Advanced .Net Programming
CITC 2310

Combined Lecture/Lab Hours: 4.0 Credit Hours: 3.0

Date Revised: Fall 2017

Catalog Course Description
This course is designed for applications programmers and database developers. Hands-on training includes use of the Visual Studio Integrated Development Environment (IDE), the .NET Framework (ASP.NET, ADO.NET, .NET programming), Object-Oriented Programming (OOP), database programming, SQL, and Web Services. Students will develop an application involving a SQL Server database with emphasis on object-oriented and component-based approaches.

Prerequisite
CITC 1303, CITC 1310 and CITC 2311

Corequisite
None

Textbooks and Other Course Material

Required Textbook
Murach's ASP.NET 4.6 Web Programming with C# 2015 by Mary Delamater and Anne Boehm, August 2016 ISBN: 978-1-890774-95-0

Required Supplies
- Removable storage device such as a USB flash drive.
- Ear buds or headphones

Week/Chapter/Topic Basis

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Review of Visual Studio and .NET Framework</td>
</tr>
<tr>
<td>2</td>
<td>Windows database applications; MS SQL Server</td>
</tr>
<tr>
<td>3</td>
<td>Databases using joined tables</td>
</tr>
<tr>
<td>4-5</td>
<td>Modifying database tables (update, insert, delete); ADO .NET</td>
</tr>
<tr>
<td>6-8</td>
<td>ASP .NET</td>
</tr>
<tr>
<td>9-10</td>
<td>Web Services</td>
</tr>
<tr>
<td>11-12</td>
<td>Web Applications</td>
</tr>
<tr>
<td>13</td>
<td>Processing XML and JSON data</td>
</tr>
<tr>
<td>14</td>
<td>Complete course project and presentation</td>
</tr>
<tr>
<td>15</td>
<td>Final Exam</td>
</tr>
</tbody>
</table>

Course Goals*
The course will

A. Guide students to understand the criteria used in making decisions about the products selected to create and maintain Windows applications. (I, II, IV, VI)
B. Increase the student’s ability to recognize the language of data definition, data manipulation, and data validation and its importance. (II)
C. Provide hands-on practice with technologies used to build Windows database-centric client and Web applications. (II, IV, V)

D. Emphasize the importance of Web site and database security and administration functions and provide the student with skills required to enforce such security. (II, IV, V)

E. Introduce the student to the ASP scripting language to perform server-side processing. (IV)

F. Introduce the student to the SQL Server database management system and methods of integrating these databases into a dynamic, commercial application. (II, IV, V)

G. 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 Information Technology program.

**Expected Student Learning Outcomes**

Students will

1. Design and build non-trivial, real-world, applications and dynamic Web sites that can send data to and retrieve data from databases located on remote servers based on client input or case study research. (A, C, F, G)

2. Develop data validation processes and integrate them with forms. (B, D)

3. Create effective reports. (D, F)

4. Demonstrate effective use of ASP, ADO and SQL Server to build Web-based applications. (A, B, C, E)

5. Effectively review and analyze the work of their peers as a means of providing constructive feedback and improving their own work. (G)

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

**Evaluation**

A. Testing Procedures: 30% of grade
   A minimum of two tests is recommended.

B. Laboratory Expectations: 40% of grade
   Lab attendance is required. Assignments will be given and must be completed and handed in at the designated date and time. Student will gradually build a working web site as the semester progresses.

C. Field Work: 20% of grade
   Knowledge from each lab is combined to create an integrated prototype of a real world application from a researched case study.

D. Other Evaluation Methods: 10% of grade
   Class participation, unannounced quizzes and/or homework will also comprise part of the final grade for the course at the discretion of the instructor. Individual instructors shall provide details in the course syllabus supplement. 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

- 93 – 100 % of total points possible: A
- 88 – 92 % of total points possible: B+
- 83 – 87 % of total points possible: B
- 78 – 82 % of total points possible: C+
- 73 – 77 % of total points possible: C
- 65 – 72 % of total points possible: D
- Below 65 % of total points possible: F

Policies

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.

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.

Accommodations 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 (http://www.pstcc.edu/sswd/) may be contacted via Disability Services email or by visiting Alexander 130.