Course Description:
Information systems design and implementation within a database management system environment. Topics include conceptual, logical, and physical data models, and modeling tools; mapping conceptual schema to relational schema, entity and referential integrity, relational algebra and relational calculus. Database query languages [Structured Query Language (SQL)]. Relational database design, transaction processing, and physical database design (storage and file structures). Database implementation, including use interface and reports.

Course Objectives:
Upon completion of this course the student will:
• have an understanding of the principles of database systems, industry standard SQL, and database analysis, design and implementation.
• have the experience of designing and developing database applications, using industry standard software.
• have experienced the difficulties of working in teams and investigated techniques for overcoming those difficulties.
• have created precise and informative documents for each stage of database development.

Learning Outcomes
• Exposure to industry standard software tools used in database development.
• Incorporate design-for-maintainability considerations through appropriate project work
• Exposure to design and implementation of database technology that is widely-used in industrial and commercial environments.
• Enhance planning and time management skills by making students work through a significant project with multiple, staged deliverables.
• Practical experience that will prepare students to lead or participate in large database projects.
• Examine the relationship of this course to other appropriate fields and societal issues.

Course Format: Online
Instructor: Martin Dwomoh-Tweneboah
Office: Renshaw 209
Office Phone: 2426  E-mail: mdwomoh@linfield.edu
Office Hours: Daily 3.00 – 5.00 PM or by appointment.

Text(Required) : Hoffer, Ramesh & Topi, Essentials of Database Management .
Software: Microsoft Access, Oracle 11g Server, Oracle 11g Developer Suite, Microsoft SQL, MySQL, Microsoft Visio.

Copies of all the software are provided free of charge. Contact the System Administrator for copies of the software for your personal machines.

COURSE MATERIALS
Assignments, quizzes, and other relevant course materials will be posted on the course web page – http://bblearn.linfield.edu. It is your responsibility to check the web page for due dates and course materials on regular basis.

ASSIGNMENTS
General Information
Several short homework assignments will be given throughout the semester.
• Homework assignments will be posted on the course website.
• You are expected to have completed the assignment on or before the due date.
Assignment Management

The curriculum is designed to produce graduates ready to function in the computer industry with the competencies, skills, and attitudes necessary for success in the workplace or graduate school. It forms the basis for continued career growth, life-long learning as a computer professional. Among other important skills for administrators and managers are time management and resource allocation. Specifically, appropriate attention to time management and resource allocation will aid you in meeting task deadlines with available resources. These skills will be important to your success in administration or management and to your success in this certificate program. This syllabus describes course assignments and defines assignment due dates. Your effective use of time management and resource allocation will be key in meeting the assignment deadlines for both individual and study group assignments. From my own experience, I offer the suggestion that your time management plan include time for yourself and your academic work.

Late Assignments
In the general case, late assignments will not be accepted for grading. ALL ASSIGNMENTS MUST BE SUBMITTED ON OR BEFORE THE DUE DATE. I will not accept any excuse for late delivery. All assignments and projects are either submitted via email or online. Even if you submit an assignment via email, make sure you have a copy in your home directory on the server.

Assignment Format
Assignments should be neatly typed so that it is: (a) easy to grade, and (b) useful as a study aid. Assignments submissions that do not meet minimal standards for acceptability in the workplace (completeness, neatness, readability, etc.) will be returned ungraded.

QUIZZES
All due dates for quizzes are posted online. At times occasional unannounced quizzes will be given to help ensure you stay up with assigned materials. Quiz questions will often be selected from or derived from the textbook. I will not give make-up exams and quizzes.

COURSE PROJECT
The course is accompanied by a semester-long course project. It is recommended that you start working on the project as soon as the relevant materials are covered.

GRADING
Your performance in this class will be measured by various assignments, quizzes, and the deliverables for the course project.

Grading Scale:
95 – 100 A
90 – 94 A-
85 – 89 B+
80 – 84 B
75 – 79 B-
70 – 74 C+
65 – 69 C
60 – 64 C-
50 – 59 D
Below 50 F

DELIVERY FORMAT
This is an online course and all course materials, announcements, assignments, etc., can be found on Blackboard at http://bblearn.linfield.edu. It is your responsibility to check the web page on regular basis.

EXTRA CREDIT POLICY
There will not be any extra credit in this course. There are a lot of assessment exercises in this course for you to catch up with areas you don’t perform well. Therefore, don’t bank on extra credit to improve your grades.
ACADEMIC HONESTY
Linfield College operates under the assumption that all students are honest and ethical in the way they conduct their personal and scholastic lives. Academic work is evaluated on the assumption that the work presented is the student's own, unless designated otherwise. Anything less is unacceptable and is considered a violation of academic integrity. Furthermore, a breach of academic integrity will have concrete consequences that may include failing a particular course or even dismissal from the college, as published in the Linfield College Course Catalog.

Violations of academic integrity include but are not limited to the following:
- **Cheating:** Using or attempting to use unauthorized sources, materials, information, or study aids in any submitted academic work.
- **Plagiarism:** Submission of academic work that includes material copied or paraphrased from published or unpublished sources without proper documentation. This includes self-plagiarism, the submission of work created by the student for another class unless he or she receives consent from both instructors.
- **Fabrication:** Deliberate falsification or invention of any information, data, or citation in academic work.
- **Facilitating Academic Dishonesty:** Knowingly helping or attempting to help another to violate the college's policy on academic integrity.

GROUP, FORUM AND ONLINE DISCUSSIONS
If and when necessary, study groups are highly recommended for a course of this kind. However, copying someone’s work for presentation will be treated as academic dishonesty. Active involvement of each student in group and forum discussion is essential. Active participation in forums and online discussions are expected and required in this course. Lack of participation generally reduces a learner's aggregate point score and thus may affect a learner's final grade.

We must assume that we are all persons of intelligence and good will who are here to learn from each other in a team environment. Forum and online discussions should not be a forum to impose our ideas on others. For the academic endeavor to succeed, we must treat each other with civility, courtesy and respect. A successful career in the IT industry depends on team work; and all contributions by group members should be discussed and analyzed thoroughly.

DIFFICULTIES
If you find you are having problems with the course— the use of the software package, case tool, keeping up with the reading, fitting into a group, please let me know. I am always available to help you, but I have to know about the problem while it’s going on and before the end of the course. The last few weeks to the end of the course is not the best time to ask for such a help.

STUDENTS WITH DISABILITIES POLICY
Students with disabilities are protected by the Americans with Disabilities Act and Section 504 of the Rehabilitation Act. If you are a student with a disability and feel you may require academic accommodations contact Cheri White, Program Director of Learning Support Services (LSS), as early as possible to request accommodation for your disability. The timeliness of your request will allow LSS to promptly arrange the details of your support. LSS is located in Loveridge Hall, Room 24, (503-413-8219), or chwhite@linfield.edu. We also encourage students to communicate with faculty about their accommodations.
## Course Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
<th>Chapter Readings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Database Environment and Development Process</td>
<td>Chapter 1 &amp; Slide 1</td>
</tr>
<tr>
<td></td>
<td>Entity Relationship Model</td>
<td>Chapter 2 &amp; Slide 2</td>
</tr>
<tr>
<td>2</td>
<td>Entity Relationship (ER) Modeling</td>
<td>Chapter 2 &amp; Slide 2</td>
</tr>
<tr>
<td>3</td>
<td>Enhanced Entity Relationship Modeling</td>
<td>Chapter 3 &amp; Slide 3</td>
</tr>
<tr>
<td>4</td>
<td>Entity Relationship Diagramming - Lab</td>
<td>Lab Tutorials</td>
</tr>
<tr>
<td>4</td>
<td>Relational Models and Normalization</td>
<td>Chapter 4, Slide 4 &amp; Slide 5</td>
</tr>
<tr>
<td>5</td>
<td>Structured Query Language (SQL)</td>
<td>Chapter 6, Slides 6, 7 &amp; 8</td>
</tr>
<tr>
<td>6</td>
<td>Structured Query Language (SQL)</td>
<td>Chapter 6, Slides 9, &amp; 10</td>
</tr>
<tr>
<td>7</td>
<td>Structured Query Language (SQL)</td>
<td>Chapter 6 &amp; 7, Slides 11 &amp; 12</td>
</tr>
<tr>
<td>8</td>
<td>Database Application Development</td>
<td>Chapter 8 Slide 13, Access</td>
</tr>
<tr>
<td>9</td>
<td>Database Application Development</td>
<td>Chapter 8, Access</td>
</tr>
<tr>
<td>12</td>
<td>Database Application Development</td>
<td>Chapter 8, Access</td>
</tr>
<tr>
<td>13</td>
<td>Course Project</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Course Project</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Course Project</td>
<td></td>
</tr>
</tbody>
</table>

*Note: The above schedule is subject to changes as the semester progresses.*