Georgia Department of Education

PROGRAMMING AND COMPUTER SCIENCE PATHWAYS

Information Technology Pathways

Information Technology

Web and Digital Design

- Introduction to Digital Technology
- Digital Design
- Web Design

Information Support and Services

- Introduction to Digital Technology
- IT Essentials
- IT Support

Networking

- Introduction to Digital Technology
- Networking Fundamentals
- Networking Systems and Support

Programming

- Introduction to Digital Technology
- Computer Science Principles
- Programming, Games, Apps, and Society

Health Information Technology

- Introduction to Healthcare Science
- Essentials of Health Information Technology
- Applications of Health Information Technology

Computer Science

- Introduction to Digital Technology
- Computer Science Principles
- AP Computer Science (Contact College Board for standards)

Programming Pathway

- Required Courses
  - 11.41500 Introduction to Digital Technology
  - 11.47100 Computer Science Principles
  - 11.47200 Programming, Games, Apps and Society

11.41500 Introduction to Digital Technology

Georgia Department of Education

Information Technology Career Cluster
Introduction to Digital Technology
Course Number 11.41500

Course Description

Introduction to Digital Technology is the foundational course for Web & Digital Communications, Programming, Advanced Programming, Information Support & Services, and Network Systems pathways. This course is designed for high school students to understand, communicate, and adapt to a digital world as it impacts their personal life, society, and the business world. Exposure to foundational knowledge in hardware, software, programming, web design, IT support, and networks are all taught in a computer lab with hands-on activities and project-focused tasks. Students will not only understand the concepts, but apply their knowledge to situations and defend their actions/decisions/choices through the knowledge and skills acquired in this course. Employability skills are integrated into activities, tasks, and projects throughout the course standards to demonstrate the skills required by business and industry. Competencies in the co-curricular student organization, Future Business Leaders of America (FBLA), are integral components of both the employability skills standards and content standards for this course. Various forms of technologies will be highlighted to expose students to the emerging technologies impacting the digital world. Professional communication skills and practices, problem-solving, ethical and legal issues, and the impact of effective presentation skills are taught in this course as a foundational knowledge to prepare students to be college and career ready. The knowledge and skills taught in this course build upon each other to form a comprehensive introduction to digital world.

Introduction to Digital Technology is a course that is appropriate for all high school students. The pre-requisite for this course is advisor approval.

11.47100 Computer Science Principles

Georgia Department of Education

Information Technology Career Cluster
Computer Science Principles
Course Number: 11.47100

Course Description:
How can computing change the world? What is computer science? Engage your creativity, demonstrate and build your problem solving ability all while connecting the relevance of computer science to the society! Computer Science (CS) Principles is an intellectually rich and engaging course that is focused on building a solid understanding and foundation in computer science. This course emphasizes the content, practices, thinking and skills central to the discipline of computer science. Through both its content and pedagogy, this course aims to appeal to a broad audience. The focus of this course will fall into these computational thinking practices: connecting computing, developing computational artifacts, abstracting, analyzing problems and artifacts, communicating, and collaborating.

Various forms of technologies will be used to expose students to resources and application of computer science. Professional communication skills and practices, problem-solving, ethical and legal issues, and the impact of effective presentation skills are enhanced in this course to prepare students to be college and career ready. Employability skills are integrated into activities, tasks, and projects throughout the course standards to demonstrate the skills required by business and industry.

Computer Science Principles is the second course in the pathways Programming and Computer Science in the Information Technology Cluster. Students enrolled in this course should have successfully completed Introduction to Digital Technology.

11.47200 Programming, Games, Apps and Society

Georgia Department of Education

Information Technology Career Cluster
Programming, Games, Apps, and Society
Course Number: 11.47200

Course Description:
Are you ready to design and develop? The course is designed for high school students to strategize, design, and develop games and mobile and desktop applications that can be produced in the real world. Students will learn about life-cycles of project development and use models to develop applications. Attention will be placed on how user interfaces affect the usability and effectiveness of a game or an application. Programming constructs will be employed which will allow students' applications to interact with "real world," stimuli. The course exposes students to privacy, legality, and security considerations with regards to the software industry.

Various forms of technologies will be used to expose students to resources, software, and applications of programming. Professional communication skills and practices, problem-solving, ethical and legal issues, and the impact of effective presentation skills are enhanced in this course to prepare students to be college and career ready. Employability skills are integrated into activities, tasks, and projects throughout the course standards to demonstrate the skills required by business and industry. Competencies in the co-curricular student organization, Future Business Leaders of America (FBLA), are integral components of the employability skills standard for this course.

Programming, Games, Apps and Society is the third course in the Programming pathway in the Information Technology cluster. Students enrolled in this course should have successfully completed Introduction to Digital Technology and Computer Science Principles. After mastery of the standards in this course, students should be prepared to take the end of pathway assessment in this career area.

Computer Science Pathway

- Required Courses
  - 11.41500 Introduction to Digital Technology
  - 11.47100 Computer Science Principles
  - 11.01600 Advanced Placement Computer Science

11.41500 Introduction to Digital Technology

Georgia Department of Education

Information Technology Career Cluster
Introduction to Digital Technology
Course Number 11.41500

Course Description

Introduction to Digital Technology is the foundational course for Web & Digital Communications, Programming, Advanced Programming, Information Support & Services, and Network Systems pathways. This course is designed for high school students to understand, communicate, and adapt to a digital world as it impacts their personal life, society, and the business world. Exposure to foundational knowledge in hardware, software, programming, web design, IT support, and networks are all taught in a computer lab with hands-on activities and project-focused tasks. Students will not only understand the concepts, but apply their knowledge to situations and defend their actions/decisions/choices through the knowledge and skills acquired in this course. Employability skills are integrated into activities, tasks, and projects throughout the course standards to demonstrate the skills required by business and industry. Competencies in the co-curricular student organization, Future Business Leaders of America (FBLA), are integral components of both the employability skills standards and content standards for this course. Various forms of technologies will be highlighted to expose students to the emerging technologies impacting the digital world. Professional communication skills and practices, problem-solving, ethical and legal issues, and the impact of effective presentation skills are taught in this course as a foundational knowledge to prepare students to be college and career ready. The knowledge and skills taught in this course build upon each other to form a comprehensive introduction to digital world.

Introduction to Digital Technology is a course that is appropriate for all high school students. The pre-requisite for this course is advisor approval.

11.47100 Computer Science Principles

Information Technology Career Cluster
Computer Science Principles
Course Number: 11.47100

Course Description:
How can computing change the world? What is computer science? Engage your creativity, demonstrate and build your problem solving ability all while connecting the relevance of computer science to the society! Computer Science (CS) Principles is an intellectually rich and engaging course that is focused on building a solid understanding and foundation in computer science. This course emphasizes the content, practices, thinking and skills central to the discipline of computer science. Through both its content and pedagogy, this course aims to appeal to a broad audience. The focus of this course will fall into these computational thinking practices: connecting computing, developing computational artifacts, abstracting, analyzing problems and artifacts, communicating, and collaborating.

Various forms of technologies will be used to expose students to resources and application of computer science. Professional communication skills and practices, problem-solving, ethical and legal issues, and the impact of effective presentation skills are enhanced in this course to prepare students to be college and career ready. Employability skills are integrated into activities, tasks, and projects throughout the course standards to demonstrate the skills required by business and industry.

Computer Science Principles is the second course in the pathways Programming and Computer Science in the Information Technology Cluster. Students enrolled in this course should have successfully completed Introduction to Digital Technology.
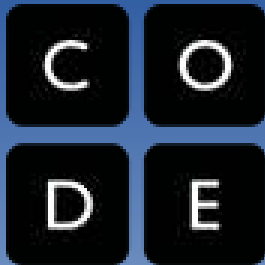
11.01600 AP Computer Science

CS Resources

A few Coding Sites