



MIST 822

Web-database Engineering

Semester 1

2005

Students in this unit should read this unit outline carefully at the start of semester. It contains important information about the unit. If anything in it is unclear, please consult one of the teaching staff in the unit.

MACQUARIE UNIVERSITY
Division of Economic and Financial Studies
Mist 822
Unit Outline
Semester 1, 2005

Unit convenor: Hilary Green

Prerequisites:

The unit targets graduate students who already have some basic computing skills, including knowledge of HTML, an understanding of relational database concepts, and the ability to program in an object-oriented language such as VBScript or PHP (or willingness to learn). Thus students should have completed Stat889/Mist800 and either or both of Stat812/Mist811 and Stat820/Mist812, or have equivalent knowledge.

About this unit

This unit is designed to give broader and more advanced coverage of the material on website design and management introduced in MIST812, Decision Support Systems, emphasizing database queries using SQL. This unit covers website design and management and database design and management.

Students will be given the opportunity to learn in hands-on mode, using web servers available in a dedicated laboratory, which will simulate the environment used by companies to develop their websites for commercial use.

Teaching Staff

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Details of consultation times will be made available to students in lectures and on the unit web page. (<http://www.stat.mq.edu.au/units/mist822/>)

Classes

There will be one 2 hour lecture each week and one 2 hour practical. Students should attend all classes.

Lecture: 9am-11am in W6B 315

Practical: 11am – 1pm in W6B 301

References

There is no single prescribed textbook. The following references will be used initially. Further references will be added to this list in due course as required. A copy of each book is available in W6B301, but no book may be removed from this room.

Elizabeth Castro: *HTML for the World Wide Web* (4th ed). Peachpit Press. Berkeley: CA (2000).

Jason Beres: *SAMS Teach Yourself Visual Studio .Net 2003 in 21 Days*. SAMS Publishing. Indianapolis Indiana (2003).

Thomas A. Powell: *Web Design: The Complete Reference*. Osborne/McGraw-Hill. Berkeley: CA (2000).

Vanessa Donnelly: *Designing Easy-to-use Websites*. Addison-Wesley. Harlow: England (2001).

Ned Snell: *SAMS Teach Yourself to Create Web Pages in 24 Hours* (2nd ed). Macmillan. Indianapolis: Indiana (1999).

Kelly Valqui & Eunice Friere: *Web Design and Development*. Charles River Media. Hingham: MA (2001).

John Kauffman: *Beginning ASP Databases*. Wrox Press. Birmingham: UK (1999).

Timothy Eden & Patricia Hartman: *Active Server Pages in Plain English*. M&T Books. Foster City: CA (2001).

Mike Gunderloy & Joseph L Jordan: *Mastering SQL Server 2000*. Sybex. San Francisco: CA (2000).

Eric A Meyer: *Cascading Style Sheets: The Definitive Guide*. O'Reilly. Sebastopol: CA (2000).

David Flanagan: *JavaScript: The Definitive Guide* (4th ed). O'Reilly. Sebastopol: CA (2002).

Danny Goodman: *Dynamic HTML: The Definitive Reference*. O'Reilly. Sebastopol: CA (1998).

Stephen Walther & Jonathan Levine: *SAMS Teach Yourself E-Commerce Programming with ASP in 21 Days*. Macmillan. Indianapolis: Indiana (2000).

Michael Howard: *Designing Secure Web-Based Applications for Microsoft Windows2000*. Microsoft Press. Redmond: WA (2000).

Web Page

The web page for this unit can be found at:
<http://www.stat.mq.edu.au/units/mist822/index.htm>. Assignments will be available from this location.

In addition, we will be maintaining an intranet website for this unit. Lecture Overheads and Data, PowerPoint slides covering each week's material will be available on this Intranet site. This material will also be provided to enrolled students, together with tutorial exercises and some relevant handouts. Some notes, and most datasets used, will also be downloadable from the Intranet website.

Learning Outcomes

The learning outcomes of this unit are:

- to gain an understanding of how websites are set up and maintained for private, commercial, and teaching use;
- to develop some expertise with the relevant software needed to develop such websites, namely a **browser**, a page **editor**, a **web server**, and a **relational database**; and
- to learn about relevant applications of web-database engineering, including statistical graphics systems and on-line data processing.

In addition to the discipline-based learning objectives, all academic programs at Macquarie seek to develop students' generic skills in a range of areas. One of the aims of this unit is that students develop their skills in the following: interpersonal skills; communication skills; critical analysis skills; problem-solving skills and creative thinking skills.

Teaching and Learning.

In this unit, we will use the Internet Explorer browser, the Visual Studio .NET 2003 editor, IIS (Internet Information Server) running on NT, and SQL Server as the database. We will also learn how to use PHP with MySQL. For students enrolled in Mist822 these facilities are available in the Statistics Department's Advanced Computing Laboratory Intranet in W6B 301 and BD Level 2.

In the lectures we introduce the relevant material, explain concepts and demonstrate with a variety of applications.

In the practical sessions which follow, students use the programs in the laboratories to practice and develop these skills and methods.

You may be required to present some homework based on these practical sessions.

To enhance individual learning, groups will be formed in the third week, and the group (rather than the individual) will submit some assignments (including the second assignment). Each group will comprise a project manager, a designer, and two programmers.

Since learning is often best achieved through group work, students enrolled in Mist822 are strongly encouraged to share their knowledge with the students and lecturers.

The proposed timetable at present is as follows:

Week	Topic	Software Introduced
1	Website design/architecture	HTML, Visual Studio
2	Review of Database concepts	MS Access, SQL Server
3	HTML & Setting up a database	
4	Setting up a Website	
5	Introduction to VBScript	VBScript
6	Website Design 11	
7	Introduction to JavaScript	JavaScript
8	Cascading Styles Sheets	CSS
9	Introduction to PHP and MySQL	PHP, MySQL
10	Maintaining State with Cookies	
11	Web-based data mining	
12	Graphing Bivariate Data and Internet polls	

Assessment

Students have the opportunity to demonstrate the skills acquired in the course in their assignments. Three assignments will be set and **on-time submission is compulsory**. The due dates are as follows:

Assignment 1:	Week 4	(13%)
Assignment 2: <i>group</i>	Week 8	(14%)
Assignment 3:	Week 12	(13%)

To gain credit, students must submit all assignments satisfactorily and on time, regardless of their performance in the final examination, and they must perform satisfactorily in the final examination, regardless of their performance on assignment mark. Students unable to submit any assignment on time, because of illness or other valid reason, will need to report the circumstances *in writing* to the lecturer.

Examination

This will be held during the fortnight beginning in Week 13 and will examine any material covered throughout the unit. Students may bring an A4 sized sheet of notes, formulas, etc., which may be hand written on both sides. Any other materials such as lecture notes and textbooks are not permitted. Calculators may be used, provided they are not of the text/programmable type. Mobile phones may not be used.

You are expected to present yourself for examination. The only exception to not sitting an examination at the designated time is because of documented illness or unavoidable disruption. In these circumstances you may wish to consider applying for Special Consideration. Information about unavoidable disruption and the special consideration process is available at <http://www.reg.mq.edu.au/Forms/APSCon.pdf>

If a Supplementary Examination is granted as a result of the Special Consideration process the examination will be scheduled after the conclusion of the official examination period.

Assessment

The overall assessment for Mist822 is thus:

Assignments	40%
Final examination	60%

Attendance is necessary at all classes and will be monitored. Students with poor attendance will not be eligible for special consideration.

More information relating to the requirements for the assignments will be made available when the assignments are handed out.

Plagiarism

The University defines plagiarism in its rules: "Plagiarism involves using the work of another person and presenting it as one's own." Plagiarism is a serious breach of the University's rules and carries significant penalties. You must read the University's practices and procedures on plagiarism. These can be found in the *Handbook of Undergraduate Studies* or on the web at: <http://www.student.mq.edu.au/plagiarism/> . Penalties may include a deduction of marks, failure in the unit, and/or referral to the University Discipline Committee.

University Policy on Grading

Academic Senate has a set of guidelines on the distribution of grades across the range from fail to high distinction. Your final result will include one of these grades plus a standardised numerical grade (SNG).

Your raw mark for a unit (i.e., the total of your marks for each assessment item) may not be the same as the SNG which you receive. Under the Senate guidelines, results may be scaled to ensure that there is a degree of comparability across the university, so that units with the same past performances of their students should achieve similar results.

It is important that you realise that the policy does not require that a minimum number of students are to be failed in any unit. In fact it does something like the opposite, in requiring examiners to explain their actions if more than 20% of students fail in a unit.

The process of scaling does not change the order of marks among students. A student who receives a higher raw mark than another will also receive a higher final scaled mark.

For an explanation of the policy see
<http://www.mq.edu.au/senate/MQUonly/Issues/Guidelines2003.doc> or
<http://www.mq.edu.au/senate/MQUonly/Issues/detailedguidelines.doc>.

Student Support Services

Macquarie University provides a range of Academic Student Support Services. Details of these services can accessed at
<http://www.student.mq.edu.au>.

Advanced Statistics Computer Labs and their Conditions of Use

We have two labs that students can use during the term: W6B301 and Statistical Information Systems Lab (SIS Lab). Both of these labs are fitted with surveillance cameras and the activities in the room are recorded for security purposes. The first lab is located in building W6B and the SIS Lab is located in the Becton-Dickinson (BD) Building.

W6B301 OPENING HOURS

The lab is open 24 hours per day 7 days per week.

WARNING: students are strongly advised not to remain alone in the room after normal office hours.

You are encouraged to phone University Security

- phone x7112 from inside the lab,
- see <http://www.bgo.mq.edu.au/security2.htm>

at any time after hours, during term time, if you require an escort to your vehicle or public transport.

WHILE USING W6B301 YOU MUST COMPLY WITH ANY REQUEST BY MACQUARIE UNIVERSITY SECURITY STAFF.

To gain access to W6B301 after hours

Each student must obtain a swipe-card which is to be used at entry points to the building W6B and (as of mid-year) for entry into the lab in room W6B301. But until mid-year there will be a press button door lock on Room 301 the code for which will be disclosed in lectures.

For the swipe-card, there is a form available from the Dept. Administrator Ms Sue Pe (Room C5C474) or it may be issued in lectures. This has to be completed and returned to your lecturer or to Ms Sue Pe. The forms are entered on a security database and then cards will be programmed for each student. Students are to collect their cards from the front desk of the Division of Economic & Financial Studies. Ask for Ms Hiranya Loader or Ms Sue Coleman who will be able to issue the cards.

IF YOU LOSE YOUR CARD YOU WILL BE CHARGED \$50 FOR A REPLACEMENT.

NOTE:

- you must NOT lend your card to anyone
- you must carry your student ID with you when you use the card

- the campus security officers know the ID's of those students who are currently in the lab. They will periodically check the ID's of students in the lab. *Anyone without their student ID or who does not have his or her **own** swipe-card will be told to leave the building immediately*
- *swipe-cards that have been borrowed from another student will be immediately confiscated and no replacement card will be issued*

To gain access to the SIS Lab

The SIS Lab is in the BD building near the junction of Research Park Road and the road/path running down the centre of the University (past the Library, C5C, the Council Building, E7A, etc.). It is a 5 minute walk from C5C.

Check the map on the website:

http://www.bgo.mq.edu.au/images/S_E.gif

The SIS Lab is on the second floor. As you get out of the lift, turn right then right again and it is the door on the left. If it is locked during weekdays from 9 – 5, contact the dept. (9850 8555) or Julian Leslie (9850 8593). This lab has about 14 computers running Windows and 4 running both Unix and Windows.

NOTE: The lab is to be used for doing lab exercises, assignments and projects arising *only from units that use W6B301 for lectures/tutorials or prac classes.*

SIS LAB OPENING HOURS

The SIS Lab is open only during the hours of 9 am – 6 pm on weekdays. IT IS NOT AVAILABLE OUTSIDE THESE HOURS. STUDENTS MUST LEAVE THE LAB BY 6pm. UNDER NO CIRCUMSTANCES IS A COURSEWORK MASTERS STUDENT TO REMAIN IN THIS LAB AFTER HOURS.

Obtaining User Account in these labs

Each student will be given a user name and password for these labs once they are listed as enrolled in a MIST unit. After the first time logging into the server, the students need to change their password. The new (changed) password will expire in 30 days and needs to be changed again. If you do not change your password, you will not be able to login to the server again. If this happens, please talk to your tutor or the computer lab administrator:

Mr. Alfred Wong, awong@efs.mq.edu.au

A time-table for the classes scheduled for each week will be displayed on the door of W6B301. If there is a class in progress, students who are not

enrolled in that class are not allowed to use the computers in the lab without permission from the tutor.

PROBLEMS WITH LAB COMPUTERS?

Problems with lab computers (W6B or SISL) should be reported as follows:

1. if the problem occurs during a class report problem to your tutor
2. if problem occurs outside class time, then report problem by phone or e-mail to

Ms Susan Pe (ext 8550 sdjunaid@efs.mq.edu.au)

or by e-mail to the lab administrator

Mr Alfred Wong awong@efs.mq.edu.au

(USING YOUR MU E-MAIL BROWSER ACCOUNT and no other – staff are instructed to ignore e-mails from Hotmail accounts, etc). BE SURE TO INCLUDE YOUR NAME AND CLASS, THE LAB AND PC NUMBER AND A BRIEF DESCRIPTION OF THE PROBLEM.