CENTRAL TEXAS COLLEGE
COSC 1301
INTRODUCTION TO COMPUTING

Semester Hours Credit: 3

INSTRUCTOR: _____

OFFICE HOURS: _____

I. INTRODUCTION

A. Overview of computer systems—hardware, operating systems, the Internet, and application software including word processing, spreadsheets, presentation graphics, and databases. Current topics such as the effect of computers on society, and the history and use of computers in business, educational, and other interdisciplinary settings are also studied. This course is not intended to count toward a student's major field of study in business or computer science.

B. This course serves as a required or elective course on various degree plans. Curriculum plans for degrees and certificates are listed in the current Central Texas College catalog.

C. The delivery method of this course may be traditional lecture/lab, blended lecture/lab, or online.

D. Prerequisites: None.

II. LEARNING OUTCOMES

Upon successful completion of this course, Introduction to Computing, students will be able to:

A. Describe the fundamentals of computing infrastructure components: hardware, application software, operating systems, and data communications systems (C5, C6, C8, C15, C19, C20).
B. Delineate and discuss societal issues related to computing, including the guiding principles of professional and ethical behavior (C1, C5, C6, C8, C19, C20, F1, F3, F8, F9, F12).
C. Demonstrate the ability to create and use documents, spreadsheets, presentations and databases in order to communicate and store information as well as to support problem solving (C3, C5, C6, C8, C15, C17, C18, C19, C20, F8, F9, F12).
D. Describe the need and ways to maintain security in a computing environment (C5, C6, C8, C11, C15, C18, C19, F1, F8, F9).

E. Explain how networks work; implement a basic home network (C1, C5, C6, C8, C19, C20, F1, F3, F8, F9, F12).

F. Describe basic concepts/structures of computer programming, demonstrate an understanding of programming strategies and design an algorithm (C1, C5, C6, C8, C19, C20, F1, F3, F8, F9, F12).

III. INSTRUCTIONAL MATERIALS

A. The instructional materials identified for this course are viewable through www.ctcd.edu/books

B. Lecture Classes also require at least one USB storage device. Online students may use cloud based storage.

IV. COURSE REQUIREMENTS

A. Attend both lecture and lab or in the case of online delivery, be actively engaged in Blackboard and maintain constant progress.

B. Be prepared to participate in discussion, team projects/assignments and take unannounced assessments relating to the lecture materials.

C. Complete all exams/assessments.

D. Submit all assignments on time.

V. ASSESSMENTS

A. Student content mastery will be evaluated in the following areas:

- **Assignments (homework and discussions)**
- **Assessments (module projects and final reflective discussion)**

B. Scheduled and unscheduled assessments will be given at the discretion of the instructor.

C. Exams/assessments may be composed of both subjective and objective questions plus computer output.

D. A student must take all exams/assessments. No make-up exams/assessments will be given. Both online and on campus students who know in advance that they will be absent due to school sponsored trips, military duty or orders, or any other valid reason, must arrange to take an early exam/assessment. Unexpected absences due

to illness or other extenuating circumstances will require the student to see the instructor about make-up work in lieu of the missed exam/assessment.

E. Students with unexcused absences will be given a zero for each missed assignment.

VI. SEMESTER GRADE COMPUTATION

Points	Grade
900-1000	A-Superior
800-899	B-Above Average
700-799	C-Average
600-699	D – Passing but Unsatisfactory
0-599	F-Failure

VII. NOTES AND ADDITIONAL INSTRUCTIONS FROM THE INSTRUCTOR

A. Information on the following Academic Policies, as described in the CTC Course Catalog will be followed:

1. **Withdrawals**
2. **Grading**
3. **Class Attendance and Course Progress**
4. **Scholastic Honesty**

B. Cell Phones and Pagers: Students will silence cell phones and mobile devices while in the classroom or lab.

C. Americans with Disabilities Act (ADA): Disability Support Services provide services to students who have appropriate documentation of a disability. Students requiring accommodations for class are responsible for contacting the Office of Disability Support Services (DSS) located on the central campus. This service is available to all students, regardless of location. Review the website at www.ctcd.edu/disability-support for further information. Reasonable accommodations will be given in accordance with the federal and state laws through the DSS office.

D. Instructor Discretion: The instructor reserves the right of final decision in course requirements and may make changes to the course outline and/or assignments as needed.

E. Civility: Individuals are expected to be aware of what a constructive educational experience is and be respectful of those participating in a learning environment. Failure to do so can result in disciplinary action up to and including expulsion.

VIII. COURSE OUTLINE

A. <u>Module 1</u>: This module will introduce course requirements and objectives; lab orientation; and an overview of computing infrastructure components: hardware, application software, operating systems, and data communications systems. This module will help you understand how computers work and how to use them. You will learn about how to set up a computer, the difference between hardware and software, and the types of computers you can use. You will also explore operating systems, applications, the cloud, and much more.

1. <u>Learning Outcomes</u>: Upon successful completion of this module the student will be able to:

- **a. Understand course requirements and objectives as defined in the syllabus and reviewed by the instructor**
- **b. Utilize hardware and software required for this course**
- **c. Explain the parts of an information system: people, procedures, software, hardware, data, and the Internet.**
- **d. Distinguish between system software and application software.**
- **e. Differentiate between the three kinds of system software programs.**
- **f. Define and compare general-purpose, specialized, and mobile applications.**
- **g. Identify the four types of computers and the five types of personal computers.**
- **h. Describe the different types of computer hardware, including the system unit, input, output, storage, and communication devices.**
- **i. Explain the basics of computer connectivity, the Internet, cloud computing, and IoT.**
- **j. Describe cloud computing, including the three-way interaction of clients, Internet, and service providers.**
- **k. Discuss the Internet of Things (IoT) and the continuing development of the Internet to allow everyday objects to send and receive data.**
- **l. Describe the differences between system software and application software.**
- **m. Compare and identify various operating systems.**
- **n. Explain the purpose of utilities and utility suites.**

2. <u>Learning Activities</u>:

- **a. Discuss syllabus**
- **b. Conduct Lab demonstration**
- **c. Instructor will conduct classroom lecture/discussion on the topics listed above. (C5, F5, F11)**
- **d. Student will read assignments on each topic. (C5, F1, F11)**
- **e. Student participation in discussion of each topic. (C7, F6)**
- **f. Student will complete assignments and laboratory hands-on exercises as designated from the course materials. (C8, C19, F9)**

B. Module 2: This Module will help you understand ethics in the digital world and societal issues related to computing. You will learn about the impact of computers on society and the various computer careers available in the here and now. You will also explore the need and the implementation of information security, and a much more.

1. Learning Outcomes: Upon successful completion of this module the student will be able to:
- **a. Identify the most significant concerns for effective implementation of computer technology.**
- **b. Discuss the primary privacy issues of accuracy, property, and access.**
- **c. Discuss computer ethics including copyright law, software piracy, digital rights management, the Digital Millennium Copyright Act, as well as plagiarism and ways to identify plagiarism.**
- **d. Detail ways to protect computer and implement digital security.**
- **e. Evaluate the accuracy of information presented on the web.**
- **f. Identify and evaluate potential security risks and ethical issues in computing.**

2. Learning Activities:
- **a. Instructor will conduct classroom lecture/discussion on the topics listed above. (C5, F5, F11)**
- **b. Student will read assignments on each topic. (C5, F1, F11)**
- **c. Student participation in discussion of each topic. (C7, F6)**
- **d. Student will complete assignments and laboratory hands-on exercises as designated from the course materials. (C8, C19, F9)**

C. Module 3: This Module will teach you how to use common applications such as email, web browsers, word processing, and presentation software. You will learn how to create and format documents, spreadsheets, presentations, and databases. You will also explore the uses of these common applications to store information, support problem solving, and prepare professional reports.

1. Learning Outcomes: Upon successful completion of this module the student will be able to:
- **a. Identify most common applications.**
- **b. Describe word processors, spreadsheets, presentation programs, and database management systems.**
- **c. Use common email features and apply proper email etiquette and safety.**
- **d. Describe search tools, including search engines and specialized search engines.**
- **e. Use a web browser and a search engine to properly research a topic.**
- **f. Identify the components of a URL.**
- **g. Create professional documents and reports based on a given scenario.**

h. **Demonstrate proficiency in the use of cloud storage options.**

2. **<u>Learning Activities</u>:**
   a. **Instructor will conduct classroom lecture/discussion on the topics listed above. (C5, F5, F11)**
   b. **Student will read assignments on each topic. (C5, F1, F11)**
   c. **Student participation in discussion of each topic. (C7, F6)**
   d. **Student will complete assignments and laboratory hands-on exercises as designated from the course materials. (C8, C19, F9)**

D. <u>Module 4</u>: This Module will help you understand how networks operate. You will learn about the hardware and software needed to operate a network, the varying types of networks and how information is sent in a network. You will also explore how to set-up a basic home network.

1. **<u>Learning Outcomes</u>: Upon successful completion of this module the student will be able to:**
   a. **Explain how networks work.**
   b. **Define networks and basic network terminology.**
   c. **Demonstrate an understanding of how networks transmit information.**
   d. **List the layers of the TCP/IP protocol.**
   e. **Implement a basic home network.**

2. **<u>Learning Activities</u>:**
   a. **Instructor will conduct classroom lecture/discussion on the topics listed above. (C5, F5, F11)**
   b. **Student will read assignments on each topic. (C5, F1, F11)**
   c. **Student participation in discussion of each topic. (C7, F6)**
   d. **Student will complete assignments and laboratory hands-on exercises as designated from the course materials. (C8, C19, F9)**

E. <u>Module 5</u>: This module will help you understand what computer programming is and what the basic concepts/structures of computer programming are. You will gain a basic understanding of programming strategies and you will also explore designing an algorithm.

1. **<u>Learning Outcomes</u>: Upon successful completion of this module the student will be able to:**
   a. **Define computer programming.**
   b. **Explain the common concepts and structures of computer programming.**
   c. **Understand and implement programming strategies.**
   d. **Create an algorithm using both flowcharts and pseudocode.**

2. **<u>Learning Activities</u>:**

a. **Instructor will conduct classroom lecture/discussion on the topics listed above. (C5, F5, F11)**
b. **Student will read assignments on each topic. (C5, F1, F11)**
c. **Student participation in discussion of each topic. (C7, F6)**
d. **Student will complete assignments and laboratory hands-on exercises as designated from the course materials. (C8, C19, F9)**