

Center for Communication Technology Magnet

Course Description and Expectations

Business Computer Applications

Instructor: Mr. Fornstrom

Credit: 5 credit hours each semester **Prerequisite:** Intro to CCTM

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INSTRUCTOR BIO

I have taught in the TJ CCT Magnet program for 20 years. I graduated from the University of Wyoming with a B.A. in Business Administration and from Texas A&M with a M.S. in Management Information Systems. Prior to teaching I worked as an accountant and a computer consultant for businesses.

COURSE DESCRIPTION

This course introduces students to computer science as a vehicle for problem solving, communication, and personal expression. The goal is to empower students to create authentic artifacts and engage with computer science as a medium for creativity, communication, problem solving, and fun.

CLASS RULES AND PROCEDURES

All Thomas Jefferson school rules are followed. Please refer to the CCT Magnet class rules for details of the behavior and procedures followed in class. Students should also complete the on-line **CCT Magnet Equipment Policy**: https://docs.google.com/forms/d/e/1FAIpQLScRtXp9_wiBkZrISaT8TtHmV0prouylmKtbWcu2EEMNp-ffgg/viewform

Remote Learning Expectations: see the expectations in Week 1 Schoology folder or on Fornstrom's website.

MAKE-UP and LATE WORK

Excused Absence: The student will be allowed one day for each day absent, plus one extra day to make up work and tests missed.

Unexcused Absence: The student receives a grade of **0** for any work missed as a result of an unexcused absence.

Late Work: I realize there will be times when unforeseen circumstances (particularly with computers) make it difficult for work to be completed on time. If the student attended class but was unprepared with their assignment, they can turn the work in the next day for a maximum of 50% credit. No credit will be given for work turned in more than 1 day late. Please plan for the unexpected when completing assignments so that there is ample time to complete all work on time.

LAB & OFFICE HOURS

When we return to in-person learning, the computer lab is open every day from 7am to 3pm for student project work. Mr. Fornstrom is available in the lab from 7am to 3pm. Please contact him to schedule an appointment or additional lab time.

GRADING

Grades are based upon assignments, programs, quizzes, tests and participation points. There will also be several group projects. Each team member will earn both an individual grade and a group grade on each group project.

PARTICIPATION POINTS

In order to become proficient with computers, students need to **work and practice** with computers. To encourage this, 3 participation points are available each class day for being here, on-time, and on task. If a student has an excused absence they may come in and make-up the computer work to receive the day's participation points. Points lost for unexcused tardies or absences may not be made up. Points lost for inappropriate computer use (such as playing games or surfing the web during class time) may not be made up.

GRADING SCALE

90-100% = A

80-89% = B

70-79% = C

60-69% = D

Below 60% = F

COURSE CONTENT

Course content will include, but is not limited to:

Unit 1: Problem Solving and Computing

Students learn the problem-solving process, the input-output-store-process model of a computer, and how computers help humans solve problems. Students end the unit by proposing their own app to solve a problem.

Unit 2: Web Development

Students learn to create websites using HTML and CSS inside Code.org's Web Lab environment. Throughout the unit, students consider questions of privacy and ownership on the internet as they develop their own personal websites.

Unit 3: Animations and Games

Students learn fundamental programming constructs and practices in the JavaScript programming language while developing animations and games in Code.org's Game Lab environment. Students end the unit by designing their own animations and games.

Unit 4: The Design Process

Students apply the problem solving process to the problems of others, learning to empathize with the needs of a user and design solutions to address those needs. During the second half of the unit, students form teams to prototype an app of their own design, first on paper and eventually in Code.org's App Lab environment.

Unit 5: Data and Society

Students explore different systems used to represent information in a computer and the challenges and tradeoffs posed by using them. In the second half of the unit, students learn how collections of data are used to solve problems and how computers help to automate the steps of this process.

Unit 6: Physical Computing

Students use Code.org's App Lab environment, in conjunction the the Adafruit Circuit Playground, to explore the relationship between hardware and software. Throughout the unit, students develop prototypes that mirror existing innovative computing platforms, before ultimately designing and prototyping one of their own.