

PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE
MASTER SYLLABUS

**OBJECT-ORIENTED DATABASE APPLICATION DEVELOPMENT
CSIT 2465**

Class Hours: 3.0

Credit Hours: 4.0

Laboratory Hours: 3.0

Revised: Spring 07

NOTE: This course is not designed for transfer credit.

Catalog Course Description:

A study of database program development for business applications using desktop development tools. Topics include table creation and maintenance, indexing, data manipulation, forms, reports, labels, queries, data modules, object-oriented data manipulation (OODML), event-driven applications, rapid application development (RAD) and client-server development.

Entry Level Standards:

The student must have an understanding of database concepts including entity-relationship modeling, normalization and relational operations. The student must also have experience applying theoretical principles to database application development. The student must have math, writing, verbal and English language skills at the college entry level. The student should be able to use a standard keyboard and maintain 23 words per minute error-free typing rate.

Prerequisites:

CSIT 1810 and one programming course

Textbook(s) and Other Course Materials:

Oracle HTML DB Handbook, by L. Linnemeyer, B. Brown, McGraw-Hill/Osborne, 2006

I. Week/Unit/Topic Basis:

Week	Topic
1	Review database fundamentals; object-oriented principles; overview of rapid application development (RAD); introduction to HTML DB
2	Review of SQL; SQL Workshops objects
3	Using the Application Builder; PL/SQL syntax
4	Working with Theme and Template objects
5	Using Application Utilities
6	Database-centric Web pages
7	Midterm exam; Reports
8	Forms; User interface objects
9	User interface objects

- 10 Computation, process, and validation objects
- 11 Study of sample applications
- 12 Security and administration of Web-based applications
- 13 Intermediate PL/SQL
- 14 Application project presentations
- 15 Exam II

II. Course Objectives*:

- A. Understand the criteria used in making a decision about the products selected to create and maintain database-centric applications. II III IV VI
- B. Recognize the language of data definition and data manipulation and its importance. III V VII XI
- C. Develop a Web-based, database-centric software application using object-oriented Rapid Application Development (RAD) tools. I IV V VI VII IX X XI XII
- D. Describe the factors involved in the transformation of a conceptual design into a logical database design and into a physical database design. III IV VII IX XI XII
- E. Describe the importance of the database security and administration function. I II III VI IX
- F. Use a Web-based RAD tool. V VI VIII IX XI XII

*Roman numerals after course objectives reference goals of the Computer Science and Information Technology program.

III. Instructional Processes*:

Students will:

1. Use professional tools to produce software components and documentation. *Communication, Technological Literacy, Transitional Strategies, Active Learning*
2. Create a well-documented, Web hosted database application based on client input or case study research. *Communication, Social/Behavioral Sciences, Technological Literacy, Transitional Strategies, Active Learning*
3. Participate in a software development team using shared resources. *Communication, Social/Behavioral Sciences, Transitional Strategies, Active Learning*
4. Practice elements of the work ethic such as punctuality, professionalism, dependability, cooperation, and contribution. *Social/Behavioral Sciences*
5. Present a finished product to the class. *Communication, Social/Behavioral Sciences, Transitional Strategies, Active Learning*
6. Participate in a peer review of database applications. *Technological Literacy, Communication, Social/Behavioral Sciences, Transitional Strategies, Active Learning*
7. Use professionally accepted methods and materials in completion of applications.

Technological Literacy, Social/Behavioral Sciences, Transitional Strategies, Active Learning

*Strategies and outcomes listed after instructional processes reference TBR's goals for strengthening general education knowledge and skills, connecting coursework to experiences beyond the classroom, and encouraging students to take active and responsible roles in the educational process.

IV. Expectations for Student Performance*:

Upon successful completion of this course, the student should be able to:

1. Recognize and use standard relational database and object-oriented terminology. A, B, D
2. Recognize and perform relational database operations. B, D
3. Create user documentation for application programs. B, C, F
4. Use object-oriented prototyping tools to speed program development. A, F
5. Design and create database forms. A, C, F
6. Design and create reports. A, C, F
7. Implement a graphic user interface (GUI) using forms. A, C, F
8. Create event handlers and validation methods. C, F
9. Integrate application component modules into a complex application. A, C, D, E, F

*Letters after performance expectations reference the course objectives listed above.

V. Evaluation:

A. Testing Procedures: 50% of grade

Exams will comprise 50% of the final grade. Two exams will be given during the course of the semester. Dates will be announced in class and each exam will count 250 points of the final grade.

B. Laboratory Expectations: 20% of grade

Lab assignments will be made during the course of the semester. A late penalty may be imposed on any overdue assignment. Failure to satisfactorily complete all labs may result in a grade of F in the course. Labs will count 200 points (20%) of the final grade.

C. Field Work:

The term project may require off-campus meetings and/or interviews.

D. Other Evaluation Methods: 30% of grade

An extensive term project will be assigned. The project will emphasize practical solutions to database problems and will require design, development, and documentation of working database applications. Failure to satisfactorily complete a term project will result in a grade of F for the course. The projects will count 300 points (30%) of the final grade. A portion of the project grade will be determined by peer evaluation.

E. Grading Scale:

900 - 1000	A
800 - 899	B
700 - 799	C
600 - 699	D
0 - 599	F

VI. Policies:

A. Attendance Policy:

Pellissippi State Technical Community College expects students to attend all scheduled instructional activities. As a minimum, students in all courses must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course.

B. Academic Dishonesty:

Plagiarism, cheating, software piracy, non-educational use of computer systems and other forms of academic dishonesty are strictly prohibited.

C. Accommodations for disabilities:

If you need accommodations because of a disability, if you have emergency medical information to share, or if you need special arrangements in case the building must be evacuated, please inform the instructor immediately. Please see the instructor privately after class or in his/her office. Students must present a current accommodation plan from a staff member in Services for Students with Disabilities (SSWD) in order to receive accommodations in this course. Services for Students with Disabilities may be contacted by going to Goins 127 or 131 or by phone: 694-6751(Voice/TTY) or 539-7153.