

PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE  
MASTER SYLLABUS

**Oracle Application Development  
CSIT 2445**

**Class Hours: 3.0**

**Credit Hours: 4.0**

**Laboratory Hours: 3.0**

**Revised: Fall 06**

NOTE: This course is not designed for transfer credit.

**Catalog Course Description:**

An introduction to database application programming using Oracle development tools including Oracle Forms, Oracle Reports and advanced PL/SQL procedures. Hands-on training will include design and development of client-server and web applications.

**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. Previous experience with Oracle and SQL is required. The student must have math, writing, verbal and English language skills at the college entry level and should be able to use a standard computer keyboard with an error-free typing rate of approximately 28 words per minute.

**Corequisites:**

CSIT 2425 or departmental approval.

**Textbook(s) and Other Course Materials:**

Required:

Textbooks: *Guide to Oracle 10g* by R. Conrad, J. Morrison, M. Morrison, Thomson-Course Technology. 2006.

Supplies: Flash memory stick or zip disk.

Recommended:

Textbook: *Oracle Database 10g the Complete Reference*, by Kevin Loney, McGraw-Hill/Osborne, 2004.

**I. Week/Unit/Topic Basis:**

<b>Week</b>	<b>Topic</b>
1	Review of client/server and relational database concepts; review of SQL*Plus; installation of sample databases
2	Introduction to ODS Application Development Architecture and grid computing; Form wizards

3	Review of PL/SQL code blocks and programming concepts
4-5	Form wizards; Forms Builder menus, object navigator, and property palette
5-6	Custom Forms; Control blocks, LOV wizard, layout editor, GUI items and controls
7	Building relations, visual attributes; record groups; alerts; parameters, canvases, frames and windows
8	Oracle Report Wizard
9-10	Report layout objects; multiple block reports; matrix reports
11	Building integrated database applications; custom menus
12	Advanced SQL and PL/SQL topics; triggers
13	Advanced form builder topics
14	Applications-side triggers; use of built-ins; complete case study
15	FINAL EXAM

## II. Course Objectives\*:

- A. Develop a working understanding of the terminology associated with client-server, three-tiered, web-based, and object oriented application development. III, VII, VIII, IX
- B. Become familiar with, develop a working knowledge of, and demonstrate efficient use of: ORACLE Forms and Reports and the other Oracle Developer tools. IV, VI, V, VII, VIII, IX, XII
- C. Develop a working Oracle application consisting of a user interface layer, a business logic layer, and a relational database layer. III, IV, VI
- D. Create modular prototype database applications that can be run from the Web. III, IV
- E. Become familiar with issues related to data access, security, and database connectivity in the client server and n-tiered environments. III, VII, VIII, IX

\*Roman numerals after course objectives reference goals of the CSIT program.

## III. Instructional Processes\*:

Students will:

1. Use professional tools to produce software components and documentation. *Communication, Technological Literacy, Transitional Strategies, Active Learning.*
2. Participate in a team using shared resources. *Communication, Social/Behavioral Sciences, Transitional Strategies, Active Learning*
3. Practice elements of the work ethic such as punctuality, professionalism, dependability, cooperation, and contribution. *Social/Behavioral Sciences.*
4. Use professionally accepted methods and materials in their approach to completion of applications. *Technological Literacy, Social/Behavioral Sciences, Transitional Strategies,*

*Active Learning.*

5. Create database forms, reports, and graphics based on client input. *Communication, Social/Behavioral Sciences, Technological Literacy, Transitional Strategies, Active Learning.*
6. Complete tasks on installments of a case study of a real-world business situation. *Social/Behavioral Sciences, Technological Literacy, 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. Use terminology associated with computers, software and database applications products. (A,B,C,D,E,F)
2. Demonstrate an understanding of the use of hardware, firmware and systems terminology. (A,B,C,D,E,F)
3. Demonstrate effective use of various manuals, documentation, tutorials, on-line directives and trade journals. (A,B,C,D)
4. Demonstrate knowledge and use of the Oracle Developer tool set. (A,B,C,D,E)
5. Produce code that carries out the commands of a graphical user interface using intermediate to advanced PL/SQL programming constructs. (B,D,E)
6. Produce code that uses intermediate to advanced SQL queries. (B,D,E)
7. Create dynamic Web pages that can access an Oracle database. (B,D, E)
8. Demonstrate effective use of Oracle as a business tool. (A,B,C,D,E)

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

**V. Evaluation:**

A. Testing Procedures:

A minimum of three tests will be given. Tests may include multiple choice, true/false, matching, short answer, and essay questions. There will be no make-up tests unless prior arrangements are made with the instructor or the student produces documentation for a serious illness or family emergency.

B. Laboratory Expectations:

Lab attendance is required. Approximately 8-12 computer lab assignments will be given and must be completed and handed in at the indicated date and time. Assignments turned in late will receive a deduction from the total points awarded.

C. Field Work:

N/A

D. Other Evaluation Methods:

Homework and in class group activities will occasionally be assigned to reinforce lecture topics. Grades on these assignments may, at the instructor's discretion, include a participation component. A final project integrating all concepts and techniques learned during the semester is required. Students will be given opportunities to work on this project throughout the semester.

E. Grading Scale:

Each instructor will explain the point system that he/she uses to arrive at the final grade. Grades will be assigned in accordance with the following scale:

93 - 100% of total pts.	A
88 - 92% of total pts.	B+
83 - 87% of total pts.	B
78 - 82% of total pts.	C+
73 - 77% of total pts.	C
65 - 72% of total pts.	D
below 65%	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. [NOTE: No differentiation is noted for excused/unexcused absences. These will be treated as an absence.]

B. Academic Dishonesty:

Plagiarism, cheating, and other forms of academic dishonesty are prohibited. Students guilty of academic misconduct, either directly or indirectly through participation or assistance, are immediately responsible to the instructor of the class. In addition to other possible disciplinary sanctions which may be imposed through the regular Pellissippi State procedures as a result of academic misconduct, the instructor has the authority to assign an F or a zero for the exercise or examination or to assign an F in the course.

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.

D. Other Policies:

Computer Usage Guidelines:

College-owned or -operated computing resources are provided for use by students of Pellissippi State. All students are responsible for the usage of Pellissippi State's computing resources in an effective, efficient, ethical and lawful manner.