What’s V?

A monthly newsletter for physics teachers in LA and Orange Counties

Upcoming Events

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<th>Date</th>
<th>Event</th>
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<th>Contact Information</th>
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<td>Jan 10</td>
<td>PhysTEC Demo-Day</td>
<td>CSULB PH2-122</td>
<td>Waves (including sound &amp; light)</td>
<td>Michael Tran at <a href="mailto:michael.tran@csulb.edu">michael.tran@csulb.edu</a> to RSVP and request parking before 1/7.</td>
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<tr>
<td>Feb 9</td>
<td>SC AAPT New Physics Teacher Workshop</td>
<td>Santa Monica College</td>
<td>Waves</td>
<td>Contact for more information: James Lincoln at <a href="mailto:lincolnphys@gmail.com">lincolnphys@gmail.com</a></td>
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<tr>
<td>Feb 14</td>
<td>PhysTEC Demo-Day</td>
<td>CSULB PH2-122 (Note: New Room!)</td>
<td>Electricity &amp; Magnetism</td>
<td>Contact: Michael Tran at <a href="mailto:michael.tran@csulb.edu">michael.tran@csulb.edu</a> to RSVP and request parking before 2/5.</td>
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Check out more upcoming events at www.physicsatthebeach.com

PhysTEC Demo Days

The second Thursday of every month is a chance to collaborate with other physics teachers and share your favorite fun demonstrations and activities. Each month focuses on a different topic. This month, Jan. 11, the topic will be Waves (including light and sound). See the highlights from last month’s Demo Day on the back page!

We hope to see you at 4:30 on Oct 11 in Room 280 in HSCI. Free (and close!) parking is provided and so is food!

Recruiting for Physics

Many physics teachers have to teach other subjects because the school does not have enough students taking physics to make a full physics teaching assignment. Since teachers would obviously prefer to teach just physics (who wouldn’t?), it would be good to spend some time looking at how to increase enrollment.

While it is obviously best to have guidance counselors on your side (more on this later), you have the most responsibility for recruiting your future students. First, think of your current non-physics classes as prime targets. Leave out as many physics labs, toys, demos as you possibly can. Let them play with the equipment on the way into/out of class. It will generate discussion and interest in physics. Fan those flames!

In the weeks leading up to registration for next year’s classes raise the awareness level of physics at your school. One way to do this and again generate discussion/interest is to use a series of clever and thought provoking flyers created by Dean Baird, on pages 3-8 of this document. I cover the the hallways of the science/math building with them, using a new flyer (about 10 copies) each day. Another good resource for advertising is a poster available from AAPT “Ten Good Reasons to Take Physics” I have modified some and I use them as individual flyers, shown on pages 9-18 of this document. Also, the IOP (Institute of Physics) has created a great series of flyers on the use of physics and careers in physics that can also be a useful recruiting tool.

http://www.iop.org/education/teacher/student/posters/page_39485.html

If your school does video announcements, make a slide show or a video of students doing activities or labs. If you do any special events (like an egg drop, boat races) definitely include those. I do this for several events during the year just so my students can see themselves doing fun physics activities but it also serves as a recruiting tool.

If your fellow science department teachers are willing, visit their classes during this time to publicize physics. Show students some of the activities from your classes, talk about the importance of taking physics for college preparation.

Guidance counselors at some schools (not at mine thankfully 😊) steer students away from Physics because it is a “hard” class and suggest they take an “easier” class such as anatomy/physiology or no science at all even if the student is college bound. For any student who has any notion of majoring in any science field, pre-med or engineering --this is a serious mistake. They will have to take Physics in college (equivalent to AP Physics) and will be seeing this material for the first time and it will be presented in a shorter time period, often with less support. Imagine taking a college class in Biology or Chemistry without having any knowledge from high school classes. These students are unintentionally being set-up to fail (or struggle greatly). In one semester dreams of medical school could be gone. A gentle talk with your counselors about these consequences can help to solve this issue. (Thank you to Prof. Harry Tom from UCR for pointing out this issue.)

If you have any questions or would like to contribute to this newsletter, please contact me at dwyer_k@auhsd.us or visit the website www.physicsatthebeach.com
**Highlights of December’s Demo Day: “A Few of Our Favorite Things”**

Erica, Carey and Matt entertain us with Physics carols on open pipes. 

Tamara swings her way to the “best demo” prize with a cup of water!

Debbi does her best “Wingardium Leviosa” spell to illustrate static electricity.

Sean tries his best to keep his balance.

Adam wins a circular track from Lynn, Cenco representative.

David brings mixing of colors to life.

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**Fall Semester PhysTEC Social Mixer**

A large crowd of Physics faculty, graduate and undergraduate Physics students gathered on the patio of the MLSC building for the Physics Social Mixer. Lots of food, conversation, fun and competition! Teams competed to build the tallest spaghetti tower, topped with a marshmallow. Join us in the spring for the next Social Mixer. (Date still to be determined.)

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Are you ready for college?

ALL high school students planning a baccalaureate education should take one year of biology, one year of chemistry, and ONE YEAR OF PHYSICS.

Source: “Statement on Preparation in Natural Science Expected of Entering Freshmen,” authored by the Academic Senates of the California Community Colleges, California State University, and the University of California [emphasis added]

TAKE PHYSICS understand the universe
What do you want to be... when you grow up?

DOCTOR • ENGINEER • NURSE • DESIGNER
ARCHITECT • WRITER • ASTRONOMER
BIOLOGIST • VETERINARIAN • LAWYER
ARTIST • COMPUTER SCIENTIST • CURATOR

To prepare for ANY profession that needs a college education, you should take physics to understand the universe.
LIES! ALL LIES!

CATS CAN SEE IN THE DARK • heavy objects fall faster than light ones • ASTRONAUTS IN SPACE ARE WEIGHTLESS • you should only take physics if you’re majoring in math or science at college • FOR EVERY ACTION, THERE IS AN EQUAL AND OPPOSITE REACTION • the moon appears larger when it’s near the horizon

IF YOU WANT TO LEARN THE TRUTH, TAKE PHYSICS
understand the universe
Are you a wonderful person?

Have you ever wondered...

- Why the sky is blue? How 3D movies work?
- What a mirage is? Why rainbows appear?
- Why the coyote never catches the roadrunner?
- Why there is air? What lightning is?
- What ever happened to "B" cell batteries?
- How magnets work?

TAKE PHYSICS

understand the universe
(Pssst... Subliminal Message)

TAKE PHYSICS
understand the universe
Did you ever want to...

Play catch with a raw egg for class credit?
Share a shock with a whole class?
Learn how to turn a lemon into a battery?
Have your hair stand out in all directions?
See someone dip his hand in molten lead, put liquid nitrogen in his mouth, walk over hot coals, and tell you how it all works?

TAKE PHYSICS
understand the universe
Top 10 Reasons Why YOU should take Physics

#10 HELP!

If you get stuck inside of a black hole, you'll know how to get out.
Top 10 Reasons Why YOU should take Physics

#9 Physics teaches you how to THINK!
Top 10 Reasons Why You should take Physics

#8 Physics Explains
Why the sky is blue

Why the world goes round
Top 10 Reasons Why YOU should take Physics will get you a BETTER SCORE on any test whose name has 3 or 4 capital letters.
# 6

The laws of physics are 100% recession-proof (they always work!)....

...And the jobs you can get with physics are pretty darn secure too.
Top 10 Reasons Why YOU should take Physics

#5

Without physics there would be no:

Lasers, space rockets, light bulbs, digital cameras, cars, fiber optics, airplanes, computers, flat screen TVs, smart phones, iPads,....

Get the Picture?
Top 10 Reasons Why YOU should take Physics

In what other class can you...

Take a field trip to Knott’s?

Take a field trip and ride a zipline?

Shoot a water balloon at your teacher?

Have your hair stand straight up?
Top 10 Reasons Why YOU should take Physics

Ever wonder why you're learning all that math?

Try Physics! It's Math with TOYS!
Top 10 Reasons Why YOU should take Physics

# 2

Find out how many of your friends will fit with you in a cardboard boat and stay afloat!
Top 10 Reasons Why YOU should take Physics

Physics makes you **MORE ATTRACTIVE** to university recruiters, future employers, and that cutie you have your eye on.