrieve appropriate data from existing databases SQL CREATE, INSERT, UPDATE and DELETE statements to create database tables and views, and modify stored data. Hand in FA3 task – week 10 Monday.
10	Revise material for mock exam Term 4.

Assessment	Multi-modal response
Timing	Multi-modal task (FA3) week 10 – Monday
Resources used	Computer, Office 365, Internet access and Stimulus (technical proposal)

Design | 11 Year Level Subject

Sustainable design: exploring how designers create new designs that can be supported indefinitely in terms of their economic, social and ecological impact on the wellbeing of humans.

Overview of topics to be covered:

Week	Student Learning
1	Describe the features and sustainable requirements that define a redesign problem and design criteria based on the requirements of the opportunity and the principles of good design
2	Represent ideas, a sustainable design concept and sustainability information using schematic sketching and ideation sketching and/or low-fidelity prototyping in the explore and develop phases
3	Represent ideas, a sustainable design concept and sustainability information using schematic sketching and ideation sketching and/or low-fidelity prototyping in the explore and develop phases
4	Analyse redesign opportunities using data about existing designed solutions and sustainability information
5	Analyse redesign opportunities using data about existing designed solutions and sustainability information
6	Devise ideas using divergent thinking strategies and circular design methods in response to a redesign problem in the develop phase
7	Devise ideas using divergent thinking strategies and circular design methods in response to a redesign problem in the develop phase
8	Synthesise ideas and sustainability information to propose a sustainable design concept in the develop phase
9	Evaluate the strengths, limitations and implications of ideas and a sustainable design concept against design criteria to make refinements
10	Make decisions about and use visual, written and/or spoken communication to present a design brief and visual display of a design proposal for stakeholders.

Resources	SharePoint PowerPoint, video tutorials- on Microsoft Teams, design folio exemplar
Assessment	Design folio

Psychology	11

Year Level Subject

Overview of topics to be covered:

In Unit 2, students will review the concepts underpinning psychological science. Students examine diagnosis of psychological disorder, and investigate the effectiveness of various treatment interventions available to support individuals, families and the community. They develop scientific skills and conceptual understanding of the role that emotion plays in regulating and directing behaviour, and motivation in directing action.

Week	**Student Learning**
1	• recall the steps in the scientific method used in all psychological research, including ○ identify the research question ○ formulate a null hypothesis and an alternative hypothesis ○ design the method ○ collect the data ○ process data, and analyse and evaluate evidence ○ report the findings • distinguish between adaptive and maladaptive behaviour • summarise concepts of normality, including the sociocultural, functional, historical, situational, medical and statistical approaches
2	• distinguish between diagnostic manuals commonly used for diagnosis, including the *Diagnostic and Statistical Manual of Mental Disorders* (5th edition, 2013), and the *International Classification of Diseases* (10th revision, 2016) • recognise the main categories of psychological disorders, including the schizophrenia spectrum and other psychotic disorders (e.g. schizophrenia), mood disorders (e.g. depression), anxiety disorders (e.g. phobias) and personality disorders (e.g. borderline or antisocial personality disorder)
3	• discuss the reliability and validity of diagnosis • describe the biopsychosocial (George Engel 1980) approach to understanding psychological disorder • In-class time to work on assignment
4	• summarise biological (genes, medication, sleep, substance use); psychological (rumination, impaired reasoning and memory, stress); and social (disorganised attachment, significant relationships) risk factors for psychological disorder • examine the prevalence, symptoms and perceived causes of anxiety disorders, including generalised anxiety disorder (GAD) and specific phobia • In-class time to work on assignment
5	• describe the impact of stigma on help-seeking behaviours • compare the use of psychotherapies, pharmacotherapies, electroconvulsive therapy (ECT) and psychosurgery in the treatment of psychological disorder • explain the placebo effect

	• In-class time to work on assignment
6	• compare the two-factor (Stanley Schachter and Jerome Singer 1962) and appraisal (Richard Lazarus 1982) theories of emotion • In-class time to work on assignment • **Mandatory practical:** Use an experimental research design to investigate the effect of watching emotive (e.g. a scary movie) versus informative (e.g. an advertisement for toothpaste) stimuli on emotional responses (measured as changes in heart rate).
7	• explain the biological nature of cognitive appraisal, with reference to findings from the 2008 fMRI study by Kevin Ochsner and James Gross • describe factors that influence happiness • In-class time to work on assignment
8	• assess the degree to which subjective wellbeing (Ed Diener 1984), psychological wellbeing (Carol Ryff 1995), and the broaden-and-build theory (Barbara Fredrickson 2004) influence happiness • analyse the positive consequences of the flow experience (Jeanne Nakamura and Mihaly Csikszentmihalyi 2002), with reference to enhancing positive affect, life satisfaction, performance and learning
9	• FA3 Due (Monday 8am) • Review Unit 1 and 2
10	• Review Unit 1 and 2 • FA4 Exam (Wednesday)

Resources	Oxford Unit 1 & 2 Text book.
Assessment	**FA3**: Research Investigation **FA4**: Exam (Unit 1 and 2)