

Coding II

Tullahoma 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: 6099
Course Name: Coding II
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 II challenges students to develop advanced skills in problem analysis, construction of algorithms, and computer implementation of algorithms as they work on programming projects of increased complexity. In so doing, they develop key skills of discernment and judgment, as they must choose from among many languages, development environments, and strategies for the program life cycle. Course content is reinforced through numerous short- and long-term programming projects, accomplished both individually and in small groups. These projects are meant to hone the discipline and logical thinking skills necessary to craft error-free syntax for the writing and testing of programs. Upon completion of this course, proficient students will demonstrate an understanding of object-oriented programming language using high-level languages such as FOCUS, Python, or SAS.

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

Coding II Competency Profiles Course #6099

Software Development Environments

Standard 1.0: Evaluate at least two software development environment (SDEs) that are tailored to different programming languages on the basis of their suitability for a range of programming tasks, ease of use, and how ubiquitous they are within the IT community. Document in an oral presentation the similarities and differences between the two, and the features that lend themselves to the chosen programming languages. For example, students assigned to code a basic database interface can compare the benefits and features of a freeware SDE such as *JDeveloper* and a commercial SDE like *Microsoft Visual Studio*.

Standard 2.0: Investigate the typical process around creating new software within a software development environment. Describe and furnish examples of the steps taken within the SDE to guarantee reliable output, from prototyping and authoring to deployment and debugging.

Standard 3.0: Administer the process of creating new software within a software development environment to manage the prototyping, authoring, revising, compiling, testing, deploying, and debugging of student-developed software. For example, for an object-oriented payroll program assignment (retrieving file data to produce a run of paychecks and paystubs for a small business), perform and document the steps taken within the SDE to ensure the reliable and accurate output of paychecks.

Software Development Life Cycle

Standard 4.0: Synthesize information from a range of sources (including original tests and simulations) to critique the features of different software development life cycle (agile, iterative, and sequential types). Using domain-specific terminology, explain to a technical audience the distinguishing features of each that make one more appropriate for certain types of applications.

Standard 5.0: For a selected assignment or project involving the development of original software, choose and defend a strategy to follow for the program's development life cycle. At the completion of the assignment, offer recommendations for other environments and alternative strategies that could improve the development process.

Standard 6.0: Research common and best-practice techniques in programming analysis, design, and implementation. Drawing on model practices used by businesses and industry, employ analysis, design, and implementation techniques to satisfy a programming need, using an appropriate software lifecycle model.

Standard 7.0: Employ a requirement management tool during a program's development life cycle, documenting the evolving versions, storage attributes, system elements, status tracking, and access permissions afforded by the tool, as well as the successful attainment of the project vision.

Designing Computer Applications

Standard 8.0: For a given programming assignment, choose and defend a programming language with regard to the language's capabilities and suitability to task, availability portability, maintainability and cost.

Standard 9.0: For the assignment outlined in standard 8, identify the method of data processing most appropriate for the task (e.g., batch, interactive, or event-driven). For example, a weekly payroll application would handle its data differently (i.e., batch processing) than a web-based search engine (i.e.,

interactive processing), and still differently than a microprocessor control program for a washing machine (i.e., event driven).

Standard 10.0: Define the specifications of the data management plan, including variables (naming, scope, and types), validation measures (to protect the data from corruption), and data handling (storing, input/output, and back-up). For example, programs handling historical temperature data would be best suited to floating point values stored in multidimensional arrays, written to permanent storage, and displayed with limited precision.

Standard 11.0: For a selected programming assignment involving an object-oriented language, design and define the classes, objects, properties, methods, and inheritance structures prior to the start of the development cycle. Revise the plan (modifications, additions, and subtractions) as needed throughout the development cycle.

Coding Computer Applications

Standard 12.0: For selected programming assignments, create, edit, and improve documentation for technical support intended for fellow programmers, including within the program code itself as well as within supplemental documents. For example, for a lawn sprinkler system microcontroller, the technical documentation would define the variables, functions and subroutines, and the critical events.

Standard 13.0: For selected programming assignments, create, edit, and improve end-user documentation. End-user documentation would include how to interact with the user interface, the capabilities and limitations of the system, and the required conditions for successful operation.

Standard 14.0: Incorporate structured, object-oriented, and event-driven programming techniques that employ sequence, selection, and/or repetition (loops) to solve programming projects.

Standard 15.0: For each programming task, consider and defend the choice of various programming approaches (such as data-driven or event-driven, top-down or bottom-up), citing examples from the syntax illustrating the chosen approach.

Standard 16.0: Design and develop an app for a mobile computing device, using an online programming interface, such as AppMakr, BuzzTouch, Appsbar, PhoneGap, or AppYet.

Software Testing Procedures & Quality Assurance

Standard 17.0: During the development, testing, and deployment of a new program, implement checks for data and procedure accuracy, correctness, currency, and relevance, making and documenting revisions where justified.

Standard 18.0: Analyze the code written by another programmer to create a flowchart, suggesting points of confusion or generality in the program that could become problematic in future revision. Cite specific examples in the code to support recommendations.

Standard 19.0: Conduct quality testing of program code, striving for satisfactory results at four levels or perspectives:

- a. Unit (component/module level verifications)
- b. Integration (verify the interfaces between components, adding one at a time)
- c. System (verifying that the whole package meets the requirements and specifications without corrupting other systems)
- d. Acceptance (customer satisfaction)

Project Management

Standard 20.0: Design, manage, and develop a course-long programming project pre-approved by the instructor. The project will embody a variety of strategies and resources taught in this course, and require periodic reviews, status reports, and final project presentation. Use a software development environment to manage, document, test, deploy, and maintain the resources and assets of the finished project.

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