A comprehensive introduction to the SQL/Oracle relational database system. Hands-on training will include set-up, installation, SQL*PLUS, database design and creation, data queries, view definition and use, operators and functions, use of Oracle tools, security, calculation, indexing, utilities, and data transport.

Entry Level Standards:

The student should be able to use a standard keyboard and maintain 10 words per minute error-free typing rate. The student must have math, writing, verbal and English language skills at the college entry level.

Prerequisite:

CST 1110 or department approval

Textbook(s) and Other Reference Materials Basic to the Course:

Textbook:

Supplies:
Three 3-1/4" HD floppy diskettes

I. Week/Unit/Topic Basis:

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction, Relational and Object-oriented databases, Normalization</td>
</tr>
<tr>
<td>2</td>
<td>Basic SQL, Sub-queries, Tables, Views</td>
</tr>
<tr>
<td>3-7</td>
<td>Indexes, Datatypes, Objects, Constraints, Advanced sub-queries, Complex views</td>
</tr>
<tr>
<td>8</td>
<td>SQLPLUS: Reports and Commands</td>
</tr>
<tr>
<td>9-11</td>
<td>INSERT, UPDATE, views and methods</td>
</tr>
<tr>
<td>12-13</td>
<td>LOBs, Procedure Builder, PL/SQL procedures and functions</td>
</tr>
<tr>
<td>14-15</td>
<td>Development tools, Optimizer</td>
</tr>
<tr>
<td>16</td>
<td>Final Exam</td>
</tr>
</tbody>
</table>
II. Course Objectives*:

A. Develop a working understanding of the terminology associated with relational database processing. III, VII, VIII, IX

B. Become familiar with, have a working knowledge of, and demonstrate efficient use of: SQL, ORACLE and the SQL* product enhancement tools. IV, VI, V, VII, VIII, IX, XII

C. Develop a working relational database and develop restrictive access conditions appropriate for entering, modifying and producing output to an I/O device. III, IV, VI

D. Set-up, create file space and provide environmental conditions to provide a user with a working SQL relational database. III, IV

E. Become familiar with issues related to data access, security, file allocation and process control. III, VII, VIII, IX

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

III. Instructional Processes*:

Students will:

1. Use professional tools to produce software components and documentation. Technological Literacy Outcome, Transitional Strategy, Personal Development Outcome

2. Create database forms and reports based on client input. Communication Outcome, Problem Solving and Decision Making Outcome, Technological Literacy Outcome, Information Literacy Outcome, Active Learning Strategy

3. Participate in a team using shared resources. Communication Outcome, Problem Solving and Decision Making Outcome, Transitional Strategy, Active Learning Strategy

4. Practice elements of the work ethic such as punctuality, professionalism, dependability, cooperation, and contribution. Personal Development Outcome

5. Use professionally accepted methods and materials in their approach to completion of applications. Technological Literacy Outcome, Personal Development Outcome, Transitional Strategy, Active Learning Strategy

*Strategies and outcomes listed after instructional processes reference Pellissippi State’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. Demonstrate proficient use of terminology associated with computers, software and database applications products. A, B, C, D, E

2. Demonstrate an understanding of the use of hardware, firmware and systems terminology. A, B, C, D, E

3. Demonstrate effective use of various manuals, documentation, tutorials, on-line directives and guides. A, B, C, D
4. Demonstrate knowledge and use of major Oracle functions, commands and processes. 
   A,B,C,D,E

5. Demonstrate proficient use of the keyboard and mouse in accessing programs, data and/or files. 
   A,B,C,D,E

6. Demonstrate use of major SQL* tools commands and processes. B,D,E

7. Demonstrate use of all major SQL programming commands and selections. 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:

   There will be three tests which count 200 points each, or 600 points total. Tests may consist of multiple choice, matching, fill-in-the-blank or short answer questions. There will be no make-up tests unless prior arrangements are made with the instructor.

B. Laboratory Expectations:

   Lab attendance is required. Assignments will be given and must be completed and handed in at the expected date and time. Assignments turned in late may be reduced by a late penalty. No assignment will be accepted more than one week late unless approved in advance by the lab instructor. Lab assignments will count 400 points total. A term project may be included in the lab exercises. Students MUST earn at least 200 points in lab to pass this course.

C. Field Work:

   N/A

D. Other Evaluation Methods:

   This information, if applicable, will be provided by the instructor in full detail during the first week of class via syllabus supplement.

E. Grading Scale:

   Grades will be assigned in accordance with the following scale:

<table>
<thead>
<tr>
<th>Points Range</th>
<th>Conditions</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>900 - 1000 pts.</td>
<td>(w/min 200 in lab)</td>
<td>A</td>
</tr>
<tr>
<td>800 - 899 pts.</td>
<td>(w/min 200 in lab)</td>
<td>B</td>
</tr>
<tr>
<td>700 - 799 pts.</td>
<td>(w/min 200 in lab)</td>
<td>C</td>
</tr>
<tr>
<td>600 - 699 pts.</td>
<td>(w/min 200 in lab)</td>
<td>D</td>
</tr>
<tr>
<td>0 - 599 pts.</td>
<td>(or &lt; 200 in lab)</td>
<td>F</td>
</tr>
</tbody>
</table>

VI. Policies:

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.