James Clemens High School

11306 County Line Road
Madison, AL 35756

Phone: 256-216-5313

Extension: 95222
Email: kgbrown@madisoncity.k12.al.us

Course Syllabus
Object-Oriented Programming I Fall 2025
Instructor: Kayla Brown

Dear Parent/Guardian,

Welcome to Object-Oriented Programming I!

My name is Kayla Brown and I will be your student's teacher this semester. I am looking forward to having a great year! I feel fortunate to have your son/daughter in my class this semester and hope that you will contact me should you have any concerns about the progress of your son/daughter or any aspect of the instruction. With your son/daughter, please read the attached policies, then sign and date this signature page and have them return this form. Please provide a current email address and phone number at which I can contact you should the need arise. Please turn in this page of the syllabus by Friday, August 8th.

Thank you,

Kayla Grantham Brown

My child and I have read and discussed the classroom syllabus.

Student Name (Print) _____ Date _____

Student Signature _____ Date _____

Parent/Guardian Name (Print) _____ Date _____

Parent/Guardian Signature _____ Date _____

Email Address(es) _____

Phone number(s) _____   _____   _____
                        Cell   Home   Work

Please provide any important infromation below:

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Course Description: Object-Oriented Programming I is designed to provide students with a conceptual understanding of OOP, a programming paradigm that relies on the concept of classes and objects. It is used to structure a software program into simple, reusable pieces of code blueprints (usually called classes), which are used to create individual instances of objects. It emphasizes the fundamentals of computer programming. Topics include technical knowledge, programming foundations, program documentation, program design and development, compilation and debugging, and practical experience in programming, using modern, object-oriented languages. This course extends the standards of the *Alabama Course of Study: Digital Literacy and Computer Science.*

Pre-Requisites:
Programming Foundations

Credentialing (subject to change):
N/A

Grading and Assessment: Test grades will account for 70% of the 9-weeks grade, with the remaining 30% being determined by quiz/daily grades. The grading scale is as follows: A (90-100%), B (80-89), C (70-79), D (65-69), and F (below 65). Grades will be a reflection of mastery of the standards. Make sure all absences are excused as class work can be made up and graded for excused absences only. The final exam counts for 20% of the final grade.

Not all assignments will be graded, but students must complete all work. Students will take notes via guided notes, graphic organizers, and other methods in this course. If a student is absent, their missed printed materials will be located in their class folder. Students are responsible for checking this folder. My office hours will be every Tuesday and Thursday during the first half of refuel.

Late Work: Per JCHS Policy, all late work is to be made up within 3 days of excused absence(s). It is the student's responsibility to see what they have missed and to turn in by the third day. If they do not turn in the work within 3 days then it will become a zero. If you missed a test or quiz, you must communicate this with me ahead of time. Typically, all make-up tests/quizzes will be held during refuel on Wednesday or Friday. If there is a conflict, it is the student's responsibility to schedule another time together to make-up the test or quiz.

TSA (Technology Student Association) CTS Integration: Technology Student Association is a National Career Technical organization where students can use knowledge gained from computer science courses. JCHS's TSA team competes at Alabama TSA convention every year and students from this course can choose to register and attend.

Embedded Numeracy and Literacy Assignments: Opportunities for numeracy and literacy in the CTE class are critical and help support the goals of CTE in preparing students for college and/or career. Example anchor activities for mathematics include performing various engineering-related calculations; analyzing data collected from surveys when conducting research. Some examples but not limited to include interviewing an engineer or other professional, investigating various STEM/Computer Engineering-related fields and describing their responsibilities and the requirements to be successful in the field, writing a design brief or other technical report.

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Accommodations: Requests for accommodations for this course or any school event are welcomed from students and parents.

Turnitin Notice: The majority of writing assignments in this course will be submitted to Turnitin via the Schoology learning platform. The primary focus of this software is to help students become better writers and scholars. Turnitin generates a report on the originality of student writing by comparing it with a database of periodicals, books, online content, student papers, and other published work. This program will help students discern when they are using sources fairly, citing properly, and paraphrasing effectively - skills essential to all academic work.

Students will have the opportunity to review their Turnitin originality report and will have the opportunity to make revisions before submitting their work for grading. Once their work is submitted, teachers have the opportunity to view the student's originality report and grade accordingly.

Supplies:

3 Ring Binder	Pencils
Loose Leaf Paper	Calculator (Optional)

Procedures & Rules:
Rules and Procedures will be discussed on the first day of class, but the main rules are as follows.
1. BE RESPONSIBLE FOR YOUR OWN LEARNING.
2. BE ON TIME and BE PREPARED.
3. ALWAYS TREAT OTHERS WITH RESPECT. WE DO NOT MAKE OFFENSIVE JOKES IN CLASS.
4. DO NOT THROW THINGS ACROSS THE ROOM.
5. DO NOT SPEAK OVER ME WHEN I AM TEACHING.
6. DO NOT LEAVE MATERIALS OR YOUR THINGS ON MY TABLES WHEN YOU LEAVE.
7. CHECK BACK OF THE ROOM BOARD FOR WEEKLY ASSIGNMENTS/QUIZZES/TESTS.
8. ONE PERSON OUT OF THE CLASSROOM FOR BATHROOM AT A TIME.

Technology in the Classroom:
- WE WILL USE ASSIGNED LAPTOP EVERY DAY. THESE LAPTOPS MUST STAY IN MRS. BROWN'S ROOM

Under the FOCUS Act, effective July 1, 2025, the use, operation or possession of Wireless Communications Devices (including but not limited to cellular telephones, tablet computers, laptop computers, pagers, gaming devices, smart watches, and earphones or headphones) in school buildings during the Instructional Day is prohibited. Please refer to the Madison City Schools Code of Student Conduct and Madison City Schools policy manual concerning wireless communication devices.

Computer/Internet Appropriate Use Policies: Student laptops should not be hard-wired to the network or have print capabilities. 2. Use of discs, flash drives, jump drives, or other USB devices will not be allowed on Madison City computers. 3. Neither the teacher, nor the school is responsible for broken, stolen, or lost laptops. 4. Laptops and other electronic devices will be used at the individual discretion of the teacher.

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Instructional Delivery Plan

18 - WEEK PLAN*	
WEEK 1	**Unit 1 Basic C++ Syntax, Variables, Data Types, cin/cout, etc**
WEEK 2	**Unit 1 Basic C++ Syntax, Variables, Data Types, cin/cout, etc**
WEEK 3	**Unit 2 Compound, Comparison, & Special Assignment Operators, Boolean, If/Else, Switch, Loops (While, For, Do-While)**
WEEK 4	**Unit 2 Continued & Unit 3 Nested Loops**
WEEK 5	**Unit 3 Nested Loops**
WEEK 6	**Unit 4 Functions (Void, Return Value, & Recursive Functions)**
WEEK 7	**Unit 4 Functions (Overloaded Functions), Pass by Reference vs Pass by Value**
WEEK 8	**Unit 5 Arrays (1D Arrays)**
WEEK 9	**Unit 5 Arrays (2D Arrays)**
WEEK 10	**Unit 5 Continued & Unit 6 OOP, Strings, Classes**
WEEK 11	**Unit 6 OOP, Strings, Classes**
WEEK 12	**Unit 7 Vectors**
WEEK 13	**Unit 7 Vectors & Unit 8 Inheritance**
WEEK 14	**Unit 8 Inheritance**
WEEK 15	**Unit 8 Inheritance & Polymorphism**
WEEK 16	**Unit 9/10 Links, Stacks, Queues, & Overloaded Operators & Pointers**
WEEK 17	**Continued Unit 9/10 & Final Project**
WEEK 18	**Overall Semester Review**

* This syllabus serves as a guide for both the teacher and student; however, during the term it may become necessary to make additions, deletions or substitutions.

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Course Goals/ Objectives

Foundational Standards
• Foundations in programming
• Introduction to safety procedures in handling, operating, and maintaining tools and machinery; handling materials; utilizing personal protective equipment; maintaining a safe work area; and handling hazardous materials and forces.
• Demonstrate effective workplace and employability skills, including communication, awareness of diversity, positive work ethic, problem-solving, time management, and teamwork.
• Explore the range of careers available in the field and investigate educational requirements, and demonstrate job-seeking skills including resume-writing and interviewing.
•Advocate and practice safe, legal, responsible, and ethical use of information and technology tools pacific to the industry pathway
• Increase knowledge and skills to enhance leadership and teamwork (CTSO)
• Use technology to collaborate with peers and/or experts to create digital artifacts that can be published online for a target audience
• Formulate new ideas, solve problems, or create products through the design and engineering process by utilizing testing, prototypes, and user feedback.

Object-Oriented Programming Foundations
• Describe the use of a main method in an application.
• Perform basic input and output using standard input and output streams.
• Evaluate the scope of a variable and declare a variable within a block, class, or method.

Technical Knowledge
• Describe the differences between structured programming and object-oriented programming (OOP).

Compilation and Debugging
• Troubleshoot syntax errors, logic errors, and runtime errors.
• Utilize debugging tools to suspend program execution and to examine, step through, and reset execution of code.
• Utilize common error recovery strategies to detect errors and write a strategy to implement and handle the error.

Professional Skills
• Team collaboration
• Project management
• Problem-solving
• Communication skills
• Presentation skills
• Technical writing

Object-Oriented Language-Specific Basics
• Define the inputs and outputs of a computer program.
• Declare and use primitive data type variables
• Identify precision loss in primitive data types.
• Explain how primitives differ from wrapper object types.
• Outline and explain the logical steps necessary for the development of a computer program.
• Create a basic algorithm using plain language (pseudocode).
• Use flowcharts to represent logic graphically.
• Explain the basic functions of the integrated development environment (IDE)

Object-Oriented Language-Specific Syntax
• Describe the functions of different objects and their purposes in a program.
• Describe the function and purpose of a computer program event procedure.
• Write property assignment statements in computer code.
• Utilize comments in the program code to document the logic and enhance the readability of the code.
• List and explain computer program operator types and the precedence (order of operation) of program operators.
• Differentiate between commands and statements in computer programming.
• Write valid declaration statements using an approach to global static scope with appropriate data types, including constants, variables, and logical reasoning.

Practical Programming
• Construct a program that will perform calculations on a set of given data.
• Generate random numbers through the use of built-in functions in a program.
• Utilize accumulators and counters in a program.
• Identify and utilize various looping and iteration structures that control the flow of a program.
• Utilize built-in properties and functions to manipulate classes and structures within a program.
• Describe the purpose and function of a class.
• Construct and evaluate class definitions.
• Describe the purposes and functions of general sub procedures in a program.
• Explain the uses of parameters and arguments and how they control the flow of a program.
• Create a program using one or more classes and/or functions.
• Create a program using a general sub procedure passing arguments to another sub procedure.
• Construct and evaluate code that uses branching statements.
• Construct and evaluate code that uses loops.
• Declare, Implement, and access methods.