

Introduction to Computer Science

30-Week Course | 90-Minute Online Class

Course Description

This course introduces students to the foundational concepts of computer science, including how computers work, how software is built, and how technology impacts society. Students will explore programming, data, cybersecurity, web development, and responsible computing.

What Students Will Learn

- Understand how computers process information
- Design and analyze algorithms
- Write basic programs
- Work with databases
- Explore web and cloud technologies
- Examine cybersecurity and ethical issues
- Complete a real-world capstone project

Skills Developed

- Logical reasoning
- Problem solving
- Programming fundamentals
- Digital literacy
- Technical communication
- Responsible technology use

Grading Overview

- Weekly Assignments & Labs
- Major Projects
- Participation
- Final Capstone Project

Major Projects

- Algorithm Design Project
- Systems Understanding Project
- Software & Data Integration Project
- Capstone: Real-World Technology Solution

Technology Requirements

- Reliable internet connection
- Computer capable of running browser-based tools

- Access to coding platform (provided)

Required Books

- [OpenStax: Introduction to Computer Science](#)
- Free. Downloadable PDF

How Parents Can Support

- Encourage consistent weekly attendance
- Ask students about their projects
- Discuss ethical technology use at home
- Provide quiet workspace for coding

Why This Course Matters

Technology impacts nearly every career field. This course helps students understand not just how to use technology — but how it works and how to build it responsibly.

Faith-Based Integration

This course affirms that knowledge, creativity, and technological innovation are gifts that can be used to serve others and honor God. Students will be encouraged to approach computer science not only as a technical discipline, but as an opportunity to demonstrate integrity, stewardship, and excellence.

Throughout the course, students will reflect on how responsible computing aligns with biblical principles such as honesty, wisdom, service, and ethical decision-making. Discussions about cybersecurity, data privacy, artificial intelligence, and digital citizenship will include consideration of moral responsibility and the impact technology has on individuals and communities.

Students will be challenged to use their skills to build solutions that promote justice, compassion, and human flourishing, recognizing that technology should ultimately serve people and reflect Christ-centered character.