



The University of Southern Queensland

## Course specification

This version produced 20 Dec 2007.

The current and official versions of the course specifications are available on the web at  
<<http://www.usq.edu.au/coursespecification/current>>.

Please consult the web for updates that may occur during the year.

### Description: Component Based Software Development

Subject	Cat-nbr	Class	Term	Mode	Units	Campus
CIS	2003	66452	2, 2007	EXT	1.00	Toowoomba

<b>Academic group:</b>	FOBUS
<b>Academic org:</b>	FOB005
<b>Student contribution band:</b>	2
<b>ASCED code:</b>	020103

### STAFFING

Examiner: Angela Howard

Moderator: Charmaine Ryan

### OTHER REQUISITES

Students are required to have access to a personal computer, e-mail capabilities and Internet access to USQConnect. Current details of computer requirements can be found at  
<http://www.usq.edu.au/business/aboutfob.htm>

### RATIONALE

Contemporary software development involves object-based, object-oriented, and event-driven programming techniques. Languages such as Visual Basic, Delphi, and Java provide easy-to-use graphical design interfaces, making it relatively easy to employ these programming techniques for use in a PC or a networking environment. Advanced programming units must further develop the student's understanding of contemporary architecture and design methods employed in the building of forms-based applications that can be deployed to run in distributed or client/server environments.

### SYNOPSIS

This advanced programming course uses Microsoft's .NET to build upon the solid foundations gained in previous programming courses. It further develops object-oriented programming skills that may be applied on workstations, intranets, and/or the internet applications development. The course curriculum expands upon interface design concepts and practice to include Web interfaces; explores advanced database manipulation; uses object-oriented methodology; creates client-server applications including multi-tiered applications; develops component based internet programming; explores integration of legacy applications with new technologies, and includes an introduction to mobile wireless services.

## OBJECTIVES

The course objectives define the student learning outcomes for a course. The assessment item/s that may be used to assess student achievement of an objective is/are shown in parentheses after each objective. On successful completion of this course, students should be able to:

1. demonstrate an understanding of the following concepts and their practical application using .NET: Advanced programming concepts; components; Web interface design; advanced database access, search, and maintenance techniques; multi-tiered client-server applications; Internet security; Windows services; Web services; mobile wireless services (Assignment, Examination)
2. create, manage, and distribute robust, reliable, secure, and user-friendly component-based applications (Assignment)
3. develop Internet applications including the transfer of data using XML/SOAP (Assignment).

## TOPICS

	Description	Weighting (%)
1.	Overview of network programming	12.00
2.	XML/SOAP	7.00
3.	Web interface design and graphics use	10.00
4.	Data structures	8.00
5.	Multithreading	5.00
6.	Regular expressions	3.00
7.	Database use on a network	10.00
8.	Introduction to client/server programming	10.00
9.	Web based database use/multi-tiered applications	10.00
10.	Client/server programming continued	5.00
11.	Windows services	7.00
12.	Network security	8.00
13.	Wireless services	5.00

## TEXT and MATERIALS required to be PURCHASED or ACCESSED

ALL textbooks and materials are available for purchase from USQ BOOKSHOP (unless otherwise stated). Orders may be placed via secure internet, free fax 1800642453, phone 07 46312742 (within Australia), or mail. Overseas students should fax +61 7 46311743, or phone +61 7 46312742. For costs, further details, and internet ordering, use the 'Textbook Search' facility at <http://bookshop.usq.edu.au> click 'Semester', then enter your 'Course Code' (no spaces).

Online library at <http://msdn.microsoft.com>

Software: Microsoft Visual Basic.NET; Operating System: Windows XP Professional; MSDN library supplied with .NET software (Available to students from the university, under academic initiative. Details will be provided by the examiner at the beginning of the semester)

World Wide Web Consortium <http://www.w3.org>

Compulsory additional material published on the discussion list.

Kalata, K 2005, *Introduction to ASP.NET*, 2nd edn, Thomson Course Technology, Boston, Massachusetts.

Lahey, H (ed) 2000, *Information systems developers handbook: a road map for students*, University of Southern Queensland, Toowoomba, Queensland.

(This handbook is available on the USQ website at <http://www.usq.edu.au/business/infosys/isdevelhandbook.htm>)

## REFERENCE MATERIALS

Reference materials are materials that, if accessed by students, may improve their knowledge and understanding of the material in the course and enrich their learning experience.

## STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Assessment	25.00
Private Study	140.00

## ASSESSMENT DETAILS

Description	Marks out of	Wtg(%)	Due date
ASSIGNMENT - 1ST SUBMISSION	100.00	10.00	27 Aug 2007
ASSIGNMENT - 2ND SUBMISSION	100.00	30.00	22 Oct 2007
EXAM PT A (MULTI-CHOICE)	40.00	20.00	END S2 (see note 1)
EXAM PT B (S/A & PROGRAMMING)	80.00	40.00	END S2

### NOTES

1. The examination is scheduled to be held in the end-of-semester examination period. Students will be advised of the official examination date for Exam (Parts A and B) after the timetable has been finalised. The total working time for Exam (Parts A and B) is 2 hours.

## IMPORTANT ASSESSMENT INFORMATION

- 1 Attendance requirements:  
If you are an international student in Australia, you are advised to attend all classes at your campus. For all other students, there are no attendance requirements for this course. However, it is the students' responsibility to study all material provided to them or required to be accessed by them to maximise their chance of meeting the objectives of the course and to be informed of course-related activities and administration.
- 2 Requirements for students to complete each assessment item satisfactorily:

- To satisfactorily complete an individual assessment item a student must achieve at least 50% of the marks or a grade of at least C. (Depending upon the requirements in Statement 4 below, students may not have to satisfactorily complete each assessment item to receive a passing grade in this course.)
- 3 Penalties for late submission of required work:  
If students submit assignments after the due date without prior approval of the examiner, then a penalty of 5% of the total marks gained by the student for the assignment may apply for each working day late up to ten working days at which time a mark of zero may be recorded.
  - 4 Requirements for student to be awarded a passing grade in the course:  
To be assured of receiving a passing grade a student must achieve at least 50% of the total weighted marks available for the course.
  - 5 Method used to combine assessment results to attain final grade:  
The final grades for students will be assigned on the basis of the aggregate of the weighted marks obtained for each of the summative assessment items in the course.
  - 6 Examination information:  
This is a restricted examination. Candidates are allowed access to specific materials during the examination. The only materials that candidates may use in the examination for this course are (i) Writing materials: non-electronic and free from material which could give the student an unfair advantage in the examination; (ii) Translation dictionaries: with the Examiner's approval, candidates may, take an appropriate non-electronic translation dictionary into the examination. This will be subject to perusal and, if it is found to contain annotations or markings that could give the candidate an unfair advantage, it may be removed from the candidate's possession until the appropriate disciplinary action is completed.
  - 7 Examination period when Deferred/Supplementary examinations will be held:  
Any Deferred or Supplementary examinations for this course will be held during the next examination period.
  - 8 University Regulations:  
Students should read USQ Regulations 5.1 Definitions, 5.6 Assessment, and 5.10 Student Academic Misconduct for further information and to avoid actions which might contravene university regulations. These regulations can be found at <http://www.usq.edu.au/corporateservices/calendar/part5.htm>. Students should also read the Faculty of Business Policies and Procedures which can be found at <http://www.usq.edu.au/business/aboutfob.htm>.

## **ASSESSMENT NOTES**

- 1 Assignments: (i) The due date for an assignment is the date by which a student must despatch the assignment to the USQ. The onus is on the student to provide proof of the despatch date, if requested by the examiner. (ii) Students must retain a copy of each assignment submitted for assessment. This must be produced within 24 hours if required by the examiner. (iii) In accordance with university policy, the examiner may grant an extension of the due date of an assignment in extenuating circumstances. (iv) The examiner will normally only accept assessments that have been written, typed or printed on paper-based media. (v) Students who do not have regular access to postal services or who are otherwise disadvantaged by these regulations may be given special consideration. They should contact the examiner to negotiate such special arrangements. (vi) In the event that a due date for an assignment falls on a local public holiday in their area, such as a

- show holiday, the due date for the assignment will be the next day. Students are to note on the assignment cover the date of the public holiday for the examiner's convenience.
- 2 Course weightings: Course weightings of topics should not be interpreted as applying to the number of marks allocated to questions testing those topics in an examination paper.
  - 3 Guidelines for assignments: Unless otherwise directed by the examiner, all written and oral assignments submitted by students must conform to the guidelines laid out in the 'Communication skills handbook: how to succeed in written and oral communication' and the 'Information systems developers handbook'. Any work not prepared in accordance with these guidelines may be subject to penalty or requirement for resubmission.
  - 4 Make-up work: Students who have undertaken all of the required assessments in a course but who have failed to meet some of the specified objectives of a course within the normally prescribed time may be awarded the temporary grade: IM (Incomplete - Make up). An IM grade will only be awarded when, in the opinion of the examiner, a student will be able to achieve the remaining objectives of the course after a period of non-directed personal study.
  - 5 Deferred work: Students who, for medical, family/personal, or employment-related reasons, are unable to complete an assignment or to sit for an examination at the scheduled time may apply to defer an assessment in a course. Such a request must be accompanied by appropriate supporting documentation. One of the following temporary grades may be awarded: IDS (Incomplete - Deferred Examination); IDM (Incomplete Deferred Make-up); IDB (Incomplete - Both Deferred Examination and Deferred Make-up).

## **OTHER REQUIREMENTS**

- 1 Learning resources: Prescribed texts and materials (see above); recommended reference materials (see above); printed Introductory/Study Book and Book/s of Selected Readings; and course Website accessible via USQConnect.
  - 2 E-mail and Internet access: Students will require access to e-mail and Internet access to USQConnect for this course.
-