

AP COMPUTER SCIENCE

Biography and Course Description

Michael Lew

Bio

Michael Lew is currently an AP Computer Science and AP Physics teacher at Loyola High School in Los Angeles, CA where he has taught since 1991. He received his Bachelor and Master's degrees in Electrical Engineering from Loyola Marymount University and Cal State LA, respectively. He also holds a MA in Secondary Education from Loyola Marymount University.

Michael has been teaching the AP Computer Science course since 1995. He was an AP Reader from 2001-2004 and has presented at one-day and weeklong summer institutes since 2004. His syllabus is published in the College Board AP Computer Science Teacher's Guide and he co-authored the "GridWorld Curriculum Module" available on the College Board website. He has also authored a teacher's guide for the textbook "Head First Java".

Michael coaches football at Loyola and is the moderator of the Guitar Making club. Michael resides in Eagle Rock, CA and is married with three children. In his spare time he enjoys traveling with his family.

Course Description

In this hands-on, intensive workshop, participants will be introduced to the AP Computer Science curriculum (emphasizing class design, inheritance, polymorphism), proven teaching strategies, and various assessment methods. The week will include in-depth discussions including the timing of teaching the course content, assessment methods, grading methodologies, as well as Java language specifics for those new to the Java language. The GridWorld Case Study will be discussed in detail and participants will take and grade past AP exams. The AP grading process will be discussed in detail. Participants are encouraged to bring their own laptops for the daily activities. You may see a detailed view of the week's activities at <http://apsi.thecubscientist.com>

Course Outline

Monday

Introductions
Java Development Environments/Compilers
AP Computer Science Subset
Teaching Methodologies (Long Term Projects)
Teaching Timeline
Teaching Methodologies: bottom up / top down?
ArrayLists
Arrays (1D and 2D)
Grading AP Exams (Arrays and ArrayLists)

Tuesday

Class Design
Strings
Searching and Sorting
Recursion
Grading AP Exams (Class Design)

Wednesday

Inheritance
Polymorphism
Interfaces
Grading AP Exams (Inheritance, Interfaces, and Polymorphism)

Thursday

GridWorld Case Study
GridWorld Role Play
AP Computer Science Subset Debrief
Wrap up and Evaluation