

Diploma in Information Technology (Course Outline)

	St Clements+ Highlight Course	Pt				Australian IT Diploma Course
THEORETICAL TRAINING						
ICT 101	Information Technology Fundamentals	3		GC	ICAICT501A	Research and review hardware technology options for organisations
ICT 102	Computer Applications and Operations	2		GC GC	ICASAS509A ICASAS503A	Provide client IT support services Perform systems tests
ICT 103	Applied Programming	5	BAE601	GB	ICAPRG523A	Apply advanced programming skills in another language
ICT 104	Program Project	5	BAE601	GB GC GD GG	ICAPRG502A ICAICT510A ICAWEB507A CAPMG501A	Manage a project using software management tools Determine appropriate IT strategies and solutions Customise a complex IT content management system Manage IT projects
ICT 105	Systems Analysis and Programs	5	BAE603	Core GC	ICAICT509A ICAICT502A	Gather data to identify business requirements Develop detailed component specifications from project specifications
				Core	ICAICT511A	Match IT needs with the strategic direction of the enterprise
ICT 106	Software Engineering	5	BAE603	GB GB GB	ICAPRG502A ICAPRG510A ICAPRG512A	Manage a project using software management tools Maintain custom software Prepare for the build phase of an IT system
ICT 107	Business Information Systems	5		GA	ICANWK501A	Plan, implement and test enterprise communication solutions
		30				
WORK PERFORMANCE						
Task 1	Provide the OHS Procedure in workplace			Core	BSBOHS509A	Ensure a safe workplace
Task 2	Provide the procedure to maintain the IT equipments in workplace			Core	BSBSUS501A	Develop workplace policy and procedures for sustainability
Task 3	Take the record of sound & picture from an event			GE	ICAGAM504A	Manage interactive media production
Task 4	Take the digital video by using digital camera & edit/ convert to other formats by provided software			GF	CADMT501A	Incorporate and edit digital video

ICT 103 Applied Programming

C Programming

Lectures

[BAE601-ICT 103+104+204 Week 1 Lesson](#)

ASSIGNMENT (1)

Part (1) Questions

Study the slide Number from	Questions
2	Explain the writing & running C Program
5	Write the program to call a function
7	Indicate char(12) in memory
10	Describe how (3-6) /5 is calculated
12	What is the difference between ++X and X ++
14	Write a program to call the stack.
16	How for loop can be used instead of while loop, describe with example program.?
18	if you wanted to implement a function pow_assign() that <i>modified</i> its argument, how will you write the program?
20	What if we had a way to find out the address of a symbol, and a way to reference that memory location by address? Explain with sample program.
22	Write the program to check the pointer validity.
26	What is array?

Part (2) Program Task

Write a program to accomplish the followings

- struct timeval is defined in this header
- fields can specify specific bit widths
- A newly-defined structure is initialized using this syntax. All unset fields are 0.
- structs define a layout of typed fields
- Fields are accessed using '.' notation.
- A pointer to a struct. Fields are accessed using '->' notation, or (*ptr).counter

ICT 104 Program Projects

C++ Programming

Lectures

[BAE601-ICT 103+104+204 Week 2 Lesson Part 1](#)

[BAE601-ICT 103+104+204 Week 2 Lesson Part 2](#)

[BAE601-ICT 103+104+204 Week 2 Lesson Part 3](#)

(R179)structured-programming-with-c-plus-plus_pdf

http://www.filefactory.com/file/26stkfcfaukj/n/structured-programming-with-c-plus-plus_pdf

(257)project-2010-advanced_pdf

http://www.filefactory.com/file/3sye8n116nv9/n/project-2010-advanced_pdf

ASSIGNMENT (2)

Program Task

BAE601-ICT 103+104+204 Week 2 Lesson Part 1

- (1) Create a C++ program that asks the user for the unit price of a product and, the quantity and then calculate total price
- (2) Draw a JSP Graph and write the C++ program that user can enter the quantity & price.
- (3) Draw a JSP graph & write the C++ program to get the following print out.

INVOICE

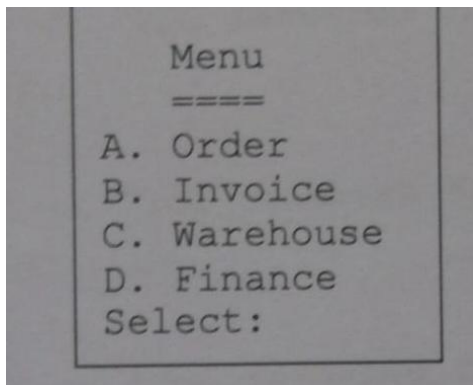
Quantity :	10
Price per unit:	17.70
Total price :	185.85
Tax :	8.85

- (4) Write a time conversion program by using C++

BAE601-ICT 103+104+204 Week 2 Lesson Part 2

Program Task

- (5) Write a C++ program that calculate the sale price. If the customer buy for \$2000, 10% discount will be given. If the customer buy for \$1000 or more than 10 item, 5% discount will be given otherwise no discount will be given.
- (6) Print the number 1 to 10 with their cube by using C++.
- (7) Write the C++ program to solve the equation $X^2+4X+3 = 0$.
- (8) Write the C++ program to calculate the average temperature in January
- (9) Write the C++ program to operate the following warehouse inventory system.



- (10) Write C++ program to determine the square root value of numbers.

ICT 105 Systems Analysis and Programs

Lectures

[BAE603-ICT 105 106 Wk 1](#)

References Slides & Notes

[BAE603-ICT 105 106 Wk 3 Part 1](#)

System Analysis

ASSIGNMENT (3)

Question No	Questions
1	What are the general characteristics of software products?
2	Write the simplified software process.
3	Describe Iterative Refinement
4	How does the feasibility Study of software perform?
5	Describe the Repository
6	Describe the Critical Path Method
7	What are the requirements for software documentation?
8	Describe requirements Definition and Analysis
9	Describe the Observations about Software Processes
10	How will minimize the risk?
11	What are the Technical Strategies in software development?
12	How can Software development projects fail ?

ICT 106 Software Engineering

Lectures

[BAE603-ICT 105 106 Wk 2](#)

ASSIGNMENT (4)

Question No	Questions
1	How do you understand Copyright ?
2	What is Derivative Works ?
3	What is Trade Secrets and Non-Disclosure Agreements?
4	What is Open Source software?
5	Describe Source Code Management
6	What should be in the database?
7	Describe Distributed Objects and the System Life-Cycle
8	What is code sharing?
9	Describe Formal Specification Using Diagrams.
10	What are the Principles of Interface Design?
11	Explain Predicting System Performance
12	How do you understand Software Engineering as Engineering?

Reading Slides

Software Engineering

References Slides & Notes

[BAE603-ICT 105 106 Wk 3 Part 2](#)

ASSIGNMENT (5)

Question No	Questions
1	What is Software Reliability?
2	Describe Reliability Metrics
3	Explain User Perception of Reliability
4	Describe Specification of System Reliability
5	What are Principles for Dependable Systems?
6	What are Quality Management Processes in software?
7	Describe Design and Code Reviews.
8	Describe general approach for fault tolerance.
9	Describe Static and Dynamic Verification for software.
10	Write Inspection Checklist to find the Common Errors of software.
11	Express Static Analysis Tools.
12	Describe Test Design.

ICT 107 Business Information Systems

Weblink for Teaching Lessons

ICT 107 Lessons

Reading

Business Information System

ASSIGNMENT (6)

Study the slide Number from	Questions
1	What is organization?
2	What are the needs for organization?
3	What is the most important aspect of information?
4, 5	Write the check list for information quality.
6 to 9	What are the information requirement for small & large organizations?
10 to 13	What are the information requirement for trading sector?
14 to 16	What is Computer based Information System (CBIS)?
17 to 19	What is system?, Describe system components and explain

	two of them. Provide an example of system type and explain about it.
20, 21	Explain how the nature of open & close loop systems happen in a bookstore
22	What is cross functional co-ordination?
23, 24	Explain Components/Sub-Systems of CBIS
25	What are Data Processing Tasks?
26,27	Explain management information system with examples.
28 to 30	Explain data ware house, data mining, data mart.
31to 35	Explain expert system, knowledge intelligence system, marketing information system.
36 to 38	Explain marketing knowledge information system (MKIS)
39	What are the key tasks of Client Relationship Management (CRM)
40, 41	Explain organizational structure with examples in financial sector.
42 to 46	Explain Manufacturing Information System, Total Quality Management (TQM) and describe the Management Levels in Manufacturing Information Systems
46 to 48	Explain the Importance of Accounting & financial Information Systems in Strategic level, Knowledge Level, Management level and Operational Level
49 to 52	Describe the kinds of problems arisen & how to do decision making
53	Explain business planning

Task 3	Take the record of sound & picture from an event
Task 4	Take the digital video by using digital camera & edit/ convert to other formats by provided software

Multimedia software -1 Audio Editing Software

By using these software, you can change the audio file format, convert to mp3, divide the file, merge the file etc. Some program can work with 64 bit and some can work with 32 bit

http://www.filefactory.com/file/28pn4u5hdn8x/n/ICD-PX_Series_Driver_zip

http://www.filefactory.com/file/3u4atldal4yh/n/Sony_3_3_zip

http://www.filefactory.com/file/3uph94ke8dux/n/Sony_zip

http://www.filefactory.com/file/5mfabs7c6sw5/n/Digital_Voice_Editor_3.zip

Multimedia software -2 Video Editing Software

By using these software, you can change the video file format, convert to mp4, divide the file, merge the file , create DVD disc etc

<http://www.filefactory.com/file/27znv25u36f7/n/FreeStudio.zip>

http://www.filefactory.com/file/2hvsrurvkzqh/n/avimp4_converter.zip

http://www.filefactory.com/file/47yg9cqf2w3l/n/NCH_Software.zip

http://www.filefactory.com/file/4ap3rrykft0r/n/Very_good_program_to_use.zip

http://www.filefactory.com/file/4xq0sk4dtzbd/n/Video_converter_software.zip

Multimedia software -3 Digital Image compressing software

Digital images can be compressed to PDF format by using these software.

http://www.filefactory.com/file/71a3kdve4ii7/n/jpg2pdf_fullLicenced_exe