

Introductions to Computer Arts & Sciences Syllabus Form

RCAS Policies/Procedures

Students will be required to follow all RCAS policies and procedures. To view the RCAS High School Student Handbook, click [handbook](#).

Course Description

Ever wondered why an algorithm behaves the way it does? Ever needed to “Scratch” an itch for game programming? How about combining your artistic side and your brainiac side? In this course, we will look at both the techy and artsy aspects of computers! Join a team that will focus on problem-solving, art, design, programming, and computing skills as they are related to digital technology needs of the future.

Grading

Points shall be awarded for assignments, projects, trainings, and tests. Points will be awarded and collected cumulatively through the semester.

Textbook

N/A

Reading

N/A

Optional Reading

N/A

Instructional Resources

Xello – SDMyLife	scratch.mit.edu	sneakonthehot.com	W3Schools.com
Study.com	Ed Py – edpyapp.com	PBS – Rise of the Hackers	

Essential Questions

- What careers are in Media Arts and Computer Science?
- What laws and ethics impact Media Arts and Computer Science?
- What are software solutions?
- Why demonstrate professional skills and knowledge?
- Why is appropriate file structure and naming conventions important?
- How does computer network and telecommunications technologies work?
- What are the fundamental topics of programming, algorithms, and abstraction, such as constants, expressions, statements, procedures, and libraries?
- What are the technical, legal, and ethical questions that arise from computers enabling the collection and analysis of enormous amounts of data?

- How to program using object and basic syntax?
- How to handle equipment properly and safely?
- What is color theory and design principles?
- What are the fundamentals related to graphic design?
- How to produce media for distribution using phases of production?
- How to incorporate the basic use of HTML and CSS?

Essential Learning Intentions

- Understand teacher expectations and classroom procedures.
- Understand course layout, grading, and procedures.
- Get to know the teacher and peers.
- Evaluate personal connections for the academy and determine their pathway.
- Investigate career opportunities.
- Identify local career opportunities.
- Chart the different categories of Copyright applied to graphic and print media, software, and the specifics governing those categories.
- Demonstrate ability to implement and create ethical media by producing a media product.
- Demonstrate appropriate file structure and naming conventions.
- Use hardware associated with Arts, AV Technology and Communications
- Use appropriate terminology specific to Arts, AV Technology and Communications equipment
- Exhibit basic skills in operating equipment
- Investigate color theory and design principles
- Explore fundamentals related to graphic design
- Utilize bitmap editing and vector graphics software to create graphics
- Identify hardware components and their relationship to computer usage
- Identify the types of signals and transmission capacities used in telecommunications.
- Identify network operating systems and management software.
- Explain how wireless devices transmit information.
- Identify types of machine-level security procedures.
- Define multi-user systems and how to protect them.
- Explain common threats to wireless network.
- Research famous hackers and the damage they caused.
- Demonstrate appropriate structure and naming conventions
- Demonstrate ability to implement and create ethical media by producing a media product.
- Demonstrate appropriate file structure and naming conventions.
- Create and publish media to external sources.
- Determine the proper format, render for a specific end use of media and publishing.
- Combine all raw media footage into a cohesive product and submit.
- Assess the clarity of a set of instructions expressed in human language.
- Identify connections between the ability to program and the ability to solve problems.
- Identify the properties of sequencing, selection and iteration
- Evaluate the correctness of algorithms expressed
- Develop an algorithm to solve a problem

- Define and call simple functions
- Use parameters to provide different values as input to procedures when they are called in a program.
- Use random numbers as inputs to function calls for the purpose of testing.
- Add parameters to a function in an existing piece of code to generalize its behavior.
- Collaborate to break down a complex programming problem into its component parts.