Webpage QR Code:

Fundamentals of Computer Science

1 Credit (Highschool)
2025 – 2026 School Year
Forbes Middle School, RM B129

Mr. B, GISD Career Technology Education
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Tutoring Times (Come by during these times for help with the course): SOAR, 4th Period, Before and After School Tutorials (By appointment)

TEKS Course Description

Career and technical education instruction provides content aligned with challenging academic standards, industry-relevant technical knowledge, and college and career readiness skills for students to further their education and succeed in current and emerging professions.

Full Course Description

Fundamentals of Computer Science is intended as a first course for those students just beginning the study of computer science. Students will learn about the computing tools that are used every day. Students will foster their creativity and innovation through opportunities to design, implement, and present solutions to real-world problems. Students will collaborate and use computer science concepts to access, analyze, and evaluate information needed to solve problems. Students will learn computational thinking, problem-solving, and reasoning skills that are the foundation of computer science. By using computer science knowledge and skills that support the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create solutions, and evaluate the results. Students will learn digital citizenship by researching current laws, regulations, and best practices and by practicing integrity and respect. Students will gain an understanding of the principles of computer science through the study of technology operations and concepts.

Course Learning Outcomes

After successful completion of this course, you will be able to:

1. Identify various employment opportunities in the computer science field.
2. Develop products and generate new knowledge, understanding, and skills.
3. Communicate and collaborate with peers to contribute to your own learning and the learning of others.
4. Use appropriate strategies to analyze problems and design algorithms.
5. Explore and understand safety, legal, cultural, and societal issues relating to the use of technology and information.
6. Understand technology concepts, systems, and operations as they apply to computer science.

Instructional Methods

This course will use a variety of instructional methods, including lectures, group projects, and oral presentations, supported by discussion and hands-on work. Most lessons will begin with direct instruction, then shift to either class discussion, live coding, or independent programming practice. We'll also incorporate group live-coding sessions to model problem solving, alongside opportunities for students to code independently and apply new skills.

Students are expected to maintain a notebook for daily warm-ups, exit tickets, and notes. In my experience, students who take organized notes tend to perform better in complex subjects like computer science.

We will use Python for most of the year, with some introduction to HTML, CSS, and JavaScript. Programming will be done in Visual Studio Code, and we'll use GitHub for version control and submitting assignments. Your coding progress will be assessed through weekly STEM Challenges, group programming activities, quizzes, tests, and a culminating project.

Course Communication and Feedback

All grades and assignments will be posted in Google Classroom and Skyward. The best way to reach me is by stopping by before or after school. I generally respond to emails within 24 hours and return feedback on assignments within 72 hours.

You're welcome to post course-related questions in the comments section of any Google Classroom assignment. I'll reply there as soon as I can. If you're struggling with anything in the course, please email me so we can talk about how to get you back on track.

Class announcements will be made both in person and in Google Classroom. Major projects and milestone deadlines will always be posted in Google Classroom and on my page on the Forbes Middle School website.

Required & Recommended Materials

Required:

- **Notebook or composition book** for warm-ups, exit tickets, and daily notes (provided in class)
- **Pencils or pens**
- **Google Classroom access** (students should check this daily for assignments and announcements)
- **Assigned desktop computer** will be provided during class

Recommended:

- **Personal mouse** (optional, for students who prefer it over the standard school mouse)
- **Folder or binder** if you want to organize printed handouts or rubrics

Assignments and Assessments

1. General Assignment Information

This course uses a mix of daily practice, weekly challenges, quizzes, and major assessments to help students build and demonstrate their computer science skills. Grades follow the district grading policy and are divided as follows:

- Major Assessments – 70%
- Homework and Practice – 30%

2. Daily Journals

Students are expected to write in their journals every class period. Journals include warm-ups, exit tickets, coding notes, and self-reflection. Journals are checked every Friday for completeness and effort.

3. Homework Assignments

Assigned every Monday, Wednesday, and Friday. These are short tasks designed to reinforce recent concepts and prepare students for upcoming assessments or challenges.

4. Quizzes

There are three quizzes grades taken during each grading period. These quizzes cover recent material or skills and are weighted as **half the value of a major grade**.

5. Tests

There are **two major tests** per grading period. Each test covers cumulative knowledge and coding ability, aligned with course TEKS. Most tests include:

- 10–15 multiple choice questions
- 3–5 code writing or free-response problems
- 2–5 short answer questions

6. Project

Each grading period includes a major project grade. These assignments take several weeks and synthesize course skills. During the **Third Nine Weeks**, this will be the **Nine Weeks Project**, completed in small groups. That project will span the entire grading period and focus on collaboration, planning, and execution of a shared goal.

Grading Policy

Grades in this class are based on your demonstration of mastery of skills and concepts throughout the course. In alignment with GISD's grading policy, your grade will be calculated using the following breakdown:

- **Major Assessments – 70% of your grade**
  Includes tests, projects, and quizzes (quizzes count as half the value of a major grade)
- **Homework and Practice – 30% of your grade**
  Includes daily journals, homework assignments, and weekly coding challenges

1. **Grading Scale**
   - **90–100** = A
   - **80–89** = B
   - **70–79** = C
   - **Below 70** = F (failing)

2. **Late Work Policy**
   - **-10 points** for one day late
   - **-20 points** for two days late
   - **-30 points** for three days late
   - **0** if not submitted by the fourth day

These penalties apply only to work that is turned in late while the student is present. Absences are handled under the GISD makeup work policy.

3. **Retake/Redo Policy**

Students who fail a major test (score below 70) are allowed one opportunity to retake it for a maximum grade of **70**. To be eligible for a retest:

- You must request the retest within **5 school days** of receiving your grade
- You may be required to attend a tutorial session first
- Retakes are not available for projects or semester exams

Attendance Policy

Being present and engaged in class is one of the most important parts of your success. Every time you're here and participating, you're building skills and helping our class run smoothly.

1. **Attendance Expectations**
   - Be here, on time, and ready to learn.
   - If you are absent for an excused reason (like illness, family emergency, school event, or religious holiday), you may make up your work without a grade penalty.
   - It's your responsibility to check Google Classroom and talk to me about what you missed.

Planned Absences (school trips, family events, etc.):

- Tell me ahead of time (the earlier the better).
- We'll work together on a plan for making up assignments.

Unplanned Absences (sick, emergency, etc.):

- Let the front office or a parent/guardian contact the school.
- Check Google Classroom and talk to me the day you return so we can set deadlines for your makeup work.

2. **Warm-Ups, Exit Tickets, and Journals**
    - **Every day starts with a** warm-up **and ends with an** exit ticket**.**
    - You are expected to record both in your **journal**.
    - Journals are graded **every Friday** for completeness and effort.
    - Missing warm-ups or exit tickets because of being late, leaving early, or being absent without making them up will lower your weekly journal grade.

3. **Fairness & Consistency**
   Everyone will be held to the same expectations. If you need accommodations due to health, learning needs, or other circumstances, we will follow GISD policies and work together to find solutions.

4. **Questions or Concerns**
   If you feel your attendance is incorrect, talk to me so we can review it together.

Academic Integrity Statement

As a partner in your learning, it is important to both of us that any assignment submission is a pure reflection of your work and understanding. Suspicions of alleged violations of Cheating – defined as "unauthorized assistance in connection with any academic work" and/or Falsification, which includes "Misrepresenting or misleading others with respect to academic work or misrepresenting facts for an academic advantage" – will be referred to the Principal Vogler.

You are expected to practice the highest possible standards of academic integrity. Any deviation from this expectation will result in a minimum academic penalty of your failing the assignment and will result in additional disciplinary measures. This includes improper citation of sources, using another student's work, and any other form of academic misrepresentation.

Plagiarism

Using the words or ideas of another as if they were your own is a serious form of academic dishonesty. If another person's complete sentence, syntax, key words, or specific or unique ideas and information are used, you must give that person credit through proper citation.

Generative Artificial Intelligence (GenAI) Policy

No use of generative AI tools permitted

All assignments should be fully prepared by the student. Developing strong competencies in the skills associated with this course, from student-based brainstorming to project development, will prepare you for success in your future academic pursuits and, ultimately, a competitive career. Therefore, the use of generative AI tools to complete any aspect of assignments for this course is not permitted and will be treated as plagiarism. If you have questions about what constitutes a violation of this statement, please contact me.

Expectations for Classroom Behavior

Professionalism is always expected. Because our classroom is a space designed for the free exchange of ideas, we must show respect for one another in all interactions. We will show respect for one another by exhibiting patience and courtesy in our exchanges. Appropriate language and restraint from verbal attacks upon those whose perspectives differ from your own is a minimum requirement. Courtesy and kindness are the norm for those who participate in my class.

Expectations of the Instructor

I am expected to facilitate a supportive and productive learning environment, answer questions appropriately, be fair and objective in grading, provide timely and useful feedback on assignments, maintain adequate office hours, and treat you as I would like to be treated.

Academic Success Statement

Academic success is built on a foundation of proactive habits and skills. Tips for success include:

- Avoiding procrastination
- Engaging thoughtfully in discussions
- Communicating effectively, both in writing and verbally
- Becoming self-motivated, disciplined, and committed to learning
- Developing strong critical thinking and decision-making skills
- Managing time effectively to stay on track
- Developing good help-seeking behaviors to overcome challenges

Guidelines for Success

In this class, success comes from more than just grades — it's about habits, attitude, and effort. We follow these five guiding principles:

1. **Be Curious** – Ask questions and explore new ideas.
2. **Show Kindness & Respect** – Treat others as you would want to be treated.
3. **Take Time to Understand** – Don't rush; work to fully understand new concepts.
4. **Learn from Mistakes** – Mistakes are opportunities to grow — keep trying.
5. **Think & Reflect** – Consider what you've learned and how you can improve.

We will revisit these throughout the year in discussions, activities, and projects.

Classroom Rules

Our rules ensure a safe, productive, and respectful learning environment:

- Follow all instructions the first time they are given.
- No food or gum in the classroom.
- Keep hands, feet, and objects to yourself.
- Ask to leave only when there is no active instruction.
- Use school devices responsibly — no inappropriate media.
- No drinks near computers.
- Log off computers and put away tools when finished.

Attention Signal

When I use an attention signal, all students should:

- Stop talking (Volume Level 0).
- Make eye contact with me.
- Raise your hand only if prompted for questions.
- Listen for next steps or instructions.

You'll hear signals like:

- "Good Morning/Afternoon Everyone, Let's Dive In!"
- "Eyes Up, Ears Open, Voices Off"
- "Hey Class!" / "Hey what?"

Daily Procedures

Entering the Classroom

- Conversation Level 1 (quiet).
- Pick up your journal and check the warm-up on the board.
- Stay in your seat and begin the warm-up.

During Class

- **Direct Instruction** – Volume 0, take notes, ask questions when prompted.
- **Group Work** – Volume 2, stay in assigned area, contribute equally.
- **Independent Work** – Volume 1, work quietly and stay on task.
- **Computer Work** – Volume 1, focus on the assigned task, move only if necessary for group work.

Exiting the Classroom

- Volume Level 0.
- Turn in assignments.
- Complete exit ticket if assigned.
- Wait for dismissal with your space neat and organized.

Rewards & Motivation

- Earn **tokens** for: on-time homework, helping others, modeling positive behavior, and consistent effort.
- Tokens can be exchanged for: small 3D printed prizes, homework extensions, or extra credit.
- Class rewards include: special technology access, guest speakers, or unique projects — available as long as class expectations are met.

Consequences

Consequences are consistent, fair, and intended to help you get back on track:

1. Verbal or nonverbal redirection.
2. Stay after class or loss of token.
3. Lunch detention with me.
4. Parent contact (call or meeting).
5. Official detention or referral, if needed.

Course Schedule

First Nine Weeks –
We will start the year by exploring how computers work and how they fit into our daily lives. You'll learn the basics of computer systems, networks, and how technology impacts the world around us. We'll also discuss careers in computing, how to stay safe online, and how to use technology responsibly. Along the way, you'll gain practical skills with operating systems, file management, and finding reliable information online.

Second Nine Weeks –
This quarter will introduce you to programming with Python. We'll build a foundation in writing code, working with data, making decisions in programs, and organizing code into reusable pieces. You'll have plenty of opportunities to practice coding skills through challenges, small projects, and problem-solving activities.

Third Nine Weeks –
We will take the skills you've learned so far and apply them to larger, more creative projects. This is the quarter for our **Nine Weeks Project**, where you and your team will design and develop a program from start to finish. Along the way, you'll explore algorithms, efficiency, and how to work with real-world data. This is where your coding, planning, and collaboration skills all come together to create something you can be proud of.

Fourth Nine Weeks –
We'll wrap up the year by exploring how to create and share content on the web. You'll learn the basics of web design, including HTML, styling, and adding interactive elements. The quarter will end with a project where you apply your new skills to create a functional, well-designed website.