ACES Physics Class and Future Class Roadmap

Each year, the American Association of Physics Teachers (AAPT) and American Institute of Physics (AIP) sponsor a competition for high school students to represent the United State at the International Physics Olympiad (IphO) Competition. The current procedure to select the U.S. Physics team consists of two exams, the preliminary **F=ma Exam** and the **Semifinal Exam**.

The preliminary exam is known as the "**F=ma contest**". There are 25 multiple choice questions in 75 minutes focusing only on *non-calculus mechanics*. One point is awarded for each correct answer and a quarter point penalty deducted for each incorrect answer. The cut-off was 15.5 in 2012 and 12.25 in 2013. Students passed the cut-off score are named **US Physics Olympiad Semifinalists**.

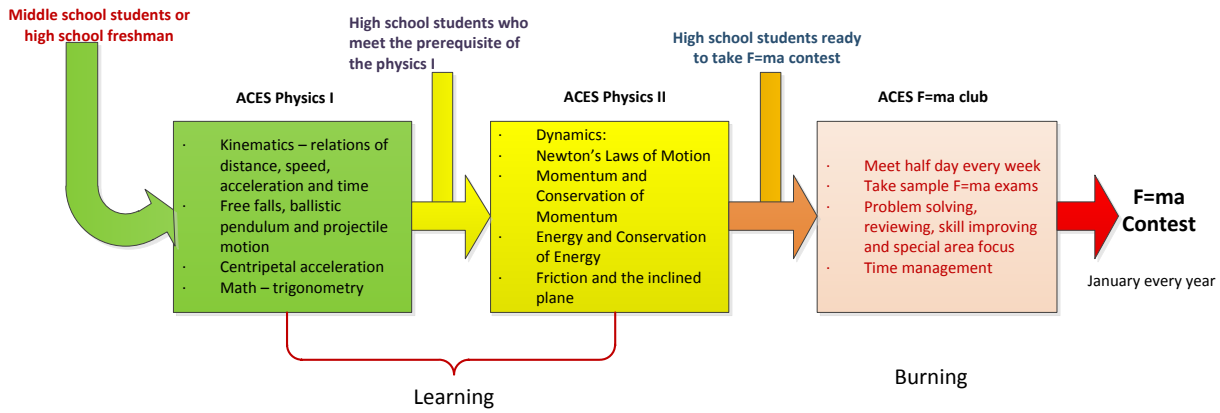
The objective of the ACES physics class series is :

1). To help students achieving high score in F=ma contest, to identify students who are talented in physics and pave the road for students to be qualified for the physics Olympiad semifinalist.

2). To help students learning in advance and make their job easier when their schools teach the class.

ACES Physics Class Roadmap

Since public high schools provide physics classes at high school junior and senior years, the students will miss the opportunity to participate **F=ma Exam**. The design of the ACES physics roadmap allows middle school students and high school freshman to learn physics before their peers.



The "ACES physics I" class will focus on kinematics. After the "physics I" class, students should be able to solve 1/3 of the F=ma exam problems. The "ACES physics II" class will study "dynamics". The physics II course enables students to understand all concepts and principles of F=ma contest. The "ACES F=ma

club" is for students who have completed "ACES physics II" class or students who have taken high school physics class and ready to take F=ma exam.

The "physics I and physics II" classes will take the same format, homework review, new material and class room exercise. The key objective of the physics I and II classes are *learning* all necessary concepts and theories of **F=ma Exam** and *solving* real problems. The focus of "ACES F=ma club" is *burning* which burns the concepts and problem solving skills to students brain so that they can quickly and correctly solve the 25 F=ma problems in 75 minutes.

ACES F=ma club

After completing ACEs physics I and physics II or equivalent courses in other places such as your high school, we encourage you join our "F=ma" club. The "ACES F=ma club" will be one session per week and 4 hours per session to do a lot of practice intensively to get students to ready to participate the **F=ma Exam.**