VIRTUAL SCHOOL VICTORIA

Software Development Unit 3 and Unit 4 Example Timetable

Unit 3 - Coursework and Assessment

Note: This timetable is purely for example purposes and is subject to change.

Week	
0	• Welcome and introduction to Year 12 VCE Software Development
1	• Python - Getting started • Variables • Variable name and scope • Code Editors - Visual Studio Code • The Problem-Solving Methodology (PSM)
2	• Naming Conventions • Internal Documentation • Programming guidelines • Data types • Functions

3	• Design Tool – Pseudocode
	• Operators
	  ○ Arithmetic
	  ○ Comparison (conditional)
	  ○ Logical
	• Control Structure – Sequence
	• Control Structure - Selection (conditionals)
	• Debugging
	• Alpha Testing and Test data

4	• Introduction to the SAT
	• SAT Project Brief Requirements
	• PSM - Analysis stage
	• Control Structures - Iteration/repetition (loops)
	• Data Structures – Arrays
	  ○ Indexed arrays (lists)
	  ○ Associative arrays (dictionary)
	• Hash Tables

5	• What to study and learn for SAC Part 1 • Complete and submit - SAT Project Brief • Data Structure – Records • Control Structures - Iteration (loops) • Data File Formats (XML, CSV, Text Files) • Project Management and Gantt Charts

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Week	Coursework
6	• SAT Criteria 1 Requirements • SAT Journal Requirements • Data Collection • Python graphical user interfaces (GUIs) • Tkinter widgets • Handling Input with Python • Validating Input with Python

7	• Complete and submit - SAT Criteria 1
	• SAT Criteria 2 and 3 Requirements
	• PSM - Analysis stage
	• Gathering requirements
	  ○ Functional requirements
	  ○ Non-functional requirements
	• Software Requirements Specification (SRS)
	• File Handling

8	**SAC Week** No learning activities to submit this week. However, **catch up on weekly learning tasks** you have not completed or submitted, or **continue working on your SAT assessment**.
9	• Search and Sort algorithms • Analytical Tools • UCDs • Context Diagrams • DFDs

10	• Complete and submit - SAT Criteria 2 and 3
	• Object-Oriented Programming
	• Principles of OOP - Abstraction, Encapsulation, Inheritance and Generalisation
	• Python - Methods, Classes and Properties
	• Design Tools
	  ○ Input-process-output (IPO)
	  ○ Data Dictionaries
	• Object Descriptions

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Week	Coursework
11	• PSM - Design stage • SAT Criterion 4 and 5 Requirements • Data Validation • Generating Design Ideas • Ideation tools - Brainstorming, Mind Maps, Mood Boards, Sketches and Annotations • Criteria for evaluation of design ideas - Evaluation Criteria, Efficiency and Effectiveness
12	**SAC Week** No learning activities to submit this week. However, **catch up on weekly learning tasks** you have not completed or submitted, or **continue working on your SAT assessment**.
13	• Characteristics of User Experiences • Factors influencing the design of solutions • Design Tools - Wireframes and Mock-ups • Emerging trends in programming using AI
14	• Complete and submit - SAT Criterion 4 and 5

15	• PSM - Development stage
	• Solution Testing - during Development
	• Reasons to undertake software development projects
	• Organisational objectives and needs
	• File Management Techniques
	  ○ Naming conventions
	  ○ Version Control
	  ○ Backups
	  ○ Security
	• Disposal

16	• Secure Software Design and Development • Key legislation

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Unit 4 - Coursework and Assessment

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<table>
<tr><th>Week</th><th>Coursework</th></tr>
<tr><td>1</td><td rowspan="2">

Validation – Existence checking, type checking, range checking
Techniques for recording the progress of projects
Factors that influence the effectiveness of project plans
SAT Criteria 6, 7 and 8 Requirements

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Debugging techniques

breakpoints
commenting out code

Alpha testing techniques
SAT solution testing

relevant test data
test cases comparing expected and actual output in testing tables

Characteristics of efficient and effective solutions

user-centred design
clear and concise code
detailed internal documentation

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<tr><td>5</td><td>

Complete and submit - Solution Development and testing
Book your Final SAT Observation Microsoft Teams meeting
Beta Testing

construction of a testing plan and beta testing template
test scenarios
observation of testing scenarios
documentation of test results

SAT Criterion 9 Requirements

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Week	Coursework

6	• Evaluation strategies
	  ○ evaluation criteria
	  ○ time frame
	  ○ responsibility
	• Techniques for applying evaluation criteria
	• Efficiency and effectiveness

7	• Complete and submit - SAT Criterion 9 • SAT Criterion 10 Requirements • Techniques for assessing the effectiveness of project plans
8	• Complete and submit - SAT Criterion 10 No learning activities to submit this week. However, **catch up on weekly learning tasks** you have not completed or submitted, or **continue working on your SAT assessment**.

9	**Start of Area of Study 2: Cybersecurity**
	• Goals and objectives of medium and large organisations
	• Ethical issues that arise when developing software
	• Industry Frameworks
	  ○ Essential Eight
	  ○ Information Security Manual (ISM) (Guidelines for Software Development: Development, testing and production environments; Secure software design and development; Application security testing)

10	• Types of vulnerabilities and risks within insecure development environments
	• Mitigation measures to reduce or eliminate threats, vulnerabilities and risks
	• Key Legislation Review
	  ○ Copyright Act 1968 (Cwlth)
	  ○ Privacy Act 1988 (Cwlth) (APP 1, 6, 8, 9, 11)
	  ○ Privacy and Data Protection Act 2014 (IPP 1, 2, 4, 5, 9)
	• Strategies for improving the security of software development practices

11	• Upcoming Unit 4 Outcome 2 SAC • Security of data • Security controls used to protect software development practices and data stored within applications

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Week	Coursework
12	• Advantages and disadvantages of developing software in-house or externally • Threat modelling principles • Evaluating the security of software development practices
13	**SAC Week** No learning activities to submit this week. However, **catch up on weekly learning tasks** you haven't completed or submitted, or **continue working on your SAT assessment**.
14	**Exam Revision** • Exam preparation online lesson 1 - video and slideshow • Exam information • Study and revision techniques • Relevant Resources • Changes from previous Study Design
15	**Exam Revision** • Exam preparation session 2 - video and slideshow • Exam revision tips • Things to consider for the exam • 2023 VCAA Software Dev Exam • 2024 VCAA Software Dev Exam • 2025 VCAA Sample Software Dev Exam
16	**Exam Revision** • VCAA past exams: Selected questions on analysis tools • 2025 VCAA Software Development exam • DLTV practice exams • TSSM practice exams • Additional exam preparation resources