PELLISSIPPI STATE COMMUNITY COLLEGE
MASTER SYLLABUS

SQL APPLICATIONS USING ORACLE
CSIT 2520

Class Hours: 2.0Credit Hours: 3.0
Laboratory Hours: 2.0Revised: January 8, 2016

Catalog Course Description:
A comprehensive study of SQL using the Oracle relational database management system.
Hands-on training will include database creation and management, data queries, view
definition and use, operators and functions, procedures, security, calculation, indexing,
utilities and data transport.

Entry Level Standards:
The student should be able to use a standard keyboard and maintain 28 words per minute.
The student must have math, writing, verbal and English language skills at the college entry
level.

Prerequisites: CSIT 1810

Textbook(s) and Other Course Materials:
- Recommended Textbook: Oracle Database 112c: The Complete Reference (w/CD), by Bryla,
  McGraw-Hill. ISBN: 9780071801744. The 11th or 10th versions are also acceptable.
- Required Materials: Removable storage device such as a USB flash drive; ear buds or
  earphones

I. Week/Unit/Topic Basis:

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1</td>
<td>Syllabus review; course accounts and tools – online course software, SQL query tools; review of DBMS concepts - relational and object-oriented databases, ERDs, normalization</td>
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<tr>
<td>2</td>
<td>SQL queries; SELECT clauses – from, where, order by</td>
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<td>3</td>
<td>Joining tables</td>
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<td>4</td>
<td>Data manipulation commands</td>
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<tr>
<td>5</td>
<td>Single-row &amp; group functions</td>
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<td>6</td>
<td>Formatted output - reports</td>
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<tr>
<td>7-8</td>
<td>Subqueries; advanced queries</td>
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<tr>
<td>9</td>
<td>SQL object creation – tables, constraints</td>
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<tr>
<td>10</td>
<td>SQL object creation - sequences, indexes, views</td>
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<tr>
<td>11</td>
<td>Database management commands; security; data sharing</td>
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<tr>
<td>12-13</td>
<td>PL/SQL language - data types, cursors, exceptions, triggers, procedures, functions, packages</td>
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<tr>
<td>14</td>
<td>Embedded SQL using Java</td>
</tr>
<tr>
<td>15</td>
<td>Final Exam</td>
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II. Course Goals*:

The course will
A. Guide students to understand and properly use the terminology associated with relational database processing. (III)
B. Expand the student’s familiarity with, working knowledge of, and effective use of Oracle SQL, PL/SQL and Oracle developer tools. (II, IV)
C. Build the skills necessary to create database tables and populate them with data. (IV)
D. Build the skills necessary to transform data into information using a variety of Oracle technologies. (II, IV, V)
E. Increase the student’s familiarity with issues related to data access, security, file allocation and process control. (III, VI)
F. Provide opportunities for students to work individually and in teams to design and implement problem solutions. (I, V)

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

III. Expected Student Learning Outcomes*:

Students will be able to:
1. Use terminology associated with computers, software and database applications in proper context. (A)*
2. Use SQL* Plus commands, processes and SQL Developer to create Oracle database objects and produce reports. (B, C, D)
3. Demonstrate effective use of all major SQL statements. (B, C, D)
4. Apply object security concepts to specify and implement role and user privileges. (E, F)
5. Demonstrate effective use of documentation, tutorials, and on-line resources to learn SQL and PL/SQL syntax. (A, B)
6. Apply SQL and PL/SQL skills to real world business problems. (B, C, D, E, F)

* Capital letters after Expected Student Learning Outcomes reference the course goals listed above.

IV. Evaluation:
A. Testing Procedures: 50% of grade
   A minimum of two tests will be administered. Tests will cover material discussed in class, assigned reading and research, and skills practiced during assigned labs. Tests may not to be missed without a valid, documented excuse. Each instructor will include details of his/her testing procedures in a syllabus addendum.

B. Laboratory Expectations: 40% of grade
   Lab attendance is required. A minimum of 8 labs will be assigned and must be completed and submitted at the designated date and time. Labs will be a combination of individual activities as well as group work. Assignments will provide substantial coverage of the major SQL statements and an intermediate level coverage of PL/SQL.

C. Field Work: N/A
D. Other Evaluation Methods: 10% of grade
Class participation, research and homework will also comprise a portion of the final grade for the course. Class participation includes elements of a professional work ethic such as regular attendance, arriving on-time, and appropriate interaction with peers during group activities.

E. Grading Scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Range</th>
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<tbody>
<tr>
<td>A</td>
<td>93 – 100</td>
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<tr>
<td>B+</td>
<td>88 – 92</td>
</tr>
<tr>
<td>B</td>
<td>83 – 87</td>
</tr>
<tr>
<td>C+</td>
<td>78 – 82</td>
</tr>
<tr>
<td>C</td>
<td>73 – 77</td>
</tr>
<tr>
<td>D</td>
<td>65 – 72</td>
</tr>
<tr>
<td>F</td>
<td>Below 65</td>
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</table>

V. Policies:

A. Attendance Policy:
Pellissippi State expects students to attend all scheduled instructional activities. As a minimum, students in all courses (excluding distance learning courses) must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course. Individual departments/programs/disciplines, with the approval of the vice president of Academic Affairs, may have requirements that are more stringent. In very specific circumstances, an appeal of the policy may be addressed to the head of the department in which the course was taken. If further action is warranted, the appeal may be addressed to the vice president of Academic Affairs.

B. Academic Dishonesty:
Academic misconduct committed either directly or indirectly by an individual or group is subject to disciplinary action. Prohibited activities include but are not limited to the following practices:

- Cheating, including but not limited to unauthorized assistance from material, people, or devices when taking a test, quiz, or examination; writing papers or reports; solving problems; or completing academic assignments.
- Plagiarism, including but not limited to paraphrasing, summarizing, or directly quoting published or unpublished work of another person, including online or computerized services, without proper documentation of the original source.
- Purchasing or otherwise obtaining prewritten essays, research papers, or materials prepared by another person or agency that sells term papers or other academic materials to be presented as one’s own work.
- Taking an exam for another student.
- Providing others with information and/or answers regarding exams, quizzes, homework or other classroom assignments unless explicitly authorized by the instructor.
- Any of the above occurring within the Web or distance learning environment.

Please see the Pellissippi State Policies and Procedures Manual, Policy 04:02:00 Academic/Classroom Conduct and Disciplinary Sanctions for the complete policy.
C. **Computer Usage Guidelines:**
College-owned or -operated computing resources are provided for use students of Pellissippi State Community College. All students are responsible for the use of Pellissippi State's computing resources in an effective, efficient, ethical and lawful manner. It is each individual user's responsibility to abide by the policy available at [www.pstcc.edu/ppm/pdf/08-13-05.pdf](http://www.pstcc.edu/ppm/pdf/08-13-05.pdf)

D. **Accommodation for Disabilities:**
Students that need accommodations because of a disability, have emergency medical information to share, or need special arrangements in case the building must be evacuated should inform the instructor immediately, privately after class or in her or his office. Students must present a current accommodation plan from a staff member in Disability Services (DS) in order to receive accommodations in this course. Disability Services may be contacted by sending email to disabilityservices@pstcc.edu, or by visiting Alexander 130. More information is available at [http://www.pstcc.edu/sswd/](http://www.pstcc.edu/sswd/).

E. **Other Policies:**
1. Make-up exams: All exams are required, and make-ups will be allowed only in the rarest of cases. In the event of an emergency, notification of the instructor must be made in advance.
2. It is the student's responsibility to request help from the instructor prior to an assignment's due date.