



www.cart.org

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Frequently Asked Questions

What is CART?

The Center for Advanced Research and Technology (CART) is a college and career prep, half day program for juniors and seniors in Clovis and Fresno Unified school districts. CART combines rigorous academics with technology, design, process, entrepreneurial, and critical thinking skills.

When is CART?

CART offers two sessions. The morning session is from 7:30-10:30 am and the afternoon session is from 12:30-3:30 pm. CART's calendar tries to match CUSD and FUSD as best we can, but some dates are different.

What about transportation and food?

Each district provides bus transportation to and from all the high schools. There is a snack bar and vending machines that provide food for students.

How is the CART program different from my high school?

CART is just for juniors and seniors. Students choose a career-focused lab that offers integrated curriculum, that is project-based and features business and community involvement and use of technology. Students work in groups and interact with mentors from the community.

Can I earn college credit at CART?

Agreements with CSUF and FCC/CCC allow CART students to earn college credits in some labs. Classes at CART are college prep classes and most are a-g UC approved.

How many credits will I earn at CART?

CART provides an opportunity to earn 20 credits per semester. Each student takes four classes at CART.



Your Future Starts Here

Apply Online At: www.cart.org/apply

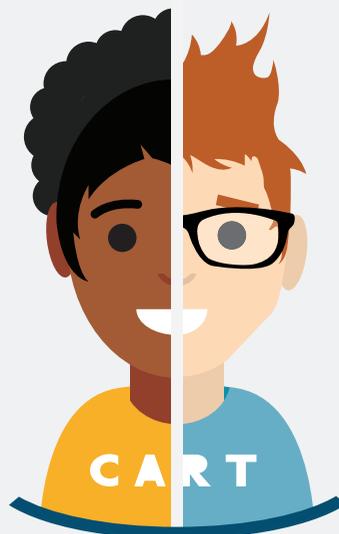
How To Attend Cart

CART accepts students through a lottery process ✓

Applications for the following school year are available each December ✓

Completed applications must arrive at CART before 4:00 PM on the deadline, usually the second Friday in February ✓

Basic requirements include good attendance, being on track for graduation and successful completion of Biology, Algebra 1 and two years of English ✓
Some labs, especially popular science labs, have additional prerequisites



Students not accepted through the lottery in the lab of their choice are offered a second or third choice or the option to be placed on a waitlist ✓

As room becomes available, students are moved from waitlists to scheduled; students and their counselors are notified as changes are made ✓

Late applications are accepted after the lottery only in labs that have space ✓

Students can apply for CART up until the third week of school for labs that have openings ✓

Biomedicine

Students explore issues in medical science and human anatomy/physiology through their involvement in dissections, medical case studies and research projects. Students investigate how a healthy body functions and how it reacts to disease. Students collaborate with medical professionals at various hospitals and clinics in the Fresno/Clovis area as they research a variety of medical topics.

Required prerequisites: "C" or better in Biology, Chemistry, Algebra 1 and English; 2.5 GPA.

Students take:

- English (H)
- Clinical Anatomy & Physiology (P)
- Adv Topics in Medicine (P)
- CART Technology Applications



Biotechnology

Students explore biotechnology, an exploding science field that leads to high-paying jobs in medicine, biology, chemistry, agriculture, and environmental science. Students apply DNA technology to genetically engineer bacteria, solve medical mysteries, clone tissues, diagnose genetic disease, and explore drug development and testing. Students wrestle with difficult ethical issues that arise as a result of using biotechnology to solve problems. **Recommended prerequisites:** "C" or better in English, Algebra 1 and Biology.

Students take:

- English (H)
- Chemistry (P) or Adv Science Topics (P)
- Biotechnology Accelerated & Research (P)
- CART Technology Applications



Business and Finance ROP

In addition to learning how to manage and invest money, students also investigate what it takes to create and own a business. Students study human behaviors of producing, distributing, and consuming materials, goods, and services in a world of limited resources. They learn how the financial services industry works as they strengthen the analytical, technical and communication skills needed to succeed in any economy.

Students take:

- English (H)
- US History (P) or Government (P)
- Global Economics and Finance (P)
- CART Technology Applications



Cybersecurity ROP

Students learn to design, build, secure, and analyze computers and the networks that connect them. Through hands-on projects, they investigate the internet of things (IoT) and how it is changing the way we support current technology. This lab prepares students for the CompTIA A+ certification exam. **(1)**

Students take:

- English (H)
- Cybersecurity (2 Periods) (P)
- CART Technology Applications



Digital Media and Graphic Design ROP

Students develop skills in communication and message design including color, typography and design principles. They investigate graphic and web techniques in cooperative teams similar to corporate settings. Design students will work on all stages of production using industry-standard software (i.e. Adobe CC) to create original products such as logos, posters, advertisements, websites and two-dimensional animation.

Students take:

- English (H)
- Digital Media and Graphic Design (P) (2 Periods)
- CART Technology Applications



Digital Video Production and Broadcast ROP

Students develop skills in television and film production. Using industry-standard software packages (i.e. Adobe CC), students will engage in hands-on, integrated curriculum. They work on all stages of production while creating products such as short films, advertisements, journalism broadcasts, and documentaries. All multimedia students develop skills in the content and presentation of message design, the sociological impacts of media, and the stages of the production cycle.

Students take:

- English (H)
- Digital Video Production and Broadcasting (P) (2 Periods)
- CART Technology Applications



Engineering, Manufacturing and Robotics

Creativity, knowledge, and skill are used to develop solutions to real world mechanical engineering problems. Working as individuals and in small teams, students design, test and evaluate working prototypes of their solutions. Students will learn how to bring engineering designs into the physical world using a variety of engineering tools, skills, and practices including cutting edge CAD and CAM solutions. CNC Machines, 3D Printers, and Laser Cutters are just a few of the technologies that will be used to manufacture student-engineered design solutions. Students will be introduced to basic electronics, microcontrollers and computer programming while learning to design, build, and program robotic and automation devices.

Students take:

- English (H)
- Physics and Technology (P)
- Engineering and Product Development (P)
- CART Technology Applications



Environmental Science and Field Research ROP

Students explore the San Joaquin Valley, San Joaquin River, Pacific Coast, and the Sierra Nevada Mountains. Students will carry out hands-on projects relating to careers in marine biology, wildlife rehabilitation, air quality, river ecology, alternative energy, and forests. Students have the opportunity to work with environmental professionals and government agencies to complete scientific projects. Some examples are growing native plants, restoring native wildlife habitats, rehabilitating injured and orphaned wildlife, monitoring forests, wetlands and conducting studies of tide pools and beaches. **(2)**

Students take:

- English (H)
- Zoology (P)
- Environmental Research and Technology (P)
- CART Technology Applications



Forensic Research and Biotechnology

Students explore how to process crime scenes using a variety of different scientific techniques. They participate in several interactive physical evidence simulations which include topics such as: DNA/ biotechnology, fingerprinting, ballistics, and accident reconstruction. Students will also investigate the criminal mind by applying forensic profiling classifications to real case studies. **Recommended prerequisites:** "C" or better in Biology, Algebra I and English.

Students take:

- English (H)
- Physical Forensic Science (P)
- Forensic Research and Biotechnology (P)
- CART Technology Applications



Interactive Game Design ROP

*Primarily for returning CART seniors or by special permission of the instructor

The Interactive Game Design program explores Object Oriented Programming, 3D Modeling, Rigging, and Animation. Students put these skills to use in game and simulation projects using the Unity Game Engine. Projects include 2D, 3D, and Mixed Reality experiences. Students pursue presentation skills, and the creative and technical writing skills necessary to communicate in a professional environment. **Prerequisite(s): Database, Graphics, Programming, or Web Design. (3)**

Students take:

- English (H)
- Interactive Game Design (2 Periods)
- CART Technology Applications



Law and Order and Policy

Students study the major aspects of constitutional, criminal, and civil law. Projects teach students about their individual rights, criminal procedure, how laws are made, and how to make a legal argument. Students learn how to research and discuss current and historical controversial issues relating to the law. All students have the opportunity to participate in mock trials and field trips to local and federal courthouses and law firms.

Students take:

- English (H)
- Government and Economics (P)
- Law and Order and Public Policy (P)
- CART Technology Applications



Digital Marketing, and Entrepreneurship ROP

Students explore how companies, such as Apple, Starbucks, and Nike develop their branding through product development, pricing strategies, promotional campaigns and global product placement. Students develop their own product brands and promotional campaigns, including online advertising, social media, mobile and digital marketing. Students learn industry-standard technology for conducting market research and creating successful online companies and experience real-world learning through internships with non-profit organizations, media companies and advertising agencies.

Students take:

- English (H)
- US History (P) or Government (P)
- Economics of Marketing (P)
- CART Technology Applications



Psychology and Human Behavior

Students investigate the inner workings of the human mind using principles found in psychology and neuroscience. Through research, students consider the factors that influence, control, change, and modify behavior. Students explore the world of psychology through labs, multiple hands on activities, and projects. Projects include working in teams to create illusions that investigate how the brain constructs a person's perception of reality. In addition, students build on existing research by designing and conducting experiments based off studies found in academic journals. **(3)**

Students take:

- English (H)
- Neuroscience (P)
- Psychology of Human Behavior (P)
- CART Technology Applications



Web Application Development ROP

From smartphones and video games to music, medicine, and more - computer science touches everything we do. Students will discover how the Internet works, dig into cryptography, and build their own apps. They will be introduced to the broader field of AP Computer Science Principles while becoming certified to design, develop, and deploy web apps using developer tools such as CSS, HTML, JavaScript and SQL. Students apply the concepts of object-oriented programming, scripting, and user-interface design to ensure that end-users have a positive experience and keep returning to their applications.

Students take:

- English (H)
- Applications Programming
- Computer Science Principles (AP)
- CART Technology Applications



College Credit

- (1)** Qualified students may earn college course credit through **Fresno City College**.
- (2)** Qualified students may earn college course credit through **CSU Fresno**.
- (3)** Qualified students may earn college course credit through **Clovis Community College**.