

# Youth Digital Arts CyberSchool

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[www.ydacs.com](http://www.ydacs.com)

## 2008 Summer Course Offerings

Course Descriptions and the software/hardware used in the courses

### Video Game Design Series

1. **Video Game Design Basics – VGD101** – this course teaches students the basics of video game design as they follow the teacher step by step in creating their first video game. Students learn how to drag and drop hundreds of heros and other characters, trees, space ships, landscapes, buildings, and many other objects into their video game as they create 2D virtual worlds where their stories unfold. Then they learn to program all of their game objects to interact with each other telling the story of their grand adventures so those playing their video games are challenged and have fun. No programming experience required! **Multimedia Fusion is required for this course.**
2. **Platform Video Game Design – VGD102** – this course builds on the concepts taught in VGD101 and teaches students how to design and create their first Platform video game. Mario is an example of a well known platform game. No programming experience required. **Multimedia Fusion is required for this course.**
3. **Video Game Character Design and Animation – VGD103** - this course teaches students the basics of animation as they use character templates to create video game characters that are then imported into their video games from VGD101 or VGD102. VGD101 is required as a prerequisite. **Toon Boom Studio is required for this course.**
4. **Video Game Design CyberStudio – VGDCS** – this is the place for advanced students to practice their skills, ask advanced questions, and learn about the Video Game Design Industry and becoming an Independent Game Developer. You will receive the Kinesis professional video game, example Multimedia Fusion source code used to create the game, and two months in the Video Game Design CyberStudio where you can learn from our national mentors and other budding video game developers! **Multimedia Fusion is required for this CyberStudio.**

### Digital Painting

1. **Digital Painting Onto Artist's Canvas – DP101** – this course teaches students the basics of digital painting and how to immediately become a professional artist using a digital camera to shoot photos that are then transformed into masterpieces using Photoshop Elements. Students can then choose to have their images printed onto posters, t-shirts, or artist's canvas. No painting skill required! **A Wacom Bamboo Fun 4 \* 5 Drawing Tablet includes: Photoshop Elements 5.0 and Corel Painter 3.0**

### Digital Manga

1. **Digital Manga – DM101** – *this course teaches students the basics of Manga, Japanese style comics, design and creation. Students will use templates created by the Youth Digital Arts CyberSchool so drawing ability is not a requirement.*  
*[this course is in development]*

### Digital Music

1. **Handheld Digital Music Studio – LTMT101** – *This course teaches students how to immediately compose and record their own original musical compositions that they own, are royalty free, and can be used to score their video games, animations, and films.*  
**A MadPlayer Hand Held Digital Music Studio**

## Time Requirements

*Each course is approximately 20 - 25 hours of work but varies based on the student's previous experience and age.*

*Recommended 3 hours/week, 4 hours preferred, based on students taking 2 courses in a given semester ex: VGD101 and VGD102. Students should have no less than one hour periods to work on the lessons.*

Standard time given per course for individuals at home is 60 calendar days. There is flexibility to extend this time period for schools, libraries, and community technology centers.

## Suggested Combinations

VGD101 & VGD102  
VGD101 & VGD103  
VGD102 & VGDCS  
VGD103 & VGDCS

VGD101 & DP101  
VGD101 & LTMT101  
LTMT101 & DP101

## "At Home" Student Pricing

### **Exclusive Software and Hardware Discounts**

Each course is \$60 and 60 calendar days in length. Extensions are offered as needed within a semester. Students must start the courses when they enroll.

**Multimedia Fusion** is \$80 plus \$10 for shipping and handling. The retail price that you will pay anywhere else is \$119 plus shipping and handling. Our discounted price is **exclusively 33% off of standard retail.**

**Toon Boom Studio bundle** is \$69 and downloaded to your computer so there is no shipping and handling. The retail price is \$410. Our discounted price is **exclusively 83% off of standard retail.**

**MadPlayer** is no longer in production but we do have a limited supply at \$499.

**Wacom Bamboo 4 \* 5 tablet includes Adobe Photoshop Elements 5.0 and Corel Painter 3 for free** – is \$99 including shipping and handling.

All of the digital arts are made possible by and extensively use mathematics. Every digital art is also a form of storytelling. A single digital painting on a canvas can tell many stories depending on who is looking at the canvas. An animation is commonly 12 images per second and therefore a different modality of storytelling. Digital music is an amazingly rich exploration of instruments, sounds, themes, melodies, and rhythms that can move the listener with or without accompanying spoken words, poetry, or lyrics. Digital videography is commonly 30 frames per second providing another storytelling method. Video games are an interactive container for the other digital arts. The following is an example of how video games can integrate with core curriculum, specifically math.

### **How Video Game Design Integrates With Math**

When students are designing and creating video games they are creating virtual two dimensional worlds that mimic the real world.

- They have to program how the environment interacts with all of the characters and how all of the characters interact with each other
- The programming is accomplished by check boxes in the matrix, a large grid, that is easily mastered by students and is translated by the software into if-then statements
- Logic and strategy must mimic the real world else the game will not be realistic and will be boring for their friends who may be harsh critics
- The game world mimics the physics of the real world. There is gravity, acceleration, deceleration, strength, and speed
- Students have to define the initial direction of characters and the paths they will follow
- The development process is a cycle of hypothesis, testing, and revision <sup>1</sup>
- Characters are programmed “relative” to other characters and objects based on a visually represented coordinate system
- For students to produce advanced features such as infinite levels that have to learn to create and dynamically populate arrays.
- The quality of the production is more important to the student than a report since they will be “producing” them for friends and families
- A game is only as good as its story – language arts

Kids are drawn to video games. They acquire significant knowledge of virtual worlds, logic, and strategy as a by-product of playing their video games. There are very few opportunities for them to apply this knowledge and expertise in a way other than just playing more video games. YDACS Video Game design classes lets students explore how deep their knowledge actually is and leads them to computer programming to achieve some of their expected and desired results.

*1. This is a good article on Digital Game Based Learning, DGBL, that states the best way to integrate video games into core curriculum would be for the students to make the games. The author dismisses this as too difficult to accomplish: [www.educause.edu/ir/library/pdf/erm0620.pdf](http://www.educause.edu/ir/library/pdf/erm0620.pdf)*