

Coding I / Coding Principles

Tulahoma High School

School Year 2018 - 2019

Instructor Information

Instructor: Angela Pendergraff
Class Location: MTSU Hall: Room 510
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Course Identification

Course Numbers: 6098
Course Name: Coding I
Course Location: MTSU Hall: Room 510
Class Times: 1st Block - 8:15 to 9:50 (MOOC Personal Finance)
2nd Block – 9:57 to 11:27 (planning)
3rd Block – 11:34 to 1:43 (Personal Finance)
4th Block – 1:50 to 3:15 (Coding Principles aka Coding I & Coding II)

Course Description/Overview

Coding I is a course intended to teach students the basics of computer programming. The course places emphasis on practicing standard programming techniques and learning the logic tools and methods typically used by programmers to create simple computer applications. Upon completion of this course, proficient students will be able to solve problems by planning multistep procedures; write, analyze, review, and revise programs, converting detailed information from workflow charts and diagrams into coded instructions in a computer language; and will be able to troubleshoot/debug programs and software applications to correct malfunctions and ensure the proper execution.

Course Resources

School Website

- www.tullahomahighschool.net

Required Course Text

- no textbook used
- online sources, note taking, discussion, journaling, and research

Course Fees

- no fee

Course Supplies

- Three-ring notebook (for class notes and handouts)
- Pencil, pen, paper – DAILY

Dirty Duty

- We all share space and germs in the learning environment. I believe that everyone's learning is enhanced in a cleaner atmosphere; therefore a clean classroom is a must. A dirty classroom makes it hard to concentrate on schoolwork. Therefore, everyone must choose one (1) of the following:
 - 15 to 20 minute 'clean the classroom – dust, wipe down tables, chairs, etc, OR
 - Bring in a cleaning supply such as:
 - Bring in one (1) roll of paper towels
 - Bring in two (2) boxes of Kleenex
 - Bring in one (1) roll of Lysol or Clorox wipes
 - Bring in one (1) bottle of spray cleaners (example: Mean Green, Windex, Lysol, etc)
 - Bring in one (1) bottle of hand sanitizer

Grading Scheme

Grading System

Grades will be based on THS grading scale as follows:

A	93 – 100
B	85 – 92
C	75 – 84
D	70 – 74
F	69 and below

Grading Policy

Student grades will be evaluated on the following:

- | | |
|------------------------------|-----|
| • Daily Grades/Homework | 20% |
| • Vocab/ACT Prep/Spelling | 10% |
| • Management/Professionalism | 5% |
| • Quizzes | 30% |
| • Test/Projects | 35% |

Daily Grades:

Class assignments and homework

Quizzes/Tests/Projects:

Chapter quizzes and tests, Pop quizzes, Unit tests, Mock Interview (counts as three test grades)

Vocab/Spelling/ACT Prep :

Weekly spelling tests, bell ringer activities, vocab assignments, and exit tickets..

Professionalism:

Randomly given grade on conduct, preparedness, professional attitude, assignment completion and punctuality – simply following instructions and doing what you're suppose to do

Late Assignments

- Obtaining makeup work is a responsibility characteristic. Therefore, it is your responsibility to find out what you missed – THE DAY YOU RETURN – NOT THREE DAYS LATER....
- Students will have a specified period of time to complete missing assignments.
- Any uncompleted assignments will result in a grade of ZERO.

Course Policies

Student Expectations / Take Ownership

- Have some sort of organization
 - Know where your things are
- Work in teams – period!!
- Participate
 - You get out what you put in
- Write legible
 - If handwriting cannot be read – it is incorrect
- Be on time
 - Tardies will be logged and disciplinary action taken
- Be prepared
 - Bring supplies to class daily – no excuses
 - Groom at home; not school
- Respect Others (for teacher and classmates)
 - Be courteous of others when they are speaking. This includes teacher, guests, and other students
 - Touch only your belongings – not your neighbors, not the teachers
- Respect the Environment
 - Keep workstations clean and neat
 - Return papers to appropriate trays
 - Keep food/drink out of the lab
 - Leave with what you brought to class
- Cheating
 - Any form of cheating will result in a 0% on the assignment.
- Behavior
 - You know how to behave!

Cell Phones

- Cell phones will be left at the door upon entry and logged daily
- Cell Phone Violations are as follows:
 - 1st offense: Parent/Guardian must pick up next day & sign notice
 - 2nd offense: Phone is confiscated for 1 week & Parent/Guardian must pick up & sign notice
 - 3rd offense: Phone is confiscated and may be kept for a period up to the remainder of the school year and will be picked up by Parent/Guardian on or after the last day of school

Arrival to Class

- Class begins promptly each day – be in assigned seat
- Consequences for tardies are as follows:
 - 1st tardy – warning
 - 2nd tardy – warning and parent/guardian phone call
 - 3rd tardy – detention and parent/guardian phone call
 - 4th tardy – detention and parent/guardian phone call
 - 5th tardy – administrative referral with parent/guardian phone call
 - 6th tardy and beyond – administrative referral

Hall Pass – First fifteen/Last fifteen – Don't Ask!!

- Leaving class will be done on a very *limited* basis.
- You must ask permission and have a SPECIALLY DESIGNED hall pass with you.
- When leaving the classroom, do so quietly, without disturbing anyone else.
- Please understand that not all requests may be approved, even if you have a valid reason

Assignments

- It is essential to your academic success to complete all assignments.
- All graded work must be kept neatly in a binder. DO NOT THROW ANYTHING AWAY!
- Every assignment must be turned in with your name and the date in the upper right corner of the page (unless otherwise specified)
- Every assignment must be placed in the appropriately marked basket in the back of the room.
- An assignment turned in without a name will have an automatic *10-point deduction*.
- All assignments are to be made up within *three days of absence*. If you fail to turn in assignments within three days, a zero will be given.
 - It is *your responsibility* to find out the missed assignment(s). Missing work will NOT be brought to you.

Cheating

- Zero Tolerance. WHEN caught, an automatic zero!
- Cheating includes copying, pasting, using other people's work or working in pairs when group work has not been designated

End of Class

- Close all programs and log out.
- You must remain seated until the bell rings. I dismiss class – not the Bell!!
- When leaving make sure your desk and workstation is straightened and chair is push under. Mouse and mouse pad need to be placed neatly on computer and all trash should be placed in the trashcan.
- Take all your belongings with you. Anything that is left will be tossed in the trashcan – and textbooks will be sent back to their teachers.

FBLA

- FBLA: Future Business Leaders of America is a business organization for meeting new people and aspiring leaders. Join to learn and compete at the local, regional, and state levels. Dues are \$15.00.

Dates to Remember

Yearbook Delivery

- August 10th

School Pictures

- September 13th & 14th

No School Days

- September 3rd
- January 4th
- January 21st
- February 18th

Early Dismissal Days

- August 29th, September 26th, November 14th, January 30th, March 6th, April 24th, and May 15th

Parent Conferences

- August 30th, November 15th, January 31st, and February 7th

Exam Dates

- Fall Final Exams: ~~December~~ 20th (1st and 3rd) – dismissal at 1:15
- Fall Final Exams: ~~December~~ 21st (2nd and 4th) – dismissal at 1:15
- Senior Final Exams: May 13th (1st and 3rd block) – dismissal at 3:15
- Senior Final Exams: May 14th (2nd and 4th block) – dismissal at 3:15
- Spring Final Exams: May 22nd (4th from 1:15 to 3:15) – dismissal at 3:15
- Spring Final Exams: May 23rd (1st and 3rd block) – dismissal at 1:15
- Spring Final Exams: May 24th (2nd from 8:15 to 10:15) – dismissal at 10:15

Fall Break & Spring Break

- October 4th – 12th
- March 21st – 29th

Thanksgiving Break

- November 19th – 23rd

Christmas Break

- December 21st – January 4th

Course Competencies

Coding I Competency Profiles Course #6098

Computer Programming Overview

Standard 1.: Using news articles and instructional materials, investigate key milestones in the development of computers and logical devices. Create and present a document and/or illustration depicting the timeline of development that led to modern-day operating systems, programmable controllers, and widespread digital communications via the Internet and wireless networks, citing specific textual evidence.

Standard 2: Compare and contrast the benefits, features, and typical applications of common modern programming languages and environments. Craft an argument to defend the choice of a certain language to solve a particular problem, developing claim(s) and counterclaim(s) with specific textual evidence and reasoning.

Ethics

Standard 3: Using news articles and text of legislation, analyze ethical programming practices, including but not limited to the issues of confidentiality, privacy, piracy, fraud and misuse, liability, copyright, open source software, trade secrets, and sabotage. For example, research and report on the effects of unethical programming practices on a business.

Programming Skills

Standard 4: Differentiate between system-level and application solutions, and identify an appropriate code-based strategy to solve a given problem. For example, given a file management problem, determine when a command-line script will be more efficient than a high-level program solution.

Standard 5: Apply the system management tools present in a programming development environment to:

- a. Select the most appropriate programming language for the task at hand.
- b. Develop syntactically correct program code using current best practices and emerging classes of development techniques
- c. Use a compiler to interpret the source code and produce executable program code

Standard 6: In the process of developing and implementing programming solution, develop solutions, develop strategies that work within the constraints of major operating system fundamentals, such as:

- a. Security protocols and procedures for accessing files and folders
- b. File management syntax requirements, including but not limited to creating, naming, organizing, copying, moving, and deleting files
- c. File naming conventions, as they apply across multiple software applications and file types

Standard 7: Write pseudocode and construct a flowchart for a process before starting to develop the program code. For example, code and flowchart a simple process that takes an integer and report whether it is odd or even.

Standard 8: Organize and develop a plan to acquire and manage the data values for a process, including the following:

- a. Data types, such as string, numeric, character, integer, and date
- b. Program variable names
- c. Variables and constants

- d. Arrays (at least one- and two- dimensional), subscripts
- e. Input from files and user responses
- f. Output to files and reports

Standard 9: Using a programming language specified by the instructor, convert the pseudocode for a selected process to program code, incorporating at least three of the following structures, the need for which will be dictated by the assigned problem(s) and process(es). The resulting code design can be event-driven, object-oriented, or procedural.

- a. Operations and functions (user-defined and/or library)
- b. Repetition (loops)
- c. Decision (if...else, case)
- d. Recursion

Standard 10: Verify the correct operation of the resulting program code with several test cases:

- a. All valid values
- b. Error trapping of invalid values
- c. Error trapping of invalid program operation
- d. Troubleshooting/remedying program problems

Project Planning and Quality Assurance

Standard 11: Compile the necessary documentation to understand the nature of a computer programming problem and the customer/client specifications for the request and summarize in an informational text. This will include evidence of the scope of the problem, its attendant input and output information, the required system processing and the software specifications involved.

Standard 12: Analyze a given problem and develop a coherent strategy in the form of a project plan to meet the customer/client's need. The plan will include, but will not be limited to, defining the project scope as addressed by the problem documentation, identifying software development and implementation issues, timeline and benchmarks for design, and addressing issues associated with software maintenance and life cycle.

Standard 13: In the software development process, articulate the nature of the program designs by creating documentation that addresses topics including but not limited to:

- a. The procedural, object-oriented, event-driven, or other nature of the various portions of the resulting application
- b. The data structures used for inputs, outputs, and internal manipulations
- c. The algorithms and guiding formulas used
- d. Constraints on accurate operation and results
- e. Modular designs that enable portability
- f. Interface details that permit ready maintenance and upkeep

Standard 14: Apply principles of quality assurance during application development to certify bug tracking, audit trails, testing results, and other quality considerations. Annotate each quality assurance task with evidence from best practices endorsed by industry or research.

Standard 15: Documents the security risks associated with new applications and evaluate the severity of the risk involved in each, including but not limited to:

- a. Identifying threats to information systems facilities, data communications systems, and other applications
- b. Adhering to federal and state legislation pertaining to computer crime, fraud, and abuse
- c. Providing means for preserving confidentiality and encryption of sensitive data
- d. Detailing steps to recover from routine errors or catastrophic failures, such as might be caused by a malicious computer virus

Professionalism Project

Parents

I am delighted to have your son/daughter in my class this year. This is to inform you that Personal Finance and Web Design Essential students will be assigned a leadership project this semester. This project goes along with the standards required for this course (attached and listed below). I have given this assignment to them today and hope that they will begin working on this project as soon as possible. Please take the time to sit down with your son/daughter and review the activities and options available along with the possible points. The project for the first nine weeks will be due **Thursday, September 27, 2018**. The second nine weeks project will be due **Thursday, March 14, 2019**. **Both projects will count as a project/test grade**. If there is any objection to this project, a student can do an alternate assignment, which will be to write two comprehensive research reports to be due at the same time the leadership projects are due. Copies of the requirements for the alternate assignment will be given upon request.

The purpose of the Leadership Project is to do the following:

- Get students to think about their goals for their future
- Get students to think about their strengths and find ways to overcome their weaknesses
- Get students involved in community service projects and helping charitable organizations
- Improve on students' writing skills
- Get students involved in school activities
- Improve on reading and researching skills
- Teach students the importance of responsibility, organization skills, and time management
- Get students to participate in FBLA and/or other leadership activities

The competency standards that this leadership project fulfills are:

Standard 14.0 for Web Design Essentials – Demonstrate human relations, communication, organizational, time management, and professional leadership skill.

- 14.1 Demonstrate self-initiative through group projects
- 14.2 Examine the value of leadership skills
- 14.3 Illustrate image building and public relations techniques
- 14.4 Assess decision-making skills
- 14.5 Demonstrate effective teamwork and critical analysis applying conflict resolution techniques
- 14.6 Examine the value of leadership skills and confidence through personal reflection
- 14.8 Analyze the goals and apply the principles of Future Business Leaders of America

Standard 5.0 for Personal Finance – Apply employability skills as an integral part of the personal finance curriculum

- 5.1 Participate in co-curricular student organization activities that enhance personal finance skills

Standard 1.0 for Graphic Design – Develop and apply concepts related to human relations, safety, career development, communication, and leadership skills for a global workplace.

- 1.4 Apply the critical thinking and soft skills needed to function in students multiple roles as citizens, consumers, workers, managers, business owners, and directors of their own futures

- Analyze and follow policies for managing legal and ethical issues in organizations and in a technology-based society

Please sign the attached form on your choice of the two options. If you have any questions, you can e-mail me at angela.pendergraff@tcsedu.net. I look forward to working with your student and expect to have a great semester.

Sincerely

Angela Pendergraff-Patterson
Business/Technology Teacher

Alternate Assignment to Leadership Project To Replace the Leadership Project

- € Personal Finance
- € Coding Foundations

Students who decide not to do the Leadership Project will have two research papers to do during the 18 week semester. The two projects will have the same due date as the Leadership Project given to the class. Each of the papers will consist of doing research. Students must have at least three sources where information has been obtained and must cite them correctly.

Assignment: Students will write a seven page (body of information – approximately 2000 words) paper. Additionally, the paper must have a cover page, table of contents page, and works cited page according to the MLA format. They must use correct grammar, spelling, and formatting.

Topics are:

1. **Career of Interest to You**
2. **Using Technology to Enhance Learning**

Signature Form

Please read through this syllabus. It pertains to what your child will be doing in my class. I would like to have the ability to work with you to help my students and your children to learn what they need to know as upcoming adults. Please feel free to contact me at any time. The school number is (931) 454-2620 and my e-mail address is angela.pendergraff@tcsedu.net.

Parent Signature:

Parent Home Phone:

Parent Cell Phone:

Parent E-Mail:

Parents, please initial that you have read through the following, understanding course policies, procedures, rules, and objectives:

_____ class syllabus
_____ course competencies

Student Signature:

Students, please initial that you have read through the following, understanding course policies, procedures, rules, and objectives:

_____ class syllabus
_____ course competencies