**Computer Science 111: Concepts of Computer Science**

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**Objectives:** This course has three major sections called "Units": 1) how computers work, 2) how programs work, and 3) how to write simple programs.

- Unit 1 includes: how computers store and process data in binary and how computing hardware works. Unit 1 also has a section on how science works.
- Unit 2 includes: how programming languages work, basic algorithms, and common data structures.
- Unit 3 is an introduction to very basic programming using the programming language Python.

**Class Websites:** The course uses 3 different websites:

1. Blackboard (bb.siue.edu) is where everything starts. It has the syllabus, announcements,weekly schedule, etc. Most class activities will also be done here.
2. Textbook: Computer Science Illuminated, by Nell Dale and John Lewis. This online textbook is where you will complete Unit 1 and Unit 2. The textbook can be accessed using links on the Blackboard website.
3. Python chapters: Automate the Boring Stuff with Python, Second Edition by Al Sweigart. This website is where you will complete Unit 3. You can find the link for it on Blackboard.

**What we will do in this course:**

**Unit 1:**

Part 1: is chapters 1 and 2 of the online textbook.

Part 2 is chapters 3 and 4.

**Unit 2:**

Part 1 is chapters 5 and 6 of the online textbook.

Part 2 is chapters 7 and 8.

**Unit 3:**

Part 1 is the Intro and chapters 1 and 2 of the Python website.

Part 2 is chapters 3 and 4.

Each unit has its own page on the Blackboard website listing all the things you need to do in that unit.

Each chapter has a reading quiz and an activity.

Each unit has an exam.

For each unit, do these things:

1. Read the assigned chapters and complete the chapter reading quizzes.
2. Complete the scheduled activities in each part of each unit.
3. Take the exam for that unit.

Once you have completed all three Units, you're done!

**Assignment Chart Grading Scale:**

| Assignment | Number | Points Each | Total |
|---|---|---|---|
| Chapter Reading Quizzes | 12 | 15 | 180 |
| Unit Exams | 3 | 50 | 150 |
| Activities | 14 | 15 | 210 |
| Points for Course: | | | 540 |

| Grade Scale | |
|---|---|
| Points | Grade |
| 540-486 | A |
| 485-432 | B |
| 431-378 | C |
| 377-324 | D |
| 323 or less | F |

**Chapter Reading Quizzes:** For Units 1 and 2, these are taken on the textbook website. For Unit 3, these are taken on Blackboard in the Unit 3 page. Each quiz is 15 questions long.

**Activities:** One or two are assigned for each chapter. They are posted on Blackboard and are done there.

**Unit Exams:** Are taken on the Saturday of each week. They are 50 points each and take 1 hour.

**Schedule:**

| Week | Deadline Date | Readings | Topics | Tasks |
|---|---|---|---|---|
| 1 | 17-Dec | What is Science? PowerPoint | Science | Chapter 1 Reading Quiz<br>Chapter 2 Reading Quiz |
| | | Great Unsung Women of Computing | CS History | Activity 1<br>Activity 2<br>Activity 3 |
| | | Textbook Chapters 1, 2 | Binary Values, Number Systems | |
| 1 | 19-Dec | Textbook: | Gates & Circuits | Chapter 3 Reading Quiz<br>Chapter 4 Reading Quiz |
| | | Chapters 3, 4 | Computing Components | Activity 4<br>Activity 5<br>Activity 6 |
| 1 | 20-Dec | Unit 1 Exam | | |
| 2 | 23-Dec | Textbook: | Low-Level Programming Languages | Chapter 5 Reading Quiz<br>Chapter 6 Reading Quiz |
| | | Chapters 5, 6 | Algorithms: Sorting & Searching | Activity 7<br>Activity 8 |
| 2 | 26-Dec | Textbook: | Data Structures | Chapter 7 Reading Quiz<br>Chapter 8 Reading Quiz |
| | | Chapters 7, 8 | High- Level Languages | Activity 9<br>Activity 10 |
| 2 | 27-Dec | Unit 2 Exam | | |
| 3 | 30-Dec | Python site: Introduction | Installation of Python<br>Python Basics | Python Ch 1 Quiz<br>Python Ch 2 Quiz |
| | | Chapter 1, 2 | Flow Control | Activity 11<br>Activity 12 |
| 3 | 2-Jan | Python site: | Functions | Python Ch 3 Quiz<br>Python Ch 4 Quiz |
| | | Chapters 3, 4 | Lists | Activity 13<br>Activity 14 |
| 3 | 3-Jan | Unit 3 Exam | | |

**Condensed Schedule:**

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| 14-Dec | 15-Dec | 16-Dec | 17-Dec | 18-Dec | 19-Dec | 20-Dec |
| | Class Starts | | Unit 1: Chapters 1 and 2 | | Unit 1: Chapters 3 and 4 | Unit 1 Exam |
| 21-Dec | 22-Dec | 23-Dec | 24-Dec | 25-Dec | 26-Dec | 27-Dec |
| | | Unit 2: Chapters 5 and 6 | | Christmas Day | Unit 2: Chapters 7 and 8 | Unit 2 Exam |
| 28-Dec | 29-Dec | 30-Dec | 31-Dec | 1-Jan | 2-Jan | 3-Jan |
| | | Unit 3: Chapters 1 and 2 | | New Year's Day | Unit 3: Chapters 3 and 4 | Unit 3 Exam |

**Deadlines:** Every quiz and activity has a deadline, when the deadline passes, the assignment will not be available. Exams taken late will have a 10pt per day penalty applied.

**Missing Deadlines:**

a. **On accident:** Chapter Reading Quizzes and Activities cannot be made up. If you miss a Unit Exam, you can take it late for a 10-point penalty per day, including weekend days.
b. **Because you have to:** If you know you are going to miss a deadline for some serious reason, notify me via email as soon as you are able. I will respond to these notifications on a case-by-case basis.

**Academic Honesty:** Any occurrence of plagiarism in this course will, as per university guidelines, be grounds for academic discipline and a final grade of F for the course.

**Grade Disputes**: Once a grade has been posted on Blackboard, students have one week (7 days) to contest the grade if they feel there has been an error. After that, no grade disputes will be allowed. This policy applies to all graded work.

**Services for Students Needing Accommodations:**
**ACCESS:** For students that need extra time on exams or other assistance.