

# **Mainframe Application Development 2 – 7864**

## **Unit Outline 2009**

**Faculty of Information Sciences and Engineering**

**University of Canberra**

*Australian Government Higher Education (CRICOS)  
Registered Provider number: #00212K*

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## Unit Outline 2009

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#### University of Canberra

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This Unit Outline must be read in conjunction with:

- a) *Studying at the University of Canberra: A Guide to Policies and Procedures*, which sets out University-wide policies and procedures, including information on matters such as plagiarism, grade descriptors, moderation, feedback and deferred exams, and is available at <http://www.canberra.edu.au/student-services>
- b) *Guide to Student Services at the University of Canberra*, and is available at <http://www.canberra.edu.au/student-services>
- c) Any additional information specified in section 6f.

#### **1: General Information**

- 1a Unit title**  
Mainframe Application Development 2
- 1b Unit number**  
7864
- 1c Semester and year offered**  
Semester 2, 2009
- 1d Credit point value**  
3
- 1e Unit level**  
Postgraduate
- 1f Name of Unit Convener and contact details (including telephone and email)**  
**Dr Girija Chetty**  
**Room no. 11C48**  
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**Name of Unit Moderator and contact details (including telephone and email)**

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**Name of Unit Lecturer and contact details (including telephone and email)**

Mick Bourne

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[mick.bourne@canberra.edu.au](mailto:mick.bourne@canberra.edu.au)

**1g Administrative contact details (including name, location, telephone and email)**

The Faculty Administrative Officers at 11B14, Ph: 6201-2153/6201-2417, email: [ise@canberra.edu.au](mailto:ise@canberra.edu.au).

**2: Academic Content**

**2a Unit description and learning outcomes**

In this unit you will consider the development of Applications using COBOL on IBM's Customer Information Control System (CICS) platform. In addition to learning about the CICS platform and facilities, this unit incorporates design and coding concepts, as well as their practical application.

Upon completion of this unit, you will be able to describe the CICS platform and list its advantages and disadvantages. You will be familiar with the facilities required to develop applications to run on the CICS platform, and design, code, debug, and document applications to demonstrate this.

A key outcome of this unit is the understanding of complex mainframe application development, particularly for systems involving user interactions and inter-process communication.

***Conceptual Development:***

- Understanding of the issues involved in developing complex, multi-program mainframe applications
- Understanding of inter-process communications in a mainframe environment
- Understanding of mainframe user interface issues and requirements
- Ability to identify CICS transaction gateway and its configuration
- Ability to assess and setup resources needed in a given CICS application

***Learning Outcomes:***

- Efficiently develop complex, multi-program mainframe applications
- Setup and configure resource for CICS
- Develop complex mainframe applications to interact with DB2 and CICS
- Develop mainframe applications to use CICS transaction services
- Design and develop mainframe based CICS user interfaces and CICS web user interfaces
- Analyse CICS error information

In terms of the UC graduate attributes on problem solving, graduates are expected to be able to:

- identify problems and analyse the main features of problems relevant to their professional field;
- apply appropriate problem solving processes, arguments, critical and creative thinking;
- implement and evaluate strategies for the resolution of problems;
- anticipate and define new problems; and
- identify and resolve new problems in new fields.

**2b Prerequisites and/or co-requisites**

Prerequisites: 7861 Mainframe Application Development 1

**3: Delivery of Unit and Timetable**

**3a Delivery mode**

The unit will be conducted face to face lectures and lab sessions. *Murach's CICS for the COBOL Programmer* is essential reading and all students will be expected to have it and use it.

Throughout the semester, students will have access to their existing mainframe accounts (GOLSnnn) and will be required to use them for exercises and assignments. The mainframe system is generally available 24/7 and is accessed over the internet using Vista tn3270 software.

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The unit will be conducted face to face lectures and lab sessions.¶

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**3b Schedule of topics/lectures/tutorials/practicals/field classes by week**

Week	Activity
1	CICS Concepts and Terms
2	Introduction to CICS Programming
3	Designing a CICS Program
4	Coding a CICS Program
5	Testing a CICS Program
6	CICS Command and Programming Techniques
7	Debugging a CICS abend
8	<i>Mid-semester Break</i>
9	<i>Mid-semester Break</i>
10	Developing CICS Applications
11	CICS for File and Database Processing
12	CICS for File and Database Processing
13	Advanced CICS Features and Skills
14	Advanced CICS Features and Skills
15	Review

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## 4: Unit Resources

### 4a Lists of required texts/readings

*Murach's CICS for the COBOL Programmer*, by Raul Menendez and Doug Lowe,  
ISBN-10: 1-890774-09-X, Murach

#### Reference texts

##### *CICS Application Programming Guide -*

<http://publibz.boulder.ibm.com/epubs/pdf/dfhp3c01.pdf>

Deleted: CICS Transaction Gateway V5, IBM, 2002

##### *CICS Application Programming Reference -*

<http://publibz.boulder.ibm.com/epubs/pdf/dfhp4c01.pdf>

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### 4b Materials and equipment

IBM Mainframe access, provided by Global Online Learning Pty Ltd  
Vista tn3270 terminal emulator

Deleted: <http://publibz.boulder.ibm.com/cgi-bin/bookmgr/BOOKS/DFHP4P12/CCONTENTS>

### 4c Unit website

The subject website can be accessed <http://learnonline.canberra.edu.au/>

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**5: Assessment**

**5a Assessment overview**

<b>Assessment Item (including exams held in the exam period)</b>	<b>Due Date of Assignments</b>	<b>Weighting (total to equal 100%)</b>
Assignment 1: Completed CICS COBOL program 1	Lab session, Week 7	25
Assignment 2: Completed CICS COBOL program 2	Lab session, Week 14	25
Test 1: Material covered in weeks 1-3, closed book; permitted materials: 4 sides of A4 sized handwritten notes	Week 5 Lecture session	10
Test 2: Material covered in weeks 1-10, closed book; permitted materials: 4 sides of A4 sized handwritten notes	Week 12 Lecture session	10
Final Exam: 2 hours, closed book; permitted materials: 4 sides of A4 sized handwritten notes	University exam time	30

**5b Details of each assessment item**

The first assignment covers a simple CICS COBOL program that will demonstrate the student’s understanding of programming techniques as applicable to the CICS platform. The second assignment will build upon the first assignment and include advanced techniques and the entry and processing of transactional data against a database.

The tests will cover aspects of the material not readily demonstrable in a program, and will comprise multiple choice and short answer format questions.

Late assignment submission will attract penalties. The penalty will be 3% per day including weekend days up to 100% of the maximal mark for the assignment.

At the lecturer’s discretion, the deadline for assignments may be extended. However, the assignments will be given well ahead of time and students are expected to allow for normal IT events such as instability in the IT environment when planning their time. Students who have extenuating circumstances such as sickness or family issues will be given special consideration.

**5c Special assessment requirements**

For final assessment in the subject, the result will be one of the following grades: HD, DI, CR, P, or Fail. The total mark is calculated by the following formula:

$$\begin{aligned} \text{Total mark} &= \text{Assignment 1 mark} + && \text{(Maximum 25)} \\ &\text{Assignment 2 mark} + && \text{(Maximum 25)} \\ &\text{Test 1 mark} + && \text{(Maximum 10)} \\ &\text{Test 2 mark} + && \text{(Maximum 10)} \\ &\text{Examination mark} && \text{(Maximum 30)} \end{aligned}$$

The maximum possible marks for each assessment item is given above. When added the marks will yield a result out of a maximum total mark of 100.

The grade for the subject is then determined according to the following algorithm:

Total mark $\geq$ 85 and examination mark exceeds 24	HD
Total mark is 65 to 75 and examination mark exceeds 20	DI
Total mark is 50 to 65 and examination mark exceeds 18	CR
Total mark is 50 or greater and examination mark exceeds 12	P
The rest	FAIL (NX, NS, NC or NN)

Note that the assessment items are assigned marks and not percentages. The assessment is conducted exclusively in terms of marks.

**5d Supplementary assessment**

Not available for this unit

**5e Text-matching software**

Not in use; however, the lecturer reserves the right to ask a student to attend extra oral defence to his/her assignment. Should this happen, the mark for the assignment will be based on the oral performance.

## **6: Student Responsibility**

### **6a Workload**

The amount of time you will need to spend on study in this Unit will depend on a number of factors including your prior knowledge, learning skill level and learning style. Nevertheless, in planning your time commitments you should note that for a 3cp Unit the total notional workload over the fifteen week semester is assumed to be 150 hours or an average of 10 hours per week. These hours include time spent in classes. The total workload for Units of different credit point value should vary proportionally. For example, for a 6cp Unit the total notional workload over a fifteen week semester is assumed to be 300 hours or an average of 20 hours per week.

### **6b Special needs**

Students who need assistance in undertaking the unit because of disability or other circumstances should inform their Unit Convener or the Disabilities Office as soon as possible so the necessary arrangements can be made.

### **6c Attendance requirements**

Students are expected to participate in the verbal session each week and in the online interaction forum. Quality of participation contributes to marks, so failure to participate will necessarily reduce a student's marks.

### **6d Required IT skills**

Specialist IT skills are required such as the ability to log into the mainframe and use the ISPF edit program and write JCL are required. Further, basic application development skills are also required. All these skills are expected to be at the levels required at the completion of Mainframe Systems 1G and 7861 Mainframe Application Development 1.

General IT skills such as the ability to use and search the internet for reference material is required.

### **6e Costs**

Web access, and consumables.

### **6f Additional information**

Reference material will be obtained by over the internet. URLs will be provided and students are expected to refer to the URLs using out of lecture time. The lecturer may augment the internet information with printed material from time to time.

## **7: Student Feedback**

All students enrolled in this Unit will have an opportunity to provide anonymous feedback on the Unit at the end of the Semester via the Unit Satisfaction Survey which will be presented to you on OSIS. Your lecturer or tutor may also invite you to provide feedback on their teaching through an anonymous in-class questionnaire administered through the University's Teaching and Learning Centre (TLC).

## **8: Authority of this Unit Outline**

Any change to the information contained in Section 2 (Academic content), Section 3 (Delivery of Unit and timetable) and Section 5 (Assessment) of this document, will only be made by the Unit Convener if the written agreement of staff and a majority of students has been obtained; and if written advice of the change is then forwarded to each student enrolled in the Unit at their registered term address. Any individual student who believes him/herself to be disadvantaged by a change is encouraged to discuss the matter with the Unit Convener.