UNIVERSITY OF GEORGIA EXTENSION

Project Achievement Development Guide

for 9th - 12th Graders

Computers Information Technology and Data Science

Georgia 4-H Project Achievement empowers young people with skills for a lifetime. Through a competitive process, students explore their interests, unleash their creativity, share their work, and celebrate their achievements! This guide provides 9th—12th graders with examples for getting started with their project exploration.

Description of Project:

4-H'ers may explore aspects of information technology and data science as it relates to software (i.e. web-based technology, computer programming, applications, etc.), hardware (i.e. computers, tablets, smartphones, smartwatches, gaming systems, etc.), and/or data analysis.

Through this project 4-H'ers may:

- develop an understanding of the basic principles and theories of technological hardware, software, and/or data science to access, organize, transmit, and communicate information.
- develop an understanding of the effects and impacts of computer information technology and/or data science on humankind and the environment.
- promote knowledge of safe practices and procedures for computer systems and data.
- acquire knowledge of and utilize best practices of hardware and software computing tools.
- explore career opportunities related to computer information technology, statistics, and data science.

Overview:

⇒ *Choose project*

⇒ *Develop skills in:*
- Project
- Leadership
- Service

⇒ *Prepare portfolio for work completed from January 1—December 31*

⇒ *Prepare presentation*

⇒ *Practice*

⇒ *Compete*

⇒ *Reflect*

Examples of Project Development Experiences:

- Build a computer, install software, configure a server, and network your home devices
- Enroll in courses at school and online to develop computer skills and data science
- Join a robotics team and/or apply to become a 4-H Science and Engineering Ambassador
- Program a video game or learn to write html code and design a website
- Interview a professional who works with information technology and data science and write a report on what you learned
- Program a robot to complete a task
- Acquire and read books, magazines, pamphlets, and online resources that relate to the topic
- Research the history and development of information technology and data science

Project Sharing and Helping Examples:

- Teach internet and smartphone safety to peers and adults
- Lead a cyber-bullying prevention class
- Teach someone how to use an online software package
- Mentor youth on a software or programming team
- Take a robot you programmed to share at a local senior center or the library
- Organize a service project to recycle used technology
- Manage the social media group for your local 4-H club
- Demonstrate ways to use and care for computers and equipment
- Share what you have learned in the Computer Information Technology and Data Science project with 4-H club members, school classes, civic clubs, and senior centers
- Exhibit a Computer Information Technology and Data Science-related mini-booth at a fair
- Share helpful computer information and data science materials at schools, libraries, and community events
- Mentor a 4-H'er in the Computer Information Technology and Data Science project
- Lead a community club focusing on computer information technology and data science

Recommended Resources:

- Georgia4h.org/ProjectAchievement
- georgia4h.org/programs/focus-areas/citizenship/community-global-affairs/4-h-ambassadors/
- gcflearnfree.org/subjects/technology/
- w3schools.com
- hourofcode.com/us/learn

Special Considerations:

- Youth should practice internet safety. A best practice is to include a friend or parent in all communications and interactions.
- Give plenty of notice for any mentoring requests.
- Be aware of fraudulent information and double-check the facts in your presentation with credible sources.
- Youth should review business etiquette prior to shadowing a professional at work or engaging in a work-study or internship.
- Contact your local county Extension staff to discuss your plan for community involvement.

At Competition:

Computer Information Technology and Data Science 4-H projects may use posters, artifacts, biofacts, and/or technology to support their presentation. The time limit for these presentations is 12 minutes. Computers, projectors, screens, and other technological devices may be used but must be provided by the presenter.

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Sources:

The University of Georgia CAES. 2016. Project Achievement. http://www.georgia4h.org/projectachievement/