APC 410: Database Management II – Course Syllabus

IMPORTANT: This course syllabus document contains basic information about the course. A final syllabus with detailed guidelines, instructor information, project information, rubrics, course/university policies, and other course-related information will be provided to students upon course enrollment.

Course Description and Objectives
This course covers architecture and use-cases of non-relational (NoSQL) based on four types of databases including document, Graph, Key-value, and wide column store. Topics include: data types, create/update/delete data, query, cursors, indexing, dynamic schema design, scalability (scale-out) over scale-up of RDBMS, analysis of massive unstructured and semi-structured data and data security.

By the end of this course, you will be able to:
- Develop knowledge of key features of each of four types of NoSQL databases (key-value, document, column-family, and graph databases).
- Leverage basic and advanced query features in MongoDB database for creating and querying document databases.
- Leverage basic and advanced query features in Apache Cassandra database for creating and querying column-family databases.
- Develop knowledge of basic and essential concepts in relational database administration and security.

Prerequisites
- APC 360: Database Management II

Grading
Evaluation Methods
Your final grade will be based on your performance on the following:

<table>
<thead>
<tr>
<th>Item(s)</th>
<th>Number of Items</th>
<th>Total Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson Discussions</td>
<td>14 @ 0.2 points</td>
<td>2.8</td>
</tr>
<tr>
<td>Assignments</td>
<td>6 @ 4 points</td>
<td>24</td>
</tr>
<tr>
<td>Labs</td>
<td>6 @ 5 points</td>
<td>30</td>
</tr>
<tr>
<td>Quizzes</td>
<td>14 @ 1 point</td>
<td>14</td>
</tr>
<tr>
<td>Final Exam</td>
<td>1 @ 29.2 points</td>
<td>29.2</td>
</tr>
<tr>
<td>Total Points</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>
Grading Scale
The following grading scale is used to evaluate all course requirements and determine your final grade:

- 90–100%  A
- 80–89%   B
- 70–79%   C
- 60–69%   D
- 0–59%    F

Workload
Students should expect to spend 144 credit hours per semester to complete the activities and assignments in this course. In a fall or spring semester, the time to dedicate per credit will range between 7-10 hours per week and in summer semester between 10-13 hours.