

I. COURSE DESCRIPTION:

This course continues the development of the students' abilities to install, configure and manage applications, groupware and web-based services. The major emphasis will be on database concepts and network support of client/server database systems such as a popular Web Database development environment LAMP (Linux, Apache, MySQL and PHP).

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course, the student will demonstrate the ability to:

1. Utilize data modelling techniques to implement simple relational database management systems.

Potential Elements of the Performance:

- Define entity, relationship and attribute.
- Identify and apply different types of relationships used in designing a database, such as one-to-one, one-to-many and many-to-many.
- Identify how key components of data modelling are implemented.
- Identify the relationship between a primary key and a foreign key.
- Describe normalization and its role in database design.

This learning outcome will constitute approximately 25% of the course.

2. Formulate simple Structured Query Language (SQL) queries on a relational database.

Potential Elements of the Performance:

- Utilize various common SQL constructs with the SELECT statement to extract data from tables.
- Implement a variety of SQL statements in database queries.
- Utilize various SQL statements to insert, modify, delete and extract data from tables.
- Identify the factors in SQL, which impact network performance.

This learning outcome will constitute approximately 15% of the course.

3. Implement a client-server database system using the LAMP architecture.

Potential Elements of the Performance:

- Describe the evolution and important features of Client/Server Database environments in general and MySQL in particular.
- Install and configure the LINUX environment using Fedora Core 1, MySQL, PhpMyAdmin and PHP.
- Install the comparable Microsoft Environment using Windows, IIS, and SQL Server (time permitting).
- Enhance performance of and manage a Database Server.

This learning outcome will constitute approximately 30% of the course.

4. Create Server side and client side scripting to interact with a database server and a web server.

Potential Elements of the Performance:

- Develop client side scripts for data entry validation using Javascript.
- Develop web pages that incorporate server side scripts to manipulate databases using PHP and SQL statements.
- Describe the history of Web Database technology and the evolution of its features.
- Manage the permissions and the database server environment.

This learning outcome will constitute approximately 30% of the course.

III. TOPICS:

1. Relational Database concepts and data modeling.
2. Structured Query Language.
3. Client / Server web/ database management.
4. Client Side / Server Side scripting to interact with web databases.

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Notes provided by instructor

Internet Resources and assigned Internet Readings

V. EVALUATION PROCESS/GRADING SYSTEM:

Tests and quizzes	40%
Assignments and Lab Work	60%

The tentative breakdown is as follows but is subject to change when deemed appropriate:

5	Quizzes (best 4 of 5)	10% Each
6	Assignments	5% Each
3	Assignments	10% Each

- Some minor modifications to the above percentages may be necessary. The professor reserves the right to adjust the mark up or down 5% based on attendance, participation, leadership, creativity and whether there is an improving trend.
- Students must complete and pass both the test and assignment portion of the course in order to pass the entire courses.
- All Assignments must be completed satisfactorily to complete the course. Late hand in penalties will be 5% per day. Assignments will not be accepted past one week late unless there are extenuating and legitimate circumstances.
- The professor reserves the right to adjust the number of tests, practical tests and quizzes based on unforeseen circumstances. The students will be given sufficient notice to any changes and the reasons thereof.
- A student who is absent for 3 or more times without any valid reason or effort to resolve the problem will result in action taken.

NOTE: If action is to be taken, it will range from marks being deducted to a maximum of removal from the course.

The following semester grades will be assigned to students in postsecondary courses:

Grade	Definition	<i>Grade Point Equivalent</i>
A+	90 – 100%	4.00
A	80 – 89%	
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 – 59%	1.00
F (Fail)	49% and below	0.00
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field /clinical placement or non-graded subject area.	
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.	
X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.	
NR	Grade not reported to Registrar's office.	
W	Student has withdrawn from the course without academic penalty.	

VI. SPECIAL NOTES:

Special Needs:

If you are a student with special needs (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your professor and/or the Special Needs office. Visit Room E1101 or call Extension 493 so that support services can be arranged for you.

Retention of Course Outlines:

It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

Plagiarism:

Students should refer to the definition of “academic dishonesty” in *Student Rights and Responsibilities*. Students who engage in “academic dishonesty” will receive an automatic failure for that submission and/or such other penalty, up to and including expulsion from the course/program, as may be decided by the professor/dean. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

Course Outline Amendments:

The professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

Substitute course information is available in the Registrar's office.

VII. PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advanced credit in the course should consult the professor. Credit for prior learning will be given upon successful completion of a challenge exam or portfolio.

VIII. DIRECT CREDIT TRANSFERS:

Students who wish to apply for direct credit transfer (advanced standing) should obtain a direct credit transfer form from the Dean's secretary. Students will be required to provide a transcript and course outline related to the course in question.