James Madison High School

5005 Stahl Rd, San Antonio, Texas 78247 210-356-1400 7:45 AM - 4:45 PM M-F

You Are Invited!

Madison CTE Endorsements and Program of Study

Computer Science

4 Credits (Students must complete Algebra II, Chemistry and Physics for this endorsement)

Course:	**COMPUTER SCIENCE Pre-AP**						
Course Description:	This course will foster students' creativity and innovation by presenting opportunities to design, implement, and present meaningful programs through a variety of media. Students will collaborate with one another, their instructor, and various electronic communities to solve the problems presented throughout the course.						
Course Number	**3005**	Credits:	1.0	Term:	Full Year	Grade Placement:	9 - 12
Prerequisites:	Algebra I						
Special Notes:							

Course:	**AP COMPUTER SCIENCE A**						
Course Description:	The course introduces students to computer science with fundamental topics that include problem solving, design strategies and methodologies, organization of data (data structures), approaches to processing data (algorithms), analysis of potential solutions, and the ethical and social implications of computing. The course emphasizes both object-oriented and imperative problem solving and design using Java language.						
Course Number	**3010**	Credits:	1.0	Term:	Full Year	Grade Placement:	10 - 12
Prerequisites:	Computer Science Pre-AP						
Special Notes:	This course may count as a fourth year math credit on the Recommended Graduation Plan only.						

Course:	**AP COMPUTER SCIENCE PRINCIPLES**						
Course Description:	AP Computer Science Principles offers a multidisciplinary approach to teaching the underlying principles of computation. The course will introduce students to the creative aspects of programming, abstractions, algorithms, large data sets, the Internet, cybersecurity concerns, and computing impacts. AP Computer Science Principles will give students the opportunity to use technology to address real-world problems and build relevant solutions. Together, these aspects of the course make up a rigorous and rich curriculum that aims to broaden participation in computer science.						
Course Number	**3007**	Credits:	1.0	Term:	Full Year	Grade Placement:	11 - 12
Prerequisites:	Recommended: Computer Science Pre-AP; can be taken concurrently or after AP Computer Science						
Special Notes:							

Course:	**GAME PROGRAMMING AND DESIGN**						
Course Description:	This course provides collaboration opportunities to solve gaming problems with electronic communities. Data analysis will include the identification of task requirements, planning search strategies, and the use of programming concepts to access, analyze and evaluate data to design games. Course will be used by magnet programs.						
Course Number	**3037**	Credits:	1.0	Term:	Full Year	Grade Placement:	9 - 12
Prerequisites:	Algebra I						
Special Notes:							

Course:	**INDEPENDENT STUDY IN TECHNOLOGY APPLICATIONS**						
Course Description:	Through the study of technology applications foundations, students learn to make informed decisions and develop and produce original work that exemplifies the standards identified by the selected profession or discipline, and publish the product in electronic media and print.						
Course Number	**3011**	Credits:	1.0	Term:	Full Year	Grade Placement:	9 - 12
Prerequisites:							
Special Notes:							

High school ranking refers to each student's academic performance and where the student's performance positions him/her within a class of students. Student ranking depends on course selection and grades. For more information on ranking please refer to the District Guidance Services Web page at http://www.neisd.net/curriculum/CurComp/guide/ranking.html.