

# Middleton High School

## Pre-Collegiate STEM Academy

### Computer Game Design Magnet

Computer Game Design is the “Software” Magnet created to train students in computer programming through the building of video games. Students also experience multi-media training in the design of avatars, characters, scenes and objects in 2D and 3D environments. There is a focus on emerging technologies and the object oriented programming of different game engines to build custom games. These programming and computer skills prepare students for jobs in the Computer Gaming Industry and most other computing careers. The Computer Game Design Magnet lets your inner gamer come alive as it prepares you for the dynamic world of video game design and animation!

Game design is a highly engaging subject that attracts students and helps train students to accept these and other high end computer careers. Additionally, game design courses incorporate real world situations from all core courses and allow for cross curriculum lessons. For example, the math teacher may have a lesson on probability. In the game design class, students would apply those skills to program probability of random objects into their game. Likewise, students can create game storyboards and program a scene from a book read in their English class. In this way, all core lessons are supported and higher level understanding and learning is achieved. This STEM model seeks to create students that are prepared to lead the workforce of tomorrow.

The high rigor training from the courses in the field of Video Game Design tap into the highest level of technology training. These skills easily transfer to other job skills. Instead of creating a medical database, students use the same skills to store game assets such as amulets, health points, skill points, abilities & more for the in-game database. This knowledge branches to many career opportunities based on the technology skills and foundations learned using video game design. In their senior year, students are expected to produce a small commercial game. This is especially important for the computer industry where portfolio work speaks the loudest.

#### Computer Game Design Students Will...

- Apply Science, Math, Language Arts, Social Science, Digital Design and Computer Programming skills.
- Work with Dreamweaver software, and Flash animation software;
- Learn how to create and manipulate images with Fireworks software;
- Have the opportunity to sit for the Adobe Certified Associate CS 6 Dreamweaver and CS 6 Flash, Photoshop and 3D Studio Max, Unity and Microsoft Industry Certifications.

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## Course Sequence (Computer Game Design) (Standard Magnet Track)

	Grade 9	Grade 10
ELA	English I Honors	English II Honors
Math	Geometry Honors	Algebra II Honors
Sci	Biology Honors	Chemistry Honors
Soc	AP Human Geography	AP World History
GA	Computer Fundamentals	AP Computer Science Principles
GA	Game Design Foundations	Game Design Composition
Elec	Elective	HOPE
Elec	Elective	Elective

	Grade 11	Grade 12
ELA	AP English Lang & Comp	AP English Lang & Comp
Math	Pre-Calculus (Honors)	AP Calculus AB or BC
Sci	Physics Honors or AP Physics 1	AP Biology or AP Physics 2
Soc	AP US History	AP Economics Elective
GA	Game Design 3D Animation	Video Game Design Advanced Applications
GA	Game Design Programming (C#)	AP Computer Science A (Java)
Elec	World Language	World Language
Elec	Elective	Elective

All courses at **Middleton Magnet High School** are taught on a two-day rotation cycle. Students attend four periods each day. This schedule enables students to complete 8 courses per year, rather than the traditional 7 courses at most HCPS high schools. The addition of an 8<sup>th</sup> period allows students to include popular electives such as Band, Orchestra, Chorus, JROTC, Building Construction, Art, Agriculture or courses in another magnet program.



<http://middleton.mysdhc.org>  
MHS Magnet Office: 813-233-3360 Ext. 234



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