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# TENNESSEE TECH UNIVERSITY

## COMPUTER SCIENCE

### CSC 1200-001 PRINCIPLES OF COMPUTING

MW, 5:00PM – 6:20PM, BRUNER 406, 3 CREDIT HOURS, SPRING 2018

#### INSTRUCTOR INFORMATION

**Instructor's Name:** William (Bill) Eberle  
**Telephone Number:** 931-372-3278  
**Email:** weberle@tntech.edu  
**Office:** Bruner 413  
**Office hours:** Monday 1:30-3:00 and Tuesday 9:00-10:30, or by appointment

**Teaching Assistant:** Amarjit Datta  
**Office:** Prescott 414A (CEROC Student Room)  
**Office Hours:** MWF 2:00-4:00

#### COURSE INFORMATION

##### PREREQUISITES

ACT Math Score of 25 or higher OR Math 1710, Math 1720, Math 1730, or Math 1910

##### COURSE DESCRIPTION

This course introduces the field of computer science. Topics include computing as a creative activity, abstraction, data and information, algorithms, programming, the Internet, and the global impacts of computing. Prerequisite math course may be taken concurrently.

##### COURSE OBJECTIVES/STUDENT LEARNING OUTCOMES

At the end of this course, each student will be able to

1. Understand and discuss critical issues in the use of computational skills to solve problems both in computing and other domains, including the use of digital intelligence
2. Understand the different sub-domains of Computer Science
3. Write simple programs to solve data oriented problems
4. Understand the careers that are relevant to the computing industry

##### MAJOR TEACHING METHODS

Lecture, labs, demonstrations, discussion, reading, written assignments and programming assignments.

## SPECIAL INSTRUCTIONAL PLATFORM/MATERIALS

Laptops – It is expected that you will bring a laptop computer to each course session. We will have a number of exercises and activities that will require you access online resources.

### TOPICS TO BE COVERED:

- Computational Thinking and Digital Intelligence; Creativity
- Binary Numbers and Computers
- Elementary programming with Python, including
  - Variables
  - Control flow
  - Functions
  - Abstraction
- Sub-domains of Computer Science including:
  - Cybersecurity
  - Data Science
  - Distributed, Parallel, and High Performance Computing
  - Software Engineering
- Careers in Computer Science

### TEXTS AND REFERENCES:

Downey, A. (2012). *Think Python* (2.0.17). Green Tea Press. Retrieved from <http://greenteapress.com/wp/think-python/>

Mithas, S., & McFarlan, F. W. (2017). What Is Digital Intelligence? *IT Professional*, 19(4), 3–6. <https://doi.org/10.1109/MITP.2017.3051329>

Wing, J. M. (2006). Computational Thinking. *Communications of the ACM*, 49(3), 33–35. <https://doi.org/10.1145/1118178.1118215>

**References (if applicable):** Some material will be provided from other sources.

### TECHNOLOGY IN CLASSROOM COMMUNICATION

**iLearn:** [www.elearn.tntech.edu](http://www.elearn.tntech.edu)

iLearn will be used for posting lecture associated materials and exercises. You will also use iLearn to submit assignments.

### GRADING AND EVALUATION PROCEDURES:

#### GRADING SCALE

| Letter Grade | Grade Range |
|--------------|-------------|
| A            | 90-100      |
| B            | 80-89       |
| C            | 70-79       |
| D            | 60-69       |
| F            | < 59        |

NOTE: If you have an issue with a grade on ANY individual assignment, you must see me within three days of the grade being released to the class.

#### GRADE DISTRIBUTION

|                       |     |
|-----------------------|-----|
| Homework:             | 30% |
| Programming Projects: | 30% |
| Exams:                | 40% |

## COURSE POLICIES

### UNIVERSITY PLAGIARISM POLICY

When you use (for example, quote or even summarize or paraphrase) someone else's media, words, data, ideas, or other works, you must cite your source. You should be especially careful to avoid plagiarizing Internet sources (for example, e-mail, chat rooms, Web sites, or discussion groups). It does not matter whether you borrow material from print sources, from the Internet, from on-line data bases, or from interviews. Failure to cite your source is plagiarism. Students who plagiarize may receive an "F" or a "0" for the assignment, or an "F" for the course. View the University Plagiarism Policy under Academic Regulations at <http://www.tntech.edu/ttstudenthandbook/academic-regulations/>

### HONESTY

Copying assignments or allowing your assignments to be copied by others constitutes cheating and as such will not be tolerated. Faking your program so that it produces the sample output without implementing the underlying process is also cheating. The penalty for cheating in this course is the automatic grade of an F for your assignment. If you are caught a second time, you will automatically fail the course.

### ATTENDANCE POLICY:

Attendance is required. More than three unexcused absences will result in lowering of 1 letter grade.

### DISABILITY ACCOMMODATION

Students with a disability requiring accommodations should contact the Office of Disability Services (ODS). An Accommodation Request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The ODS is located in the Roaden University Center, Room 112; phone 372-6119. Disability Accommodation Policy and Procedures - Tennessee Tech University Faculty Handbook and Student Handbook (<http://www.tntech.edu/facultyhandbook/disabilityaccom/>)

### NOTE:

The instructor reserves the right to modify this syllabus as needed and to accommodate the needs of the course.