Cambridge Nationals J808 Revision for Examination Unit R012

Teaching Content	Guidance and Resources
Phases of the Project Life Cycle	Initiation, Planning, Execution and Evaluation The advantages of following a project life cycle The interaction and iteration between the phases of the project life cycle i.e. 1. iterative reviews occur throughout the project life cycle at the end of every phase 2. the output from the reviews are the inputs into the next phase or they inform actions to be implemented within the current phase
Inputs and outputs of phases of Project Life Cycle	<table><tr><td></td><td>Input</td><td>Output</td></tr><tr><td>Initiation</td><td>User requirements User constraints</td><td>Feasibility report and legislation implications Phase review and next steps</td></tr><tr><td>Planning</td><td>Feasibility report and legislation implications Next steps</td><td>Project and test plans Constraints list Phase review</td></tr><tr><td>Execution</td><td>Project and test plans Constraints list</td><td>Deliverable product Test results Phase review</td></tr><tr><td>Evaluation</td><td>Deliverable product Test results</td><td>Release of deliverable product User documentation Final evaluation report</td></tr></table>

Initial Project Considerations	1. SMART (Specific, Measurable, Achievable, Realistic, Time) goals
	2. user requirements /success criteria
	3. constraints/limitations i.e.
	    a. time
	    b. resources
	    c. regulations
	    d. security/risk management
	    e. mitigation of risks
	4. 5. the purpose and importance of setting objectives

Planning tools	Planning tools and the software types used to develop project plans i.e.
	1. purpose of planning tools i.e.
	    a. Gantt
	    b. PERT (Project Evaluation and Review Technique)
	    c. critical path
	    d. visualisation diagram
	    e. flow chart
	    f. mind map
	    g. task list
	2. components of the planning tools
	3. advantages and disadvantages of different planning tools
	4. software types used i.e.
	    a. project management software
	    b. spreadsheets
	    c. word processors
	    d. Desktop Publishing (DTP)

Data	1. What data is (Raw facts and figures before they have been processed.)
	 2. Data types and appropriateness of the use of these in a given context i.e.
	     a. text
	     b. alphanumeric (e.g. combination of letters and numbers)
	     c. numeric – integer, real, currency, percentage, fraction, decimal
	     d. date/time
	     e. limited choice (e.g. drop down lists, radio buttons, tick list)
	     f. object
	     g. logical/Boolean (e.g. yes/no true/false)

Information	1. What information is
	 2. How data and information are related i.e.
	     a. data must be processed to become information
	     b. information is in context whilst data has no context
	     c. information is data which has been coded, structured and has context
	 Information is made by taking data and processing it:
	 data + [structure] + [context] = Information

Methods used to collect and store data	1. the appropriateness of the use of these in a given context i.e.
	     a. methods to collect and store i.e.
	         i. questionnaires / surveys - online and hard copy
	         ii. email
	         iii. sensors
	         iv. Interviews
	         v. consumer panels
	         vi. loyalty schemes
	         vii. statistical reports (e.g. Government departments)
	         viii. secondary research methods (e.g. search engines)
	     b. appropriateness of methods i.e.
	         i. suitability
	         ii. advantages
	         iii. disadvantages
	 2. Information Technology (IT) used to support data collection, and the appropriateness of the use of these in context i.e.
	     a. barcode/QR code readers
	     b. web-based surveys
	     c. wearable technology
	     d. mobile technologies

Different storage methods	The appropriateness of the use of these in context i.e. 1. cloud 2. physical devices

The use of data including big data	1. The use of data in a given context including Big Data - Big data is used to describe data sets which are so large or complex that traditional data processing software cannot deal with them.
	 2. Applications and interaction of data stores i.e.
	     a. law enforcement
	     b. education
	     c. health and fitness
	     d. shopping
	     e. entertainment / leisure
	     f. lifestyle
	 3. Benefits and drawbacks of the use of data

Threats when using data	Types of threats i.e.
	 1. Botnet
	 2. Malware i.e.
	     a. adware
	     b. bot
	     c. bug
	     d. ransomware

	e. rootkit
	f. spyware
	g. Trojan horse
	h. virus
	i. worm
	You must understand:
	    i. why threats are used by the attacker
	    ii. how they work
	    iii. how to mitigate against them.
	3. Social engineering i.e.
	    a. Phishing
	    b. pretexting
	    c. baiting
	    d. quid pro quo
	    e. tailgating/piggybacking
	    f. shoulder surfing
	4. Hacking i.e.
	    a. white hat hacking - given permission to hack into systems to identify loopholes and weaknesses
	    b. grey hat hacking - hacking into systems for 'fun' or to 'troll'
	    c. black hat hacking - hacking into systems with malicious intent to steal, exploit and sell data
	5. Distributed Denial of Service (DDoS)
	6. Pharming

Vulnerabilities which can be exploited in a cyber security attack.	1. environmental - natural disasters 2. physical - theft of identity, theft of property 3. system - insecure software applications, weak passwords, insecure modems

Impacts and consequences of a cyber security attack.	1. Impacts:
	    a. denial of service (DoS) to authorised others
	    b. identify theft
	    c. data destruction
	    d. data manipulation
	    e. data modification
	    f. data theft
	2. Consequences of a cyber-security attack
	    a. loss
	        i. financial
	        ii. data
	        iii. reputation
	    b. disruption
	        i. operational
	        ii. financial
	        iii. commercial
	    c. safety
	        i. individuals
	        ii. equipment
	        iii. finance

Prevention measures	1. physical i.e.
	    a. biometric access device
	    b. emerging measures
	2. logical i.e.
	    a. access rights and permissions including authentication, usernames and passwords
	    b. anti-virus software
	    c. encryption
	    d. secure backups of data
	    e. emerging measures

	3. secure destruction of data i.e.
	   a. over writing
	   b. magnetic wipe
	   c. physical destruction

Current relevant IT legislation. Implications and applications	1. legal protection of i.e .
	   a. individuals
	   b. organisations
	   c. technological equipment
	   d. data
	   e. information
	   f. intellectual property
	2. ethical and moral i.e.
	   a. avoiding defamation of character
	   b. misuse of data, information and equipment

Validity, reliability and Bias when collecting and using data and information.	You need to understand the implications of validity, reliability and bias of data and information when collecting, processing and using internal or external data and information sources. Learners must understand the factors that should be considered when assessing any external sources of data and information they may use, for example: 1. source (who is it from) 2. their agenda/point of view 3. timeliness/how up to date 4. accuracy

Selection and Justification of appropriate software to process data	1. Tools i.e.
	   a. spreadsheet
	   b. databases

Selection and Justification of appropriate software to meet defined objectives.	Selection of the appropriate software tools and techniques to present information to meet the defined objectives in a given context. Justification of the use of the selected tool and format i.e.
	   a. word processor
	   b. spreadsheet
	   c. databases
	   d. desktop publishing (DTP)
	   e. presentation software

Purpose and suitability of presentation methods. Target Audience and Content Limitations	a) target audience
	   a. demographics i.e.
	      i. gender
	      ii. age
	      iii. ethnicity
	      iv. income
	      v. location
	      vi. accessibility
	   b. visibility
	      i. public facing i.e. website
	      ii. targeted i.e. email
	b) content limitations

Purpose and suitability of presentation methods. Availability of information and Impact from distribution.	1. availability of information i.e.
	   a. real-time (e.g. travel, traffic, weather)
	   b. location
	   c. delay effects
	2. what impact is to be achieved from distributing information

Purpose and suitability of presentation methods. Selecting how the information is shared.	1. selecting how the information is shared across distribution channels by individuals or organisations i.e.
	   a. messaging services i.e.
	      i. email

	ii. social media for business (e.g. LinkedIn, iMessage, Twitter, Instagram, Facebook WhatsApp)
	     iii. internal messaging services (e.g. Moodle)
	  b. websites i.e.
	       i. Blogs
	      ii. vLogs
	     iii. intranet
	     iv. internet site
	      v. internal website
	  c. Voice over Internet Protocol (VOIP) i.e.
	       i. Skype
	      ii. Lync
	     iii. Podcast
	  d. Multimedia i.e.
	       i. YouTube
	      ii. Web Conference
	  e. Cloud Based (e.g. Google Drive, Office 365)
	  f. Mobile Apps (e.g. fitness app, travel app)

Purpose and suitability of presentation methods. Selection of presentation methods.	1. selection of presentation method i.e.
	  a. report (e.g. formal business report)
	  b. presentation (e.g. presentation to company board, presentation to customers)
	  c. graphs/charts i.e.
	       i. Pivot
	      ii. Line
	     iii. Bar
	     iv. Pie
	      v. dynamic
	  d. tables (e.g. table of results)
	  e. integrated documents (e.g. document featuring components from other documents)
	  f. end user documentation i.e.
	       i. user guide
	      ii. installation guide

Advantages and disadvantages of presentation methods.	They must understand that different methods have advantages and disadvantages and be able to use these to select methods, justifying their choice, for different contexts.
Resources required for presenting information.	The resources required for presenting information and the appropriateness of the use of these in context i.e. 1. hardware requirements 2. software requirements 3. connectivity requirements While selecting presentation method(s) you need to consider the hardware and/or software resources required along with any connectivity requirements. For example, if a resource is to be stored and shared online, then all users of the resource must have internet connectivity to enable them to access the resource.

OCR's Exam Command Words

Command words	Meaning
Analyse	Separate information into components and identify their characteristics. Discuss the pros and cons of a topic or argument and make reasoned comments.
Compare and contrast	Show the similarities and differences.
Conclude	Make a decision after reasoning something out.
Define	Give the meaning of.
Describe	Give a detailed account of.
Differentiate	Explore and explain the differences.
Discuss	Explore the subject by looking at the advantages and disadvantages.
Explain	Describe, giving reasons and causes.
Evaluate	Give an opinion by exploring the good and bad points.
Identify	Recognise or prove something as being certain.
Illustrate	Show by explaining and giving examples.
Interpret	Explain the meaning by using examples and opinions.
Justify	Give good reasons for offering an opinion or reaching a conclusion.
Outline	Concentrate on the main points of the topic or item.
Summarise	Give the main points of an idea or argument. Leave out unnecessary details.