**2018 Alabama Council for Technology in Education (ACTE) State Rules**

IMPORTANT TO REMEMBER:

* You may have up to 4 people on a team but teams and individuals will not compete against each other within each grade grouping.
* If a team places at regional and a member of that team cannot attend state, the member who cannot attend is required to pay the registration fee in order for this project to compete at the ACTE State Fair.
* A student may only be a team member of one group per category.
* Projects may not be moved from group to individual.
* Students who are in a group will compete at the oldest group partner’s level.
* Regardless of the length of the project, the maximum judge time is 15 minutes. Judges may only view a portion of the actual project.
* Judges will use a category rubric as a guideline for exemplary characteristics of projects in each category.

**Grade Levels:**

Level I: Grades 3-4

Level II: Grades 5-6

Level III: Grades 7-8

Level IV: Grades 9-10

Level V: Grades 11-12

**2018 ACTE CATEGORIES**

***1. ANIMATION***

This category calls for students to *develop an original design with the primary purpose for allowing the motion of objects.* Software/resources used to generate animated design includes but is not limited to: Adobe Flash, Powtoon, Scratch, Crazytalk, Kidpix, Stop Motion, Claymation, GoAnimate, Toon Boom, Alice, etc. Animation ranges from gifs to cartoons and other “moving” stories.

***2. AUDIO PRODUCTION***

This category is defined as any original audio production that has been edited/produced with digital tools. Projects may include speaking, singing, music, sounds effects, and other audio components.

The project must be displayed on a device using the program in which it was created. The student should be prepared to demonstrate to judges how the software was used to create the finished project. Software may include, but not limited to: Audacity, Garage Band, Wavosaur, EarSketch, Adobe Audition, Wavepad and Acoustica.

***3. COMPUTER PROGRAMMING***

Projects in this category are *self-executing programs created by the student using recognizable programming languages* such as: BASIC, C ++, C#, Java, LOGO, Pascal, Python, Ruby, SQL, etc. All programs must be original work of the student. Programs must be functional and have an intended purpose.

Scripting languages alone, such as JavaScript or HTML, or other software as such which generates HTML, and software which are essentially drag and drop coding do not qualify for programming projects under this category.  Those projects may be entered in Internet Apps, Multimedia, or Website Design as appropriate to the resulting project.

However, when scripts are combined with other recognized programming languages to create more elaborate final applications, they may be entered here with sufficient explanation and demonstration.  (Contact the fair director who will determine if your project fits in programming or productivity design.)

All programs must be created by the student(s) and not copied from other sources.  Projects must be original student work.

    Programs must be presented with a documentation notebook which includes: hard copies of the source code and algorithms, any printed or screen generated output from the program and a narrative description of the program with purpose, 5-step plan, flow chart, data flow diagram, or any other appropriate documentation.

             All parts of the program must be the author's own design. Programs must be identifiable in one of the three following categories:

* Computer-aided instruction or educational/learning games
* Business or commercial applications
* Personal applications that, with minor alterations, could be marketed for larger commercial audience

***4. DIGITAL ART (Digital Photography & Graphic Design)***

This category is defined as any computer created or manipulated photo project whose final output is printed. *Such projects might be digital photography and graphic design*. Sophisticated use of software to the design or photo must show more than simple cropping or the use of a couple of dropdown, menu choices.

The manner of printing may vary from paper to fabric or other manufactured items such as photos, cups, bags, t-shirts as per graphic design.

A hard copy of the finished project must be provided, if feasible.

The student must be able to display the content from the source project files using the program it was created in. Software may include but not limited to Paint, Kidpix, Photoshop, Illustrator, Corel Draw, or freehand drawing on a graphic tablet.

Student created artwork that has been scanned (digitized) and then further manipulated must include the original artwork for judges’ review. The student should be prepared to demonstrate to judges how the software was used to create the finished product.

***5. HARDWARE MODIFICATION***

This category is for *devices engineered and/or modified by students to serve a specific purpose or meet a specific goal*. Device and parts do not have to be new. However, the device must be fully functional. Some examples: Arduino, Raspberry Pi and Makey Makey Projects

***6. INTERNET APPLICATIONS***

Projects in this category have strength in their use on networks, either the World Wide Web or LANs (Local Area Networks).  *Projects in this category use web-based software*. Examples include web pages, web sites, chat rooms, interactive games, bulletin boards, podcasts and blogs.

Your computer is required to display this project. Internet access will be available at the fair but be prepared in case it is not. All links must be captured one level deep.

May include student designed web pages or web sites, interactive newsletters, interactive games, drag and drop coding. Examples of software include Wix, Weebly, Freewebs, Google Sites, Blockly, Scratch, Kodu, MIT App Inventor, etc. Your computer is required to display this project.

Mobile Device App inventing software is also included in this category. If a mobile device application is developed, that device must be brought to the competition so the final product can be demonstrated.

***7. MULTIMEDIA PRESENTATIONS***

Multimedia projects are computer-based reports or creative presentations using *any combination of sound and/or images with text*. Possible software used for projects in this category include but are not limited to: PowerPoint, KidPix, AppleWorks, Astound, Storybook Weave, HyperStudio, Photostory, Google Slides, Prezi, etc.

Any hyperlinks need to be captured one level deep since Internet access will not be guaranteed. The computer is required to display the project.

*Multimedia is defined as a presentation combining sound and/or motion with text*.  Sound may include voice, music, or natural or man-made sounds and effects that are part of the software, found on the Internet, or created and imported by the student.

Presentations that are taken from still images and manipulated into moving sequences with voice-over or background music belong in Multimedia and not in the video category,even though they can be edited with iMovie or similar video editing software**.**

***8. MULTI-DIMENSIONAL DESIGN (3D MODELING)***

This category is defined as *any original artwork digitally created and modeled in three dimensions using specialized software*. Software may include, but not be limited to, Maya, AutoCAD, Sketch Up, GollyGee Blocks, and Light Wave. The output may be 3D printed or hand built to scale with cardboard, wood or plastic materials based on the student designs.

***9. PRODUCTIVITY DESIGN***

This category is defined as any student created, computer-generated project that uses desktop publishing or general productivity software.

Entries can be developed from various *non-multimedia* application programs such as word processing, spreadsheets, databases or any other non-multimedia software.

This category includes, but is not limited to: calendars, compelling charts and graphs, digital books, brochures, graphic organizers, newsletters, etc.

Hard copies of projects may be displayed at original size to show the judges, but no large displays are allowed, including tri-board displays.

***10. ROBOTICS***

Projects may be constructed from kits or published drawings, modified from other devices to create new applications, or constructed from the student’s own concepts and designs. All entries must be a working and functional piece of electro-mechanical hardware in which movement and intent is controlled through student created programming.

Examples of commercially available kits are robotic “arms” or robot movers, Lego and K’Nex style building kits, Capsella, VEX, and Technics style robotics kits.

Devices controlled through direct, real-time remote control by the student are not appropriate (i.e.: remote controlled cars). Once started, the robotics project should operate as a stand-alone independent machine without human interaction.

Direct, real time control through student-inputted computer commands to the robot via hard-wire, Bluetooth or other telecommunicated control by a computer may be used. A student designed, laptop driven/computer driven “joy stick” style controller is permitted.

All entries must be a working piece of electronics. Mechanical and motor driven devices must be controlled by computers, either hard-wired or remote, which are programmed by students in order to be eligible. Students must be able to show they have written the programs to control such devices.

***11. TECHNOLOGY INFORMATION LITERACY TEST***

Written exams will be given on-site for each of the grade levels. The exams will have up to 50 multiple-choice questions. Questions will be vocabulary and concept oriented. They will come from the following topic areas:

• History of computers

• Parts of the computer

• Peripheral computer devices

• Uses and limitations of computers

• General uses of common computer applications software

• New and emerging technologies

• The Internet • Social implications of computers

• General programming (Level III, Grades 9-12, only)

Questions for the Technology Information Literacy Test will come from information generally available in textbooks and reliable sources on the Internet. A suggested list of resources is available on the Fair web site. Computer magazines and television programs have discussed some of the social implications of computers. An oral exam may be used as a tiebreaker of three or more students.

**SUGGESTED RESOURCES FOR THE INFORMATION LITERACY CHALLENGE**:

* Gookin, Dan. PCs for Dummies. IDG Books. January 2000. ISBN: 0764581309
* Maran, Ruth. Computers Simplified. 4th Edition. IDG Books. September 1998. ISBN: 0764560425
* Maran, Ruth. The Internet and World Wide Web Simplified. IDG Books. October 1999. ISBN: 0764534092
* Rathbone, Andy. Windows 98 for Dummies. IDG Books Worldwide. June 1998. ISBN: 0764502611
* White, Ron. How Computers Work. 5th Edition. MacMillan. 1999. ISBN: 0789721120
* Wingate, Phillipa. The Internet for Beginners. EDCP. August 1997. ISBN: 881109290

**FOR YOUNGER STUDENTS**:

* The Computer Age. Modern Media series. Barrons Educational Series. March 2000. ISBN: 076411667
* Kalman, Bobbie. The Computer from A to Z. Crabtree. March 1998. ISBN: 0865053790
* Parker, Steve. Computers. 20th Century Inventions Series. Raintree Steck-Vaughn. April 1997. ISBN: 0811728110
* White, Nancy. The Magic School Bus Gets Programmed: A Book About Computers. Scholastic. Wright, David. Computers. Inventors and Inventions Series. Benchmark Books. January 1996. ISBN: 0761400648

**WEB SITES**:

* [Computer Dictionaries, Acronyms and Glossaries](http://www.compinfo-center.com/computer_dictionary.htm)

[Triumph of the Nerds](http://www.pbs.org/nerds/)

***12. TEAM COMPUTER PROGRAMMING CHALLENGE***

This category is an on-site event in which one team of students is given a series of problems to solve during a two-hour competition time. Each team is awarded points for each problem solved correctly. Programs are judged on structure, design, and organization.

Any questions regarding interpretation of the problems must be submitted in writing to the judges who may choose to answer or reject the question. The decisions of the judges are final.

Competition begins with a briefing session. The contest problems are distributed to all teams at the same time. At the end of two hours, the programs developed in the competition are submitted for judging. Judges use the contestants’ computers to check the solutions to the problems. Results are announced at an awards ceremony.

Each team is required to bring the computer of their choice, appropriate operating system software, and programming software with which to compete. Students must also bring a power strip and extension cord to the test site. Contestants may bring an additional computer *only* for emergency situations in the event that one computer does not function. However, back up computers must remain unplugged and may not be used unless permission is obtained from one of the judges.

Contestants may bring to the contest only the manuals for their computers. Any contestant using other resources including textbooks, published program listings, notes, or any storage media, will be disqualified.

Teams are not permitted to communicate with their advisors. No visitors are allowed in the testing areas. Teams are monitored on a random basis. *Each team must be able to enter their programming code, execute the solutions to the problems and save them as directed by the judges.*

Teams are remain the same from regional to state.   A team must be two or more students.

***13. VIDEO PRODUCTION***

This category is defined as any original video project that has been edited on a computer with digital video editing software and exported into a digital video format. The completed project must be displayed for viewing on a computer.

*The focus of this category is on the editing process*. Original video content used in this kind of project may come from the student or it may be obtained from other permissible sources. Regardless of its origin, all content used must be properly cited in the project. Tools and resources in this category may include but are not limited to: Camtasia Studio, iMovie, Pinnacle, Windows Movie Maker, etc.

*Photographs can be used in combination with filming and editing process. However, still photographs with voiceover or music, should be entered in the Multimedia Presentation category.*

Original video content used in this kind of project may come from the student or it may be obtained from other permissible sources. Regardless of its origin, all content used must be properly cited in the project. Tools and resources used in this category include but are not limited to: Camtasia Studio, iMovie, Pinnacle, Windows Movie Maker, etc.

***14. WEBSITE DESIGN***

This category includes, *websites created through manual coding*.

Students should be able to use HTML, or an applicable program (i.e. Dreamweaver) for this project.

The use of programs such as Weebly, Wix, Freewebs, or any other program that allows students to drop and drag content should be under Internet Applications. There should be at least three separate pages that are hyperlinked together. At least three external links to “outside” information are also required.