



School of Information Management

ELCM 353 INTERNET DEVELOPMENT ENVIRONMENTS

Trimester 1 2005

COURSE OUTLINE

Contact Details

Lecturer:

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Class Times and Room Numbers

Lecture:

Wednesdays, 3:10pm to 5:00pm
CO 122

Computer Lab:

Thursdays, 9:00am to 1:00pm (any one hour)
Fridays, 9:00am to 1:00pm (any one hour)

Note: Computer lab times subject to tutor availability and class size. Will be confirmed beginning of first class.

Course Objectives

The course aims to give students an understanding of the technologies and the development and deployment issues of database applications using Internet front-ends.

We will look at two different approaches to Internet based database applications:

- A tightly integrated single product solution based on object-oriented databases.
- A server side scripting language.

An important aim of this course is that the student will experience these two approaches and discover the relative strengths and weaknesses of each.

A secondary aim is that the students will become familiar with these technologies and gain specific skills and knowledge, which can form a basis for further study and practice. In pursuing this aim, the emphasis is on practical "hands on" programming, with plenty of examples and exercises. The course does *not* aim to provide comprehensive coverage or mastery in any technological area.

Students completing this course should:

1. Have an understanding of object oriented database and programming tools.
2. Be able to design a small object-oriented database of inter-related classes and objects, to meet a specification, with the required relationships, attributes and methods identified.
3. Be able to implement and deploy a simple object-oriented database application, including the required forms to allow user interaction with the data objects.
4. Have an understanding of how web servers function, and how server-side script and components allow flexible production of web pages on demand to suit user requests.
5. Be able to write simple HTML/PHP pages, including form processing.
6. Be able to connect the PHP pages to a database file or server to allow the user to view and update data.
7. Be able to put together related PHP pages to form a simple but coherent web application.
8. Gain an appreciation of how quite different technical approaches can be used to meet the needs of remote, multi-user access to data held on a server.

This course assumes some prior programming experience (but not in any specific language). It also assumes knowledge of some fundamental database principles (including elementary SQL) and HTML.

Course Content

Wk	Lecture Topics (subject to change)	Text Book Chapters	Workshop
1	Objects, Classes, Schema, Editor, Debugger, Inspector, JADE primitive types, Collections, Forms, Methods, Relationships		Workshop 1
2	Types, Typecasting, Constants, Invoking methods, Forms and Event Methods		Workshop 2
3	Two-tier design,: Data schema and Interface sub-schemas. Inheritance. Derived classes Multi-user execution environment, Transactions and Locking More on Forms and Controls		Workshop 3
4	Using Collections appropriately Exceptions, Error handling Printing Introduction to Graphics (using image files and data)		Workshop 4 Start Project 2

Wk	Lecture Topics (subject to change)	Text Book Chapters	Workshop
5	Advanced Forms and Controls		Workshop 5 (brief) Continue Project 2
Mid-Term Break			
6	JADE architectures Deployment Other topics (TBA)		Project due 11 April, at noon
7	Introduction to Web-servers and server-side script programming. Introduction to PHP	1,2,3	Workshop 1 Start on Project 2
8	PHP Basics (Variables, Functions, Arrays)	3, 4, 5	Workshop 2
9	Database access with PHP and MySQL	8	Workshop 3
10	File handling and Session Management	6, 7	Workshop 3
11	Tba	14	Workshop 5
12	Tba	15, 16	Workshop 6

Readings

- The Web Wizard's Guide to PHP by David A. Lash. Addison-Wesley, ISBN 0-321-12174-0. It will be available at the University bookshop.
- PHP Online Documentation at www.php.net
- Course notes for the Object-Oriented DBMS Jade will be made available electronically.

Materials and Equipment

None required.

Assessment Requirements

Participation

- Worth 10% of the course mark.
- Participation involves primarily your participation on Blackboard discussions. While the projects (see below) are to be completed individually, you are encouraged to

exchange ideas, thoughts, and help with the remainder of the class. Besides for Blackboard discussions, this is also applicable to computer lab periods.

Project 1: Design and Program a small JADE Database using Internet Client Application.

- Worth **45%** of the course mark.
- It will probably take you at least 30 hours. To be done partly during allocated lab time and partly in your own time, over the first 6 weeks. There will be a strictly observed due date and a 20% penalty (of marks gained) per working day late for overdue projects. **The due date for this project is April 11, 2005 at 12:00 noon.**

Project 2: Design and Program a small Web Database Application using PHP.

- Worth **45%** of the course mark.
- It will probably take you at least 30 hours. To be done partly during allocated lab time and partly in your own time, over the final 6 weeks.
- Within this project, there is the following mark distribution:
 - Project Mock-Up (**Due April 25th, 2005 at 15:00**): 20%
 - Final Project (**Due May 29th, 2005 at 15:00**): 80%

Both projects have to be done individually. There are severe penalties for plagiarism (see below).

Pass Criteria: To pass the course, you must gain at least 50% in each project and 50% overall.

There is no final exam.

Penalties

There will be a strictly observed due date and a 10% penalty (of marks gained) per day (including weekends) day late for overdue projects. No work will be accepted that is more than a week late, leading to failure of the course.

Plagiarism (see below) on any assessment item will at least lead to failure of the assessment item, and consequently failure of the course. Additionally, other penalties may be determined to be appropriate (see below).

Mandatory Course Requirements

To pass the course, you must gain at least 50% in each project, and 50% overall.

Communication of Additional Information

Additional information will be communicated by email and Blackboard. Students are expected to check their VUW student email account, as well as Blackboard at least every 2 days.

General University Policies and Statutes

Students should familiarise themselves with the University's policies and statutes, particularly those regarding assessment and course of study requirements, and formal academic grievance procedures.

Student Conduct and Staff Conduct

The Statute on Student Conduct together with the Policy on Staff Conduct ensure that members of the University community are able to work, learn, study and participate in the academic and social aspects of the University's life in an atmosphere of safety and respect. The Statute on Student Conduct contains information on what conduct is prohibited and what steps can be taken if there is a complaint. For queries about complaint procedures under the Statute on Student Conduct, contact the Facilitator and Disputes Advisor. This Statute is available in the Faculty Student Administration Office or on the website at:

www.vuw.ac.nz/policy/StudentConduct.

The policy on Staff Conduct can be found on the VUW website at:

www.vuw.ac.nz/policy/StaffConduct.

Academic Grievances

If you have any academic problems with your course you should talk to the tutor or lecturer concerned or, if you are not satisfied with the result of that meeting, see the Head of School or the Associate Dean (Students) of your Faculty. Class representatives are available to assist you with this process. If, after trying the above channels, you are still unsatisfied, formal grievance procedures can be invoked. These are set out in the Academic Grievances Policy which is published on the VUW website:

www.vuw.ac.nz/policy/AcademicGrievances.

Plagiarism

Victoria University defines plagiarism as the copying of ideas, organisation, wording or anything else from another source without appropriate reference or acknowledgement so that it appears to be one's own work. This includes published and unpublished work, the Internet and the work of other students and staff. Plagiarism is an example of misconduct in the Statute of Student Conduct. Students who have plagiarised are subject to a range of penalties under the Statute. See the website: www.vuw.ac.nz/policy/StudentConduct.

Students with Disabilities

The University has a policy of reasonable accommodation of the needs of students with disabilities. The policy aims to give students with disabilities an equal opportunity with all other students to demonstrate their abilities. If you have a disability, impairment or chronic medical condition (temporary, permanent or recurring) that may impact on your ability to participate, learn and/or achieve in lectures and tutorials or in meeting the course requirements, then please contact the Course Coordinator as early in the course as possible. Alternatively you may wish to approach a Student Adviser from Disability Support Services to confidentially discuss your individual needs and the options and support that are available. Disability Support Services are located on Level 1, Robert Stout Building, or phoning 463-6070, email: disability@vuw.ac.nz. The name of your School's Disability Liaison Person can be obtained from the Administrative Assistant or the School Prospectus.

Student Support

Staff at Victoria want students' learning experiences at the University to be positive. If your academic progress is causing you concern, please contact the relevant Course Co-ordinator, or Associate Dean who will either help you directly or put you in contact with someone who

can.

The Student Services Group is also available to provide a variety of support and services. Find out more at www.vuw.ac.nz/st_services/ or email student-services@vuw.ac.nz.

VUWSA employs two Education Coordinators who deal with academic problems and provide support, advice and advocacy services, as well as organising class representatives and faculty delegates. The Education Office is located on the ground floor, Student Union Building, phone 463 6983 or 463 6984, email education@vuwsa.org.nz.