http://actefair.webs.com/

Alabama Council for Technology in Education
2016 Technology Fair Rules & Guidelines and Competition Categories

Categories

General Applications
Multimedia Projects
Web Site Creation
Video Production
Hardware-Robotics
Computer Programming
Information Technology Test
Team Programming Challenge

Awards

Awards will be given for 1st, 2nd, and 3rd place within each category at each level. Honorable mention may be used at the discretion of the fair directors. Remember, project categories are further divided into separate individual and group competitions.

General Rules

Students must be registered by an adult representative (with phone and email contact information) to compete in both individual and group events according to their grade levels. Any group entry must compete at the (grade) level of the oldest member of the group. Groups are made up of two but not more than four members. **Projects created by larger groups are NOT eligible for ACTE competition under any circumstances.** Larger groups that were mistakenly entered and judged at regional fairs will not be permitted to compete at the state fair.

The ACTE Technology Fair is open to students in grades 3-12. They are grouped into five levels: Level I (grades 3 and 4); Level II (grades 5 and 6); Level III (grades 7 and 8), Level IV (grades 9 and 10) and Level V (grades 11 and 12). **Students in K-2 are not eligible to compete.**

Projects for each category must be unique and cannot be entered in more than one category. **Projects that were entered in past years and won (1st, 2nd, 3rd place) at a regional fair are not eligible, even if they are substantially changed.** A hardware-robotics project must be controlled through instructions received from a computer, and those instructions must have been created or written and input by the student. However such a computer "program" cannot also be entered in the programming category because it is designed to control the hardware, which could not function without it**. A large, multifunctional project with several elements, must be entered in only one category. Multiple part entries are not allowed.**

Students may enter more than one category, but may have only one project per category. However, the same student may enter an individual project and be part of a group project within a single category, providing the projects are different either in content or composition. There is no limit to the number of categories a student to enter. Experience shows, however, that the more categories entered, the lower the quality of work. ACTE encourages students and teachers to select only their best work.

This year's regional fair is limiting entries to 3 individual projects and 3 group projects for each level per school. For example, a high school may enter 3 individual student projects in multimedia in level IV (grades 9 and 10) and 3 in multimedia group projects for level IV. The same school can also enter 6 projects (3 individual plus 3 group) in each level for general applications, web site, video production, programming, and hardware-robotics for a maximum total of 36 projects in level IV. The number of students participating in the information technology (computer literacy) test is not limited at the regional fairs. A student may take the written test of computer technology knowledge without entering any other category. **Team programming is limited to a maximum of three teams per school per level (levels III, IV, and V) at the regional fairs.** These teams are further restricted to a minimum of two but not more than four students per team. Students whose schools are not participating in the fair may be registered by a parent or teacher, but must still list the school attended. Some students create projects on their own at home, sometimes with friends from different schools. This is allowable, but should be confirmed prior to registration with the regional fair director. Student projects created from classroom assignment or classroom themes or which have an obvious instructional or educational content will fare better than those created "just for fun".

Schools are strongly encouraged to hold school-based fairs and select only their best, most representative work. Large numbers of projects in categories take an enormous amount of time to judge and may cause delays in processing awards. It should not be the intent of a school to dominate a category simply to win. Doing so may result in future limitations on the numbers of students who can participate. ACTE is striving to ensure that no school so dominates a category that others believe they cannot compete on an equal basis. Teachers should not require students to enter the fair for a grade. Teachers may use our rules to help guide students in their project design, but should not expect an entire class to enter their work. Projects that are not completed by fair time should not be entered.

Home schooled students are eligible to compete, but must compete at their respective regional fairs. Students who are home-schooled but who attend an education facility for common activities should register under the name of that educational facility and follow general school guidelines. Students who are completely home schooled should be registered by a parent/teacher. Home-schooled students who wish to participate in the Team Programming competition must form teams of two to four students with friends or with students from other schools, all of whom are expected to be active participants in the competition. Home-schooled students may also participate in other group projects with students from schools, providing that they have contributed to the project. These students should be registered separately from the school and by a parent or non-school based adult sponsor.

Students must participate in the fair that has been designated for their region. They may not "switch" regions except in cases of "emergency" (school closings, unique conflicts) that have been previously approved by the affected regional fair directors. Students may not "switch" competition categories unless a judge has determined that the project was entered incorrectly at the regional fair. Any questions regarding appropriateness of categories must be resolved by the Regional Fair Director and State Director before finalists enter the State Technology Fair.

All students who participate at the State Fair must have been registered at a regional fair and won (including ties for) first or second place, except for the team programming challenge. Only the first placed teams from each eligible level (III, IV, and V) in the Team Programming Challenge from each region may compete at the State Fair. The second place team is considered an "alternate" and may go to State level only if the first place team is unable to attend. The First Place Team must notify both the Regional Director and the Alternate Team if they cannot attend the State Fair so that the Alternate can make arrangements to go.

In the event that no fair is designated for a specific region, students may attend the regional fair of their choice with the prior approval of that region's fair director. If a specific region has been designated to be added to a host region, and if the additional participants amount to at least 25% of the host region's participation, then the host region may double the number of winners sent to the State Fair. For example the top four winners instead of just the top 2 places and the top two programming teams instead of only the first place winner may go to State. This will be determined by the affected regional director and state director.

A winning team or group from a regional fair may compete at the State Fair even if all members cannot go to the state event. However, all members must be registered (with fees as appropriate) in order to receive any awards. Please be aware that group or team members from regions may not be recombined (new members added or old members deleted) to form new groups or teams to compete at the state fair.

Students unable to present their projects, even due to illness, may **NOT** use "proxies". However other members of the original registered group (if a group project) may represent the whole group, even if a member is unable to attend. The missing member must be registered as part of the group at both the regional and state fairs.

Registration and Fees

Registration is handled by each regional fair separately from State Fair registration. The registration fees are established each year by the State Fair Director. They are not refundable. Eligible participants for the State competition must register, information does not carry over from regional fairs. Eligibility is determined by the final winner's list as it is submitted by the regional fair directors. Errors in reporting must be corrected by the regional director before a project is accepted for the State Fair. Students or schools who have not paid fees from a previous year's fairs will not be allowed to register or compete at regional or state fairs the following year until fees are paid.

All state registration will be online at http://actefair.webs.com/ . No forms will be mailed. It is the responsibility of each eligible applicant to register by the date given. It is the responsibility of each regional fair director to furnish the list of eligible applicants, their categories, entry levels and winning status, plus sponsors and contact information no later than initial registration date. Failure by regional fair directors to certify their list of winners on time may result in those registrations being delayed or disqualified.

Set Up at the Fairs

http://actefair.webs.com/

All equipment needed, such as computers, monitors, cables, VCRs, TVs, laser discs, CD-ROMs, multi-outlet power strips, extension cords, etc. must be furnished by the contestants. In addition, all software used in the project must be loaded for demonstration by the contestants. It is STRONGLY suggested that back-up, executable copies of the completed projects be brought. You do not need to bring peripheral devices such as printers, scanners, or cameras unless it helps in your presentation to the judges. However, students must be able to describe how these devices were used if asked by judges. Students and schools are responsible for the safety and security of their equipment and software, not the fair host. Students must be able to bring in their own equipment and set it up on tables furnished by the fair host. Only one electrical outlet will be provided per computer set-up**. Please bring extension cords and multi-outlet power strips as needed.**

All students must be able to find their project(s) on their computers, bring them up, and run them for judges at the time of competition. If needed, students must be able to start their computers from a "cold boot-up" or restart scenario. If there is a serious hardware problem beyond normal expectations, a responsible adult may be called to the judging floor to try to remedy it.

All projects will be required to have a notebook that documents how the project was created and shows examples of output. **Absolutely no project boards or exterior "backdrops" will be allowed at the State or Regional Fair.** Requirements for the notebooks are as follows:

1. Title page must have the name of project, name of creator(s), competition category, competition (grade) level, and lists of hardware & software used. A sample may be obtained from http://actefair.webs.com/

2. Introductory Page (Introductory Narrative)
This should be written by the student(s). The Introductory Narrative should include the reason for the project creation, a statement of knowledge gained from the creation of the project, and the value of the project for its creator.

3. Instructions Page(s)
This should be written by the student(s). The student(s) must provide **a complete description** of how the project was created. The student(s) should include samples of "screens" created (screen prints).

4. Specifications Page(s) These pages differ depending on the category as described below.

General Applications: Hardcopy (print, etc.) of the final product or output and hardcopy of the output with hidden codes, formulas, etc. revealed (as applicable). Documentation (bibliography) of source material.

Multimedia: Note cards, diagrams, or other planning process (sequencing of project development). Documentation (bibliography) of source material.

Web Site Creations: Must have hardcopies of Web pages source coding, site/page plans, etc., hard copies (printouts) of web pages with graphics down through three levels of sublinks, whether these links are from local (hard disk) sources or hyperlinks from outside source. Documentation (bibliography) of source material.

Video Production: Projects must have hardcopies of scripts, job descriptions (if a broadcast) of all participants. Documentation (bibliography) of source material. State whether this presentation is being shown in its entirety, was part of a larger production or a broadcast or if it is a short commercial.

Hardware - Robotics: Hardcopies of the student written instructions or source code of computer interaction and schematics of hardware design. Documentation (bibliography) of source material if applicable. If using parts from a kit, list the manufacturer/s.

Computer Project Programming: Name(s) of software/compiler/language used. Hardcopies of the source code and algorithms, hardcopies of any printed or screen generated output from the program and a narrative description of the program with purpose, organization chart, 5-step plan, flow chart, etc. Documentation (bibliography) of source material if applicable.

Judging

Special rubrics for each category will be used. However, all judges will consider the following items in determining the rating for an entry:

Was the technology used appropriately?
Did the student(s) demonstrate knowledge of the technology as it relates to the project appropriate for the grade level of the student(s)?
Is the entry original, creative, and imaginative in subject and implementation?

Overall value and purpose of the project. More points will be given for those projects that demonstrate an academic or business purpose. Projects which have been created for a class assignment should be identified as such.
Complexity of the project with respect to the technology used and the grade level of the student(s).
Clarity of the presentation.
Did the student understand and pay attention to the use of copyrighted material? Did the student document the source material properly?

At the time of the judging, students will be required to:

1. Present the project notebook to the judge.
2. Use the program or applications software to demonstrate a previously prepared file.
3. Demonstrate their understanding of the software as it relates to the project.
4. Explain the various aspects of the creation of the project.
5. Move through the program demonstrating the project.
6. Defend their choice of software for the project.
7. Answer judges' questions about the project.

Students should be prepared to explain and demonstrate the highlights of their project in no more than 10 minutes.

COMPETITION CATEGORIES

Information Technology Test

Written exams will be given on-site for each of the five grade levels. The exams will have 50 multiple choice questions. Each question will have four responses but only one correct answer. "None of the above" and/or "All of the above" will not be used as responses. A few (general/non-language-specific) programming questions will be on the Level III, IV, and V exams only.

Questions will be both vocabulary and concept oriented. They will come from the following topic areas:

1. History of computers
2. Parts of the computer and peripheral computer devices
3. Copyright and copyrights, ethics and plagiarism
4. Uses and limitations of computers
5. General uses of common computer applications software
6. New and emerging technologies
7. The Internet and World Wide Web
8. Social implications of computers
9. Networking (Levels IV and V only)

Questions for topic areas 1-7 will come from information generally available in textbooks and reliable sources on the Internet. The series of "*Blank...* For Dummies" books that are widely available from libraries and bookstores are good sources for similar information. Also suitable are "*Computing Dictionary, the Illustrated Book of Terms and Technologies"* by the publishers of PC Novice and *"The Usborne Computer Dictionary for Beginners"*. General computer magazines and television programs have discussed some of the social implications of computers.

General Applications

Entries shall be developed from various nonmultimedia application programs. Projects using general presentation software that does not include sound or video capabilities should be entered here. Many general applications projects, although presented on-screen and allowing an attached "sound", may be printed so that the final printed product does not lose any of the intrinsic integrity of the on-screen project. One example of this is StoryBook Weaver. However, products such as PowerPoint, which now permit multimedia, must be entered under multimedia category unless those features are not used by the student. A complete print-out of each "slide" must be included in the student's notebook if this option is chosen and the final product must be completely linear or book-like in its presentation.

Research projects that use applications such as spreadsheets, word processing, desktop publishing, and/or databases can be entered in General Applications. Projects using information obtained from e-mail, Internet searches, and other electronic media (on-line, laser disc, or CD resources) can be entered in General Applications, also, providing that the end product is for print or on-screen presentation not using other multimedia effects.

Students must demonstrate knowledge and use of the applications software that they have used. They must have the software loaded that was used to create their project and a computer on which to run it the day of the fair. Students will present their notebooks

of summary information to the judges. If a program runs from a CD-ROM, it must be available at the fair. For security purposes, however, a student may elect to bring a copy of such software rather than the original.

Projects in this category may use applications software such as word processing, spread sheets, databases, desktop publishing or presentation/story creators. Graphics design and photography oriented software, which, after digital manipulation, may produce a final printed product, whether two or three dimensional in appearance, should also be submitted in this category. Any of these applications may be combined and may also use information and images from other input devices such as digital cameras and scanners. Examples of this software may include: paint, illustration and photo scanning/manipulating, sketching and computer-aided design products so long as a final printed product is possible. ACTE understands the quality of the final product often depends upon the quality of the printer. Students may not have access to print devices that will give the same performance as the on-screen project. The defining principle here is that a printed product is possible or desired as the final outcome of the project.

Art work or graphic designs may be included from within the software itself or obtained from external sources including the Internet or clip-art software. Art that has been created digitally should be entered in General Applications.

Photographs may be entered in General Applications provided that they have been digitally altered by computer-based software. The alteration process must be a necessary part of the project, and the output must be intended for print or visual (nonmotion) effects on-screen. Students should be prepared to describe and demonstrate this process to the judges. The process and end results must be documented in the project notebook.

The final output from this category may be on-screen or on paper, even if more than one applications software package or element was used in creating the project. However, if sound (such as speech or music or long-playing sound) or motion (animation/video) is incorporated, the final project should be entered under the Multimedia, Web Page Creation, or Video Production categories, as appropriate. When several still pictures are brought together to create a video, such as a "quick-time" movie, the result belongs in multimedia, unless it is used in a video or web page category project.

Newsletters, newspapers, and yearbooks are eligible projects; however, they must fit the appropriate entry category and cannot have more than four people who worked on the entry. For example, an electronic yearbook may need to be entered under the Multimedia category if it imbeds voice, or music, or video. However, if it is distributed by VHS tape for viewing as a true film or video on television then it should be entered under Video Production. A yearbook that is distributed on disc or CD-ROM, but which does not meet the multimedia criterion of additional sound or motion, may be entered in the General Applications category.

Multimedia Projects

These projects may be linear or nonlinear in layout and may be interactive or directed by the student presenter(s). 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 software, found on the Internet, or created and imported by the student. Videos may be created from video cameras or prerecorded tapes, imported from other sources, or taken from still images and manipulated into moving sequences by other programs. (Completely video projects, however, belong in their own category.) Graphics may be images from commercial software, photographs, created by the student with software or scanned in and may include line drawing, photos, paintings, etc. Digital animation also belongs in this category.

Multimedia projects are computer-based reports or creative presentations. Some examples of suitable software are Astound, Kid Pix, KidWorks Deluxe, Storybook Weaver, HyperStudio, Power Point, Word Perfect Presentation, Claris Works, etc. Again, a notebook of information must be presented to the judges.

The exception to the "multi"-media element is music. Projects that deal solely with sound or music and in which the final product may be produced on an audio tape or compact disc should be entered under multimedia. Music projects are those in which sound or music is recorded, mixed, synthesized, and reproduced for a final aural output; although producing the tape is not a current requirement. The project may use single or multiple devices. Projects may also be combined with other features such as lights, laser light, or digital on-screen effects.

Hardware – Robotics

Projects may be constructed from kits or published schematic drawings, modified from other devices to create new applications, or constructed from the students' own concepts and designs. The projects must have some obvious relationship to the computer and be controlled through student programming or providing instructions via the software that comes with the kit or some other software. Students may build computerized devices provided that the reason for the design shows a direct instructional or commercial usage. Such projects must have a notebook as described above.

All entries must be a working and functional piece of electronics. Mechanical and motor driven devices entered must be controlled by computers (either hard-wired or remotely) that are programmed by students in order to be eligible. Students must be able to show they have written the programs to control such devices. Examples of commercially available kits are robotic "arms" or robot movers, Lego and K'Nex-style building kits, Capsella, and Technics style robotics kits.

Scientific laboratory measurement devices using a logic board or computer based technologies, unless constructed by the student, are not considered part of the ACTE Technology Fair competition.

Students will be required to demonstrate their project, explain how it works, what it does, and its purpose. Judging will be on the basis of the significance of the project, the quality of workmanship, demonstration of the project's function and explanation of purpose. As in other categories, the use of notebooks that document the stages of design and development will be considered in the final evaluation. Copies of any programming or instructional "code" used to control the devices must be printed and available to judges for review as part of the notebook.

Web Site Creation

Web sites may be created for Internet posting, or for local area Intranets within confined settings, such as a local school network, a closed network, or a "members only" network. There should be at least three separate pages that are hyperlinked together. At least three external links to "outside" information are also required. Because such external links might not be allowable within Intranets and cannot be "shown" without live Internet access, these links should be saved to the designer's storage (disk, CD, Zip, hard drive) and may be referenced as internal files although they were created and maintained on the World Wide Web.

The largest drawback to judging this category is the lack of live Internet access at the fair sites to demonstrate student projects that have external hyperlinks. Software such as Web Whacker or other saved file formats may collect sample interactive links within a local computer. Additional linked pages may be printed if there is not sufficient hard-drive space to store saved sublinks. A notebook with printed "screen shots" taken from interactive sessions and suitable written explanations of the project, its intent, and how it was created is also needed. The use of project boards alone for Web Pages is no longer adequate. All web pages must be demonstrated on a computer with their hyperlinks as described above.

Video Production

A project belongs in the video production category if it is intended to be seen as a "movie" or video or broadcast. It must have the integrity to tell its story or information by itself. It must be capable of being saved and viewed on video-tape, DVD, or CD formats. If it is created so that it complements a larger multimedia project that has text, and is incorporated in that project, then it should be entered in multimedia.

Entries must be student-created videos or student created broadcasts. Both digital and analog video productions are allowed, but all entries must use some form of computerized editing or mixing (sound/music, graphics, titles, etc.) for the final production. Final products cannot exceed 10 minutes total viewing time. Longer videos created for other purposes must be edited into a 10 minute version, but the full-length copy should also be brought. A 30 or 60 second "commercial" or promotional "spot" is also allowable, but will be judged with a unique rubric within this same category. Videos may be saved to CD or DVD formats, in addition to VHS or VHS-C, but appropriate players must be brought. Be sure to bring copies and not the only "original" production in the event of equipment failure!

Students who create school broadcasts over open/closed circuit television may submit sample broadcasts (or edited versions) that do not exceed 10 minutes in total viewing time. These productions also must have used some form of computerized editing or other computer-enhanced production that can be described to the judges. Because a large number of students actually participate in school broadcasts, entries must be limited to actual production staff (up to 4 students excluding reporters or actors). Video reports that that have been created by up to 4 reporters and/or actors who may also have done their own camera work or editing may be entered also, but should be different from any other entries.

Students will be expected to describe their production crews and job responsibilities in creating the final video. These activities must also be described/documented in the project notebook. The project notebook must also include any storyboards or scripts that were used.

Computer Programming

Programming projects use recognized programming language code and are self-executing. All parts and sections of the program must be the author's own original design and coding. Some examples of acceptable program compilers/languages are the various versions of BASIC, C, C++, C#, Java, Pascal, etc. Projects that have an educational or business purpose are highly desired.

Scripting languages alone, such as Javascript or HTML, or software such as Front Page, which generates HTML, do not qualify for programming projects under this category. They may be entered in General Applications, Multimedia, or Web Sites 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 your regional fair coordinator about this option. The fair director will determine if your project fits in programming or general applications.)

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

Programs must be presented with a documentation notebook which includes: hardcopies 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.

The program must be identifiable in one of three project categories:

1. Computer aided instruction or educational/learning games
2. Business or commercial applications
3. Personal applications which, with minor alteration, could be marketed for larger commercial appeal. The student would need to explain what design changes would need to be made to create a product for a wider audience.

Programs will be judged on originality and creativity, application of structured concepts, complexity, and overall value. Internal documentation includes remark statements or comments that identify sections of the program and may explain them, as appropriate. Correct spelling and grammar will be part of the judging process.

Students will be required to run their programs for the judges and to explain them orally. Students must bring their own computers and software with which to run the programs.

Team Programming Challenge

As has been traditional with ACTE, this category is considered an on-site event in which teams of two to four students are given a series of problems, which they must solve during a two-hour competition time. Four problems of varying difficulty will be presented in writing to each team. The problems will be the same for each team at a single level (III, IV, or IV). The computer must calculate computational solutions to the problems. 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.

Students should use procedural or object languages that are capable of solving calculations and logical problems.

Each team will be awarded points for each problem solved correctly. Programs will also be judged on structure, design, and organization. The team with the highest number of points will be declared the first place winner, and subsequent places for second, third and honorable mention. In the event of a tie, two or more teams may be declared winners.

Competition will begin with a briefing session. The contest problems will be distributed to all teams at the same time. Competition time may be extended beyond the two-hour limit at the discretion of the judges only in the event of extenuating circumstances. At the end of the two hours, the disks will be turned in to be judged. The judges will use the team computers to check the solutions to the problems. Results will be announced at an awards ceremony.

Each team is required to bring the computer or their choice, appropriate operating system software, and programming (compiling) software with which to compete. Students must also bring two non-initialized disks, a power strip and extension cord to the test site. Teams may bring an additional computer only for emergency situations in the event that one computer does not function. However such computers must remain unplugged and may not be used unless permission is obtained from one of the judges. Teams may bring to the contest only the manuals for their computers. Any team using other resources including textbooks, published program listings, notes, or disks other than the blank ones submitted at the end, will be disqualified.

Contestants will not be permitted to communicate with their advisors or others except the contest officials and their teammates during the competition. No visitors will be allowed in the testing areas. Teams will be monitored on a random basis. Each team must be able to enter their programming code, execute the solutions to the problems and save them on the disks that will be submitted to the judges. Any team demonstrating unprofessional or unethical conduct will be disqualified following a decision of the judges and the fair coordinator.