HPC Data Mining
Computer Information Systems Division
Wake Technical Community College

HPC 170 (2-2-3)	Chris James, Instructor
Course Syllabus Addendum	Fall Semester, 2003
Bioinformatics Certificate	Office: LeMay #21
Phone: 662-3416 (Secretary)	Office Hours: M,T,TH 5-6 PM
Email: ctjames@waketech.edu	Office Phone: 662-3656

Course Overview: This course involves an introduction to databases as they are used in the field of bioinformatics. Students will develop proficiency in the Structured Query Language (SQL), the ANSI-standard language for database definition and manipulation.

The course will cover creating and altering tables, inserting and deleting records, updating and retrieving records. In addition, students will be provided with an introduction to data modeling through concepts such as schemas, normalization, joins, and primary keys. An overview of database administration will also be covered.

The course is taught under the Linux operating system using the open source MySQL relational database program.

Course Textbook: "Teach Yourself MySQL in 24 Hours", by Julie Meloni, SAMS Publishing, ISBN#: 067232349.

Course Goals: The design goals of the course include the following:

1. Learn and practice developing database designs.
2. Understand the principles of data modeling, normalization and query formulation.
3. Understand the use of SQL and learn SQL syntax.
4. Install a database server and perform administrative tasks.
5. Design, implement, maintain and display data using a relational database for a biological application.

Course Objectives: Upon successful completion of this course, the student will be able demonstrate competency in the following:

1. Describe the fundamental components of a relational database.
2. Write SQL statements to create, update, alter, and delete database tables.
3. Write command line statements to query a database.
4. Use a graphical interface manipulate a database.
5. Use SQL statements to grant and revoke object permissions within a database.
6. Access a database using the PHP scripting language through a web browser.
7. Backup and restore databases and tables.
8. Grant and revoke object permissions within a relational database.

Course Outline:

Part I.   Relational Databases Basics (text chapters 1-3)
Part II.   MySQL Environment (text chapters 4-5)
Part III.   Database basics (text chapters 4-14)
Part IV.   Database Administration (text chapters 20-22)

Grade Evaluation:

Two tests, a comprehensive final, and laboratory, all of equal value (ten-point grading scale).

Course Duration: This course meets for the second 8 weeks of the fall semester (October 21, 2003 - December 16, 2003).

Class Meeting Time: This is a hybrid web-based course combining distance education with on campus class meetings. The course contact hours are equally divided between on campus meetings an online access. The online portion of the coursed is accessed through a web browser based interface known as Blackboard. A Blackboard tutorial will be given on the night of the first class meeting.

Room Location: On campus meetings will be in room TB-219 (campus map: http://www.wake.tec.nc.us/campuses.html).

Course Webpage: All instructional materials for this course are available from the following location: http://dist-ed.waketech.edu/

Course Orientation: There is no orientation meeting for this course outside of the regular on campus meetings.

Course Access: Students will be able to access the Blackboard interface to the course on the first day of the second fall semester session (**October 21, 2003**).

Login ID: Your login name will be your first initial, middle initial and last name, plus the last two digits of your student ID. Your password will be your student ID. Additional information and trouble shooting your login ID is available here:

http://www.wake.tec.nc.us/dist_ed/internet/help.html

Students who register after classes start will not have immediate access to the class.

Getting Started: You should visit the course webpage after the first on campus meeting.