CSCE 1010 Course Syllabus

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Peer Mentor Brandi Werner
Peer Mentor Scarlett Jones

Textbook:
Available on-line at no cost. (www.bitsbook.com)

Course Description:
CSCE 1010, is an introduction to computing based upon University of California Berkeley’s Beauty and Joy of Computing course (bjc.berkeley.edu), which is itself a realization of the CS Principles curriculum framework (csprinciples.org). As such, CSCE 1010 is available to all UNT students no matter their major or year in school. CSCE 1010 has no course prerequisite other than paying tuition.

CS Principles Big Ideas:
The CS Principles curriculum framework is built on seven big ideas, namely
1. Creativity: Computing is a creative activity.
2. Abstraction: Abstraction reduces information and detail to facilitate focus on relevant concepts.
3. Data: Data and information facilitate the creation of knowledge.
4. Algorithms: Algorithms are used to develop and express solutions to computational problems.
6. Internet: The Internet pervades modern computing.
7. Impact: Computing has global impacts.

Course Objectives
By the end of the term, each student should meet the following objectives. We’ll talk about objectives and the use of them in class. This particular set of objectives for CS Principles comes from the National Science Foundation (NSF) and the College Board, the folks who bring us Advanced Placement (AP) exams.

**READINGS** (other than the text)

- Abstraction
- Artificial Intelligence notes
- Robbie the Killer Robot
- B2B Appendix -- Internet Performance Task Instructions

**GRADING POLICY**

Your grade will be determined by a combination of written exams, Minor Assignments, Major Assignments, class participation and quizzes. The breakdown of the grading weights is:

- Participation, quizzes, and in-class essays 20%
- Minor Assignments and Labs 30%
- Explore Performance Task (Major Assignment) 10%
- Midterm Exam 20%
- Final Exam 20%

**SPOT**

The Student Perception of Teaching (SPOT) survey is a requirement for all organized undergraduate classes at UNT. This short survey will be made available to you at the end of the semester, providing you a chance to comment on how this class is taught. I am very interested in the feedback I get from students, as I work to continually improve my teaching. I consider SPOT to be an important part of your participation in this class.

**ADA**

UNT complies with all federal and state laws and regulations regarding discrimination, including the Americans with Disability Act of 1990 (ADA). If you have a disability and need a reasonable accommodation for equal access to education or services please contact the Office of Disability Accommodation.

**Collaboration and Cheating**

As stated in class, I insist upon collaboration among students (and even faculty?) in class and labs, as it is my belief that it provides a better learning environment. Bear in mind that you’ll be asked to work in pairs in the lab, but NOT on the Explore Performance task. We’ll discuss this “pair programming” paradigm more in both class and lab.

For some Minor assignments however, your will required to do your own work. I know that leaves a lot to interpretation, but we’ll be discussing acceptable cooperation in class. In the final analysis though, if you’re not sure what level of cooperation is expected/allowed, ask Dr. Sweany or one of the TAs.
And, of course, you need to do your own work on exams as well. Here there should be no ambiguity. In case the above description, and in-class discussion of my views on appropriate and inappropriate collaboration do not answer all of your questions, please look at the university Student Rights and Responsibilities page.

**Semester Schedule**

The table below provides vital information you need to stay current in the course. Column 1 indicates the week, columns 2 and 3 state the topics for that week’s two lectures, column 4 tells you the topics for the weekly lab, column 5 lists course outcomes that you should meet by the end of the week, and column 6 lists homework, projects, and essays due during the week.
<table>
<thead>
<tr>
<th>Week</th>
<th>Monday Topics</th>
<th>Friday Topics</th>
<th>Lab</th>
<th>Reading</th>
<th>HW, projects, essays due</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 8/29</td>
<td>Course Intro</td>
<td>Course Intro, REEF</td>
<td>Introduction to SNAP</td>
<td></td>
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<tr>
<td>2 9/5</td>
<td>Abstraction</td>
<td>Animation, loops, sprites conditionals</td>
<td>Intro to Abstraction</td>
<td>Monday is Labor Day – if your lab is on Monday, try to find another lab time that you can attend this week.</td>
<td></td>
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<tr>
<td>3 9/12</td>
<td>SNAP, Build your own blocks</td>
<td>Computer Impact, Input, random, list intro</td>
<td>BtB, preface</td>
<td>Minor 1: Personal photo, info</td>
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<tr>
<td>4 9/19</td>
<td>Impact</td>
<td>Algorithms</td>
<td>Lists</td>
<td>BtB, chapter 1</td>
<td></td>
</tr>
<tr>
<td>5 9/26</td>
<td>Robotics, Natural Language Processing</td>
<td>Algorithms</td>
<td>growth of functions</td>
<td>BtB, chapter 2</td>
<td></td>
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<tr>
<td>6 10/3</td>
<td>Recursion</td>
<td>Evaluate algorithm “speed”</td>
<td>BtB, chapter 3</td>
<td>Minor 2: Program a “game”</td>
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<tr>
<td>7 10/10</td>
<td>Recursion</td>
<td>Recursion</td>
<td>BtB, chapter 4</td>
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<tr>
<td>8 10/17</td>
<td>Programming Paradigms</td>
<td>Midterm Exam</td>
<td>No Lab</td>
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<tr>
<td>Week</td>
<td>Date</td>
<td>Topic</td>
<td>Subtopic</td>
<td>Resource</td>
<td>Assignment</td>
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<td>9</td>
<td>10/24</td>
<td>Impact</td>
<td>Recursive Reporters</td>
<td>BtB, chapter 7</td>
<td>Minor 3: Write an Essay</td>
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<tr>
<td>10</td>
<td>10/31</td>
<td>Big Data</td>
<td>Big Data</td>
<td>BtB, chapter 6</td>
<td>Minor 4: Write an essay</td>
</tr>
<tr>
<td>11</td>
<td>11/7</td>
<td>Artificial Intelligence</td>
<td>Map Reduce</td>
<td>AI Notes</td>
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<tr>
<td>12</td>
<td>11/14</td>
<td>Robotics</td>
<td>Robots in literature, video, health care</td>
<td>Evaluate Performance Task</td>
<td>Minor 5: Write an essay</td>
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<tr>
<td>13</td>
<td>11/21</td>
<td>Internet Intro</td>
<td>Thanksgiving</td>
<td>BtB Chapter 5</td>
<td>Pork Out !</td>
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<tr>
<td>14</td>
<td>11/28</td>
<td>Internet</td>
<td>Internet</td>
<td>BtB appendix</td>
<td>Minor 6: Write an essay</td>
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<td>15</td>
<td>12/5</td>
<td>Simulation</td>
<td>none</td>
<td>BtB, chapter 8</td>
<td>Evaluate Performance Task</td>
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<tr>
<td>16</td>
<td>12/12</td>
<td>Final Exam</td>
<td>none</td>
<td>none</td>
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