Frisco Independent
School District

AP Capstone Diploma
AP Computer Science Principles

Introductions

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Advanced Placement (AP)

- The Advanced Placement (AP) program was created by the College Board in 1955 to provide students with college-level work in high school. There are currently 37 Advanced Placement Exams across 22 subjects offered during May of each year. Students may earn college credit for their AP exam scores. By taking AP courses, students can…

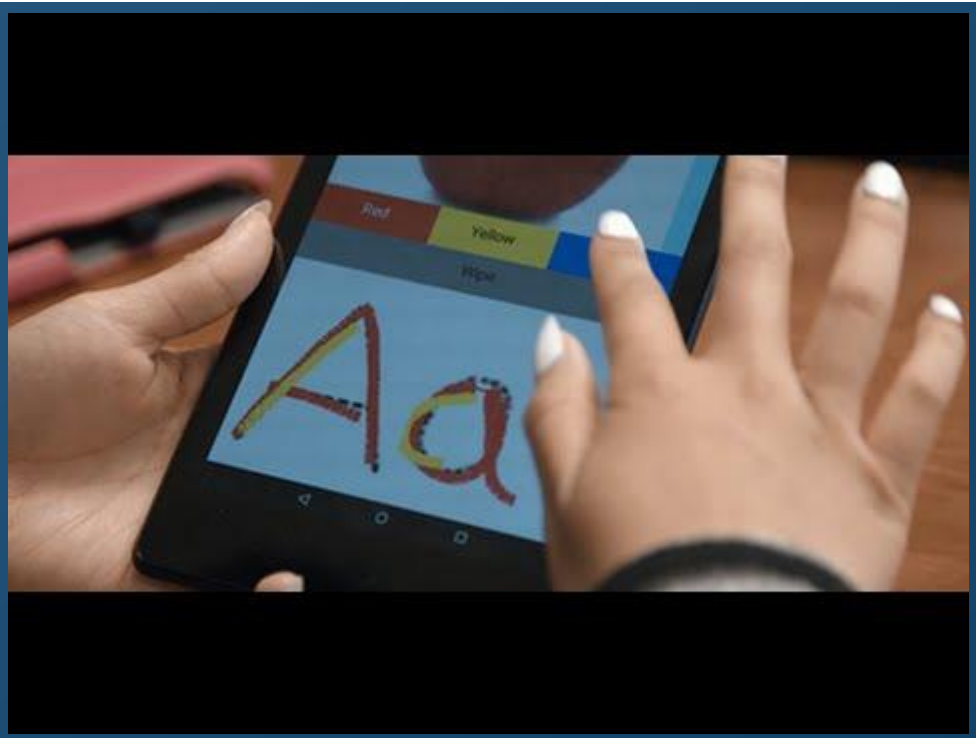
  - Get a head start on college-level work
  - Improve their writing skills and sharpen their problem-solving techniques
  - Develop the study habits necessary for tackling rigorous course work
  - Study subjects in greater depth and detail

AP Computer Science Principles

Introductory college-level computing course where students cultivate their understanding of computer science through working with data, collaborating to solve problems, and developing computer solutions as they explore concepts like creativity, abstraction, data and information, algorithms, programming, the internet, and the global impact of computing

Computer Science Principles is modeled on college versions for non-majors. It lets teachers pick any coding language and has a gentler vibe. There is an exam, but students also submit projects “more similar to a studio art portfolio,” Mr. Packer said. The course covers working with data and understanding the internet and cybersecurity, and it teaches “transferable skills,” he said, like formulating precise questions.

New York Times, Learning to Think Like A Computer, Pappano, April, 2017

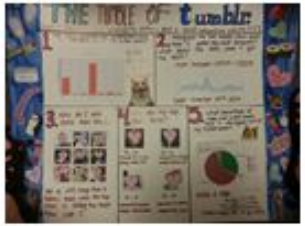

Red
Yellow
Wipe
Aa

What does the course cover?

Creativity
Create a computational artifact for creative expression.

Abstraction
Explain how binary sequences are used to represent digital data.

Data and Information
Extract information from data to discover and explain connections, patterns, or trends.



CollegeBoard

What does the course cover?

Algorithms
Express an algorithm in a language.

Programming
Collaborate to develop a program.

Global Impact
Analyze the beneficial and harmful effects of computing.

The Internet
Explain characteristics of the Internet and the systems built on it.

CollegeBoard

AP CS Principles Assessments

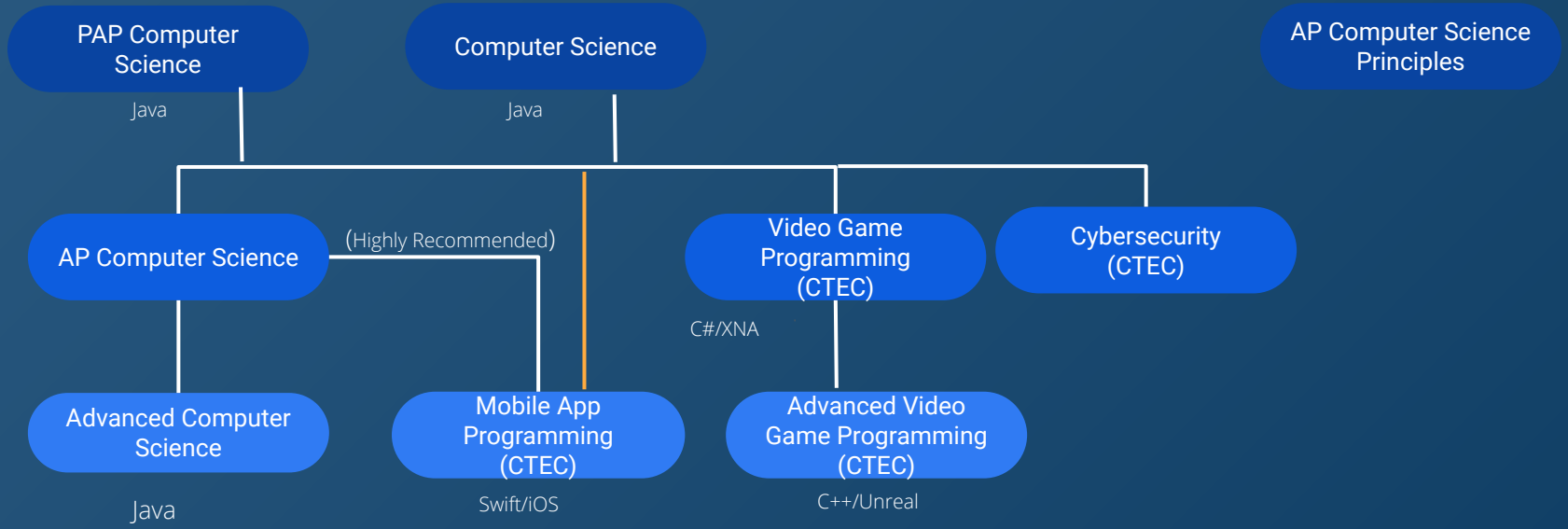
Explore Performance Task
8 hours, 16%

Create Performance Task
12 hours, 24%

End of course Exam
2 hours, 60%

Unlike many AP courses, AP CSP requires performance tasks throughout the year in addition to a multiple-choice exam in May. The three components are combined to provide the AP exam score.

Pathways in Frisco ISD



What's the Difference?

AP Computer Science Principles

- General computing course
- Only 25% coding (not Java)
- Technology credit

AP Computer Science A

- Coding course using Java
- Prerequisite is Pre-AP Computer Science or Computer Science
- Technology credit

AP Capstone Diploma

AP Capstone

AP Capstone is an innovative program that helps you stand out in the college admissions process by developing the critical skills needed to succeed in college and in your future career.

Emphasizes Critical Skills Needed for College & Beyond

Complements the in-depth subject-matter study in AP

Two new courses—**AP Seminar** and **AP Research**—allow students to immerse themselves in topics that matter to them, while they develop the analytic, research, problem-solving, and communication skills that colleges seek in their applicants.

AP Capstone

This challenging program helps students deepen their passion for learning, gives them greater confidence in their academic skills, and a broader perspective on their world.

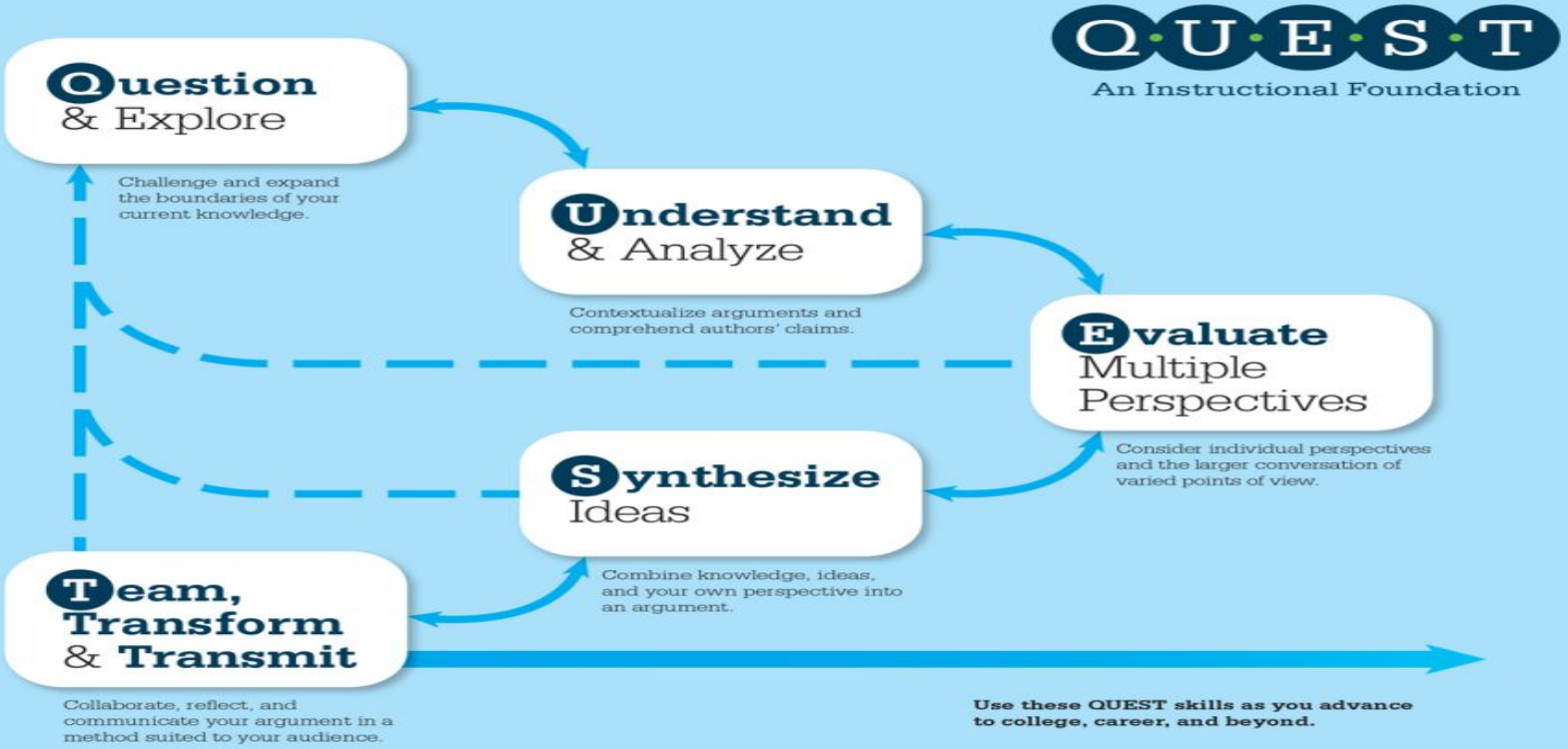
AP Capstone Diploma™

Students who earn scores of 3 or higher in AP Seminar and AP Research and on four additional AP Exams will receive the **AP Capstone Diploma.**

AP Seminar and Research Certificate™

Students who earn scores of 3 or higher in AP Seminar and AP Research will receive the **AP Seminar and Research Certificate™**

QUEST


QUEST
An Instructional Foundation
Question & Explore
Challenge and expand the boundaries of your current knowledge.
Understand & Analyze
Contextualize arguments and comprehend authors' claims.
Evaluate Multiple Perspectives
Consider individual perspectives and the larger conversation of varied points of view.
Synthesize Ideas
Combine knowledge, ideas, and your own perspective into an argument.
Team, Transform & Transmit
Collaborate, reflect, and communicate your argument in a method suited to your audience.
Use these QUEST skills as you advance to college, career, and beyond.

AP Seminar

Typically taken in grade 10 or 11.

Students learn how to:

- Investigate real-world topics from multiple perspectives
- Carefully analyze information, write evidence-based arguments and effectively communicate them
- Work independently and with a team to research a topic, develop a written report and deliver a presentation

Teachers & Students select and study 2-4 topics.

Example Topics

Democracy
Education
Environment
Revolution
Technology
Sustainability

Exam score based on:

1. Team Project & Presentation
   - 20%
2. Individual Research-Based Essay & Presentation
   - 35%
3. End-of-Course Exam
   - 45%

AP Research

AP Seminar is a prerequisite to AP Research.

Students learn how to:

- Design, plan, and conduct a year-long mentored, research-based investigation
- Apply research methods and practices to address a real-world topic selected by the student
- Write a college-level research paper
- Present and orally defend research findings and methodology

Exam score based on:

1. Academic Paper (4,000 - 5,000 words)
   - 75%

2. Presentation and Oral Defense
   - 25%

AP Capstone

AP Capstone - The Benefits

- **Earn Distinction** - Stand out in the college admission process and have the opportunity to earn valuable college credit or placement
- **Acquire Critical Skills** - Students acquire challenging career and college-level analysis, writing and research skills that are increasingly valued by colleges and in the workplace
- **Choose what to study** - Students choose their own research topic and study issues and topics of interest and importance to them

AP Capstone Teacher

Jonathan Huggins

Heritage High School

AP Capstone Students

Christian Mira	**Sanjana Natarajan**
Senior - HHS	Junior - HHS

Advanced Academic Nights

December 2, 2019	January 9, 2020
Reedy High School	Centennial High School

AP Credit & College Resources

AP Credit Policy Search

AP Computer Science Principles

AP Capstone

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Questions & Answers