



# Computer Science



Students in grades 3 through 12 complete computer projects in a variety of categories.  
Contest Support provided by The University of Texas at Tyler Computing Center

## Contest Rules

Revised July 2021

Each school may submit up to **4 entries per level** (Elementary, Middle School, or High School) **in each Category of Computer Science** to be judged. Each student may enter only one Category. Having 3 or fewer entries in a category does not guarantee placing at an award level.

The Levels of competition and project Categories are as follows:

**Elementary Level** (Grades 3 through 5): Students may enter Computer-Generated Art, Desktop Publishing, Multimedia, or **Scratch** Programming\*.

**Middle School Level** (Grades 6 through 8): Students may enter Computer-Generated Art, Desktop Publishing, Multimedia, Digital Video, Web Page Design, **Scratch** Programming\*, or Other Programming\*\*.

**High School Level** (Grades 9 through 12): Students may enter Computer-Generated Art, Multimedia, Digital Video, Web Page Design, **Scratch** Programming\*, or General Programming\*\*.

\* **Scratch** by MIT (<https://scratch.mit.edu/>): With **Scratch**, students can program their own interactive stories, games, and animations – and share their creations with others in the online community. Scratch is described by MIT as a program that “helps young people learn to think creatively, reason systematically, and work collaboratively – essential skills for life in the 21<sup>st</sup> century”. Scratch is a project of the MIT Media Lab. It is provided free of charge. Scratch is designed especially for ages 8 to 16 but is used by people of all ages. By incorporating Scratch into the Academic Rodeo Computer Science, we are creating programming opportunities for each level in the contest, not just High School. Expectations of difficulty progress at each level.

\*\* General Programming is the more traditionally programming methods used in previous years.

### Judging:

Projects (except Scratch Programming are submitted 2 or more weeks prior to the actual contest for prejudging. Scratch Programming projects must be on the Scratch website ready for judging by the deadline, and the documentation page must be submitted to Academic Rodeo by the deadline. See the Computer Science Timeline for deadline. See the overview of what should be submitted in each category on the rules page for the specific category.

If the project is on a CD or other removeable media, be sure to check it on a different machine to be certain it works properly.

Projects are judged on mastery of application, presentation, creativity, complexity, grammar and spelling, and content.

**General Guidelines:**

The contest is open to all public and private Elementary, Middle, and High School students in the above categories. Project must have been completed within one year of the submission date and must not have been previously entered in Academic Rodeo.

**Privacy:** Caution students about giving too much personal information in their projects as these are displayed for many people to see.

**Copyright Laws:** All copyright laws are to be followed. Violations will result in disqualification. There are rules for the use of copyrighted material. Here are some resources that help with Fair Use. The length of clips used in video may be an important fact in determining Fair Use.

<http://copyright.lib.utexas.edu/tutorial/>

<https://www.baylor.edu/copyright/index/php?id=56543>

**Contest Procedures:**

- Entries are submitted two or more weeks prior to the contest. The Academic Rodeo Calendar and Computer Science Timeline will indicate the deadline for submitting entries.
- Submit entries, except Desktop Publishing, on a removeable media such as a CD or USB in a Ziplock bag with the required documentation. Label bag as well as the documents and the removeable media with the Student Name, Level (E, MS, HS), School or Group, Category
- On the day of the contest, students arrive and wait in area provided to be called to present their respective projects.
- Computer-Generated Art and Desktop Publishing participants do not attend the presentation/interview portion of the contest.
- Computers are provided for demonstrating the projects.
- Each student is interviewed by one or more judges regarding how the project works and processes used in developing project.
- When the interview process is complete, the student is dismissed.
- Results are posted within two days of the contest.

Specific Rules for each category follow the next section of information.

**Awards**

1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> places are awarded in each category of each Level.

1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> place Elementary students receive a cash award. 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> place Middle and High School students may apply for Academic Rodeo Scholarships.

Students who do not place receive Participation ribbons.



The following should be submitted for Computer-Generated Art:

- Artwork mounted on poster board and a digital copy of the artwork for judging.
- 2 copies of Project Documentation with Teacher Verification Signature (Template for Documentation is available on the Computer Science page.)

## Rules:

1. All artwork must be 100% created by the submitting student.
2. Artwork must be mounted on poster board as follows:
  - Poster board should be no smaller than 8" x 10" or larger than 12" x 18".
  - Artwork should not cover the entire poster board.
  - Please use adhesive that will hold artwork to the poster board for an extended time and will withstand humidity. (Typically, double-stick tape does NOT hold well.)
  - Do NOT mount artwork to foam board as the thickness makes display difficult.
  - Do NOT mat or frame artwork.
  - The title IS listed on the back label; however, judges do NOT see the back of the art when judging and will not see the title to consider in judging if it is not on the front.
3. Artwork should be given a title that is written or typed on the border portion of the poster board. The title will also be included on the back label for the artwork, but this is not typically seen by the judges when judging.
4. **Two copies** of the Project Documentation must be submitted. One will remain with Academic Rodeo for any displays. The other will be used for judging and will be returned in the School Packet. Each copy must be labeled on the back with *Contest Level, Contest Category, Title, Student Grade, Student Name or Group*
5. A **Documentation Template** is provided on the Computer Science page to assist students with providing the information about the creation of the project. It will provide the following information:
  - A list of all hardware (include exact computer name and type, scanners, cameras, etc.)
  - Any software (include all version numbers, i.e. PageMaker 6.5)
  - Documentation of any non-original materials such as clip art, photos, and any other resources
  - Information about the process of creating the artwork
  - **Verification of the student's work by the teacher/sponsor.** Failure to provide the above information will result in disqualification.

**Students need not be present during the Desktop Publishing judging.**

# Desktop Publishing Guidelines



The following should be submitted for General Programming.

- 2 copies of Desktop document – one remains with Academic Rodeo for ETSF Virtual Display; one is judged and returned to Student in School Packet
- 2 copies of Project Documentation

## Rules:

1. All documents are to be 100% created by the submitting student.
2. **Two copies** of each document and 2 copies of the Documentation must be submitted. One will remain with Academic Rodeo for any displays. The other will be used for judging and will be returned in the School Packet.
3. Each copy must be labeled on the back with *Contest Level, Contest Category, Title, Student Grade, Student Name or Group*
4. The content or theme of the document is open to any appropriate subject related to the school curriculum.
5. Elementary students **only** may use a template or “wizard.”
6. Documentation - Each entry must include a brief (1 page and not more than 2), typewritten paper describing the development of the project. The paper must explain the purpose of the project and describe the intended audience. It must list all of the hardware (include exact computer name and type, scanners, cameras, etc.) and software (include all version numbers, i.e. PageMaker 6.5). The student will provide credit for all non-original materials such as clip art, photos, and any other resources. Documentation should also **include verification of the student’s work by the teacher/sponsor**. Failure to provide the above information will result in disqualification.

See Template for Documentation on Computer Science page.

## Categories:

Student projects may be in any one of the following categories:

1. Brochure/Pamphlet - describes an organization or service providing information about what it does or products that are offered. Must be one page, double sided, 8 ½ X 11. Color ink/toner may be used, while paper may only be one color.
2. Newsletter - carries information to groups of people with special interest in common. Must be one page, double sided, and 8 1/2 x 11. **Color ink/toner** may be used, while **paper may only be one color**.
3. Business Document - may include such things as customized letterhead stationery, business card design, logo design, or graphic design for product packaging. Must be one page, single sided, on 8 ½ x 11 paper. Business cards, logos, or product packaging design may be smaller than 8 1/2 x 11. **Color ink/toner** may be used, while **paper may only be one color**.
4. Flyer - may be used to invite, recruit, notify, or announce an event or activity, etc. Must be one page, single sided, 8 1/2 x 11. **Color ink/toner** may be used, while **paper may only be one color**.
5. Advertisement – may be used to promote a product or for the adoption of an idea or issue. May promote a real or creatively designed product or service. May resemble an ad layout for a magazine or newspaper publication. Must be one page, single sided, 8 ½ x 11. **Color ink/toner may be used while paper may be only one color**.

**Students need not be present during the Desktop Publishing judging.**



The following should be submitted for General Programming.

- Project on removeable media such as a CD or USB drive in a resealable bag labeled with project and student information
- 1 copy of Handout or screen captures of slides (4 to a sheet or less)
- 2 copies of Project Documentation

## Rules:

1. All multimedia projects are to be 100% created by the submitting student.
2. Project must represent the work of the individual student.
3. Multimedia projects must include at least four of the following elements:
  - a. Text
  - b. Graphics
  - c. Sound
  - d. Animation
  - e. Video (motion)
  - f. Scripting
  - g. Hyperlinks to supporting websites.
4. Projects must include branching and be in a menu driven format that returns to a main menu.
5. Hardware & software - Students may use Apple Macintosh and Microsoft Windows to create the project.
6. The project must be submitted on a CD or removeable media with accompanying drivers, players, and/or viewers (Hyper Studio, Prezi, or PowerPoint viewer). Label the CD or removeable media with: *Contest Level, Contest Category, Title, Student Grade, Student Name or Group*, and send in a **re-sealable** plastic bag. If a project cannot be easily run from the CD or removeable media it will be disqualified. Teachers should be aware of compatibility issues. Please preview entries on a different computer to ensure the project will function properly away from the machine on which it was created.
7. Documentation - Each entry must include a brief, typewritten paper describing the development of the project. The paper must explain the purpose of the project and describe the intended audience. It must list all of the hardware (include exact computer name and type, scanners, cameras, etc.) and software (include all version numbers, i.e. "Hyper studio 4.1"). The student will provide credit for all non-original materials such as clip art, sound, video, and other resources. Documentation should also **include verification of the student's work by the teacher/sponsor**. Failure to provide the above information will result in disqualification.

See Template for Documentation on Computer Science page.
8. Student must provide a printout of slides from the presentation for display purposes. This remains with Academic Rodeo and is NOT collected after the Awards Celebration.
9. Project Content: The content or theme is open to any appropriate subject **related to the school curriculum**. Various types of projects may include stories, tutorials, games, surveys, lab experiments, documentaries, etc.

**Students must be present during judging to receive maximum possible scores.**



The following should be submitted for General Programming.

- Project on removeable media such as a CD or USB drive in a resealable bag labeled with project and student information
- 1 copy of 3 or more screen captures of pages
- 2 copies of Story Board
- 2 copies of Project Documentation

## Rules:

1. All video projects are to be 100% created by the submitting student or team of students.
2. Students may work individually or in teams consisting of no more than two students.
3. Video productions must be in a documentary form and should be between 4 and 5 minutes in length.
4. The content or theme of the video is open to any appropriate subject related to the school curriculum.
5. A **Story Board** must be included to demonstrate sufficient planning.
6. The video should have a “billboard” at the beginning with the following information: district, school, student’s names, and grade level.
7. Software – Software used must be compatible with up-to-date Windows or Mac operating systems. The product need not play full screen. The product need not play full screen.
8. The project must be submitted on a CD OR REMOVEABLE MEDIA. Label the CD OR REMOVEABLE MEDIA with: *Contest Level, Contest Category, Title, Student Grade, Student Name or Group* and send in a re-sealable plastic bag. If a project cannot be easily run from the CD OR REMOVEABLE MEDIA it will be disqualified. Teachers should be aware of CD OR REMOVEABLE MEDIA compatibility issues. Please preview entries on a different computer to ensure the project will function properly away from the machine on which it was created. Due to the slow speed of CD OR REMOVEABLE MEDIA drives, video projects may be moved from the CD OR REMOVEABLE MEDIA to the hard drive to ensure smooth playback.
9. Documentation - Each entry must include a brief, typewritten paper describing the development of the project. The paper must explain the purpose of the project and describe the intended audience. It must list all of the hardware (include exact computer name and type, scanners, cameras, etc.) and software (include all version numbers, i.e. Premiere 5.0). The student will provide credit for all non-original materials such as clip art, sound, video, and other resources. Documentation should also include **verification of the student’s work by the teacher/sponsor**. Failure to provide the above information will result in elimination of the entry. See Template for Documentation on Computer Science page.
7. Student must provide a copy of the Story Board and Billboard for display. These documents remain with Academic Rodeo and are NOT collected after the Awards Presentation.

**Students must be present during judging to receive maximum possible scores.**

## Web Page Design Guidelines



The following should be submitted for General Programming.

- Project on removeable media such as a CD or USB drive in a resealable bag labeled with project and student information
- 1 copy of screen captures of pages (4 to a sheet or less)
- 2 copies of Project Documentation

### Rules:

1. Project must represent the work of the individual student and must be **verified as such by a sponsor** on documentation submitted with the project.
2. Software - Students may use a commercially produced web page program to create the project.
3. Web designers should give attention to: page layout, creativity, navigational scheme, graphics/multimedia use, site content, educational validity, grammatical usage, and originality.
4. The project must be submitted on a CD or removeable media with accompanying graphics and sounds. Label the CD or removeable media with: *Contest Level, Contest Category, Title, Student Grade, Student Name or Group*, and send in a re-sealable plastic bag. If a project cannot be easily run from the CD or removeable media it will be disqualified. Teachers should be aware of CD or removeable media compatibility issues. Please preview entries on a different computer and browser to ensure the project will function properly away from the machine on which it was created.
5. Brief step-by-step printed instructions for starting the website must also be included.
6. The student is responsible for securing a release form from any individual whose name, photograph, and/or other information is included on the Website. No professional photographs with registered trademarks. Be aware of state and federal copyright laws. Although a work may be freely accessible on the Internet and contain no statement of copyright, copyright law provides that such works are protected. Students must assume that works are protected by copyright until they learn otherwise and must receive permission to use such work.
7. Software – Software used must be compatible with up to date Windows or Mac operating systems. The product need not play full screen.
8. Attention must be given to cross-browser capabilities. Use the latest browser.
9. Student must provide a printout of several pages from the website to be used for display. This printout remains with Academic Rodeo for displaying and use in the Virtual Display during the East Texas State Fair.

See Template for Documentation on Computer Science page.

**Students must be present during judging to receive maximum possible scores.**

# General Programming Guidelines



The following should be submitted for General Programming.

- Project on removeable media such as a CD or USB drive in a resealable bag labeled with project and student information
- Coding and screen capture(s) of one or more portions of the project
- 2 copies of Project Documentation

## Rules:

1. All programs are to be 100% created by the submitting student or team of students and must be **verified as such by a sponsor** on documentation submitted with the project.
2. Students may work individually or in teams consisting of no more than two students.
3. The program should be written in Java, any C program, or BASIC program. Pre-approval must be obtained for use of other programming languages.
4. The program must be submitted in an executable format on a removeable media such as a CD or USB Drive and include a complete printout of all source code and internal documentation. Be aware of media compatibility issues. Label the CD or removeable media with: *Contest Level, Contest Category, Title, Student Grade, Student Name or Group*, and send in a re-sealable plastic bag. Please preview entries on a different computer to ensure the project will function properly away from the machine on which it was created.
5. The program must include electronic documentation. This should include directions for starting and exiting the program, subject area, and intended age or grade level of the program user.
6. The program must include branching and be in a menu driven format that returns to a main menu.
7. The program must include both text and graphics. You are encouraged to include sound and animation.
8. One or more screen capture images should be printed for display. These images remain with Academic Rodeo after the Academic Rodeo Celebration. These should be labeled on back with the Student's information as done on the other documents and project.

Hardware - Students may use Apple Macintosh or Windows to create the program.

See Template for Documentation on Computer Science page.

## Computer Programming Categories:

1. Tutorial - programs that may be used as a tutorial program in any school related subject.
2. Games - single or multiple player games.
3. Applications - programs that have a specific purpose or target a particular application need.

**Students must be present during judging to receive maximum possible scores.**



# Scratch Programming Guidelines



The following should be submitted for Scratch Programming.

- Project should be created using Scratch by MIT and created on the Scratch site.
- Screen shot(s) of one or more portions of the project – used for displaying work
- 2 copies of Project Documentation

## Rules:

1. The program should be 100% created by the submitting student or team of students and must be **verified as such by a sponsor** on documentation submitted.
2. Students may work individually or in teams consisting of no more than two students.
3. The program should be created on **Scratch** by MIT (<https://scratch.mit.edu/about> ). The project will be judged on the **Scratch** site and is NOT submitted like other projects in Computer Science.
4. One or more screen capture images should be printed and submitted for display in Academic Rodeo and will remain with Academic Rodeo for display in the Virtual Academic Rodeo at the East Texas State Fair.
5. Two copies of the Project Documentation for the project are submitted in hard copy to Academic Rodeo by the submission deadline. This should include information about the project and its development as outlined in the **Documentation Template** on the Computer Science page. The Sponsor will verify the student's work by signing on the Documentation Template. Label the back of each copy with *Contest Level, Title, Student Grade, Student Name, School or Group*
6. At the High School Level, the project must involve more than one screen.
7. Students are encouraged to include sound and animation. At the High School Level, the project should have additional imported graphics.
8. The program must include electronic documentation. This should include directions for starting and exiting the program, subject area, and intended age or grade level of the program user.

Hardware - Students may use Apple Macintosh or Windows to create the program.

See Template for Documentation on Computer Science page.

\* Scratch by MIT: With Scratch, students can program their own interactive stories, games, and animations – and share their creations with others in the online community. Scratch is described by MIT as a program that “helps young people learn to think creatively, reason systematically, and work collaboratively – essential skills for life in the 21<sup>st</sup> century”. Scratch is a project of the MIT Media Lab. It provided free of charge. Scratch is designed especially for ages 8 to 16 but is used by people of all ages. By incorporating Scratch into the Academic Rodeo Computer Science, we are creating programming opportunities for each level in the contest, not just High School. Expectations of difficulty progress at each Level.

**Students must be present during judging to receive maximum possible scores.**