

**Instructional Related Activities
Report Form**

SPONSOR	DEPARTMENT
Jerry Clifford	Applied Physics

ACTIVITY TITLE	DATE (S) OF ACTIVITY
New West Symphony Orchestra - Physics of Music TK910-821-90469	April 5, 2013

E-mail to the Dean's Office
30 days after activity

Description of Activity:

For the spring semester, our Physics of Music students attended a New West Symphony concert at the Oxnard Performing Arts Center on April 5, 2013. Most of our students had never seen a professional orchestra perform a live concert. The New West Symphony is a professional, local and very high caliber orchestra. They play often-recognizable classical pieces, as well as newer work by contemporary composers. The students heard in concert the instruments they have studied in class. Students are more familiar with loud rock concerts that incorporate different musical instruments and lots of electronic amplification. The symphony was a memorable introduction for students to a lifetime of music appreciation beyond the rock concerts.



In the concert, students heard Bulgarian guest conductor Maxim Eshkenazy lead the orchestra in the Bulgarian composer Vladigerov's "Seven Pieces for String Orchestra." Vladigerov piece captures the native spirit Bulgaria, which Eshkenazy explained.

The second piece was Haydn's Sinfonia Concertante — a concerto for four solo instrument. The soloist included four New West principals: concertmaster Danielle Belen, oboist Lara Wickes, bassoonist Duncan Massey and cellist Mark Tanner. This work gave the students an opportunity to compare individual instruments with the compliment of grouped instruments in the orchestra. Often the oboe and bassoon are difficult to identify in symphonic works.



Eshkenazy finished the program with Mozart's Symphony No. 41 in C major, often called the Jupiter Symphony – the last of three symphonies Mozart composed in rapid succession during one summer, 1788. While most students had never heard the work, it is a masterpiece with familiar segments. Many students commented on Eshkenazy animated style as he lead the orchestra through the works.

Most students sat in the front of the auditorium for the first half of the concert so they had excellent views of the soloists and the conductor. At intermission, I suggested that for the second half of the concert they move to the back of the auditorium where they had a better overall view of the entire orchestra and better sound mixing.



Fifteen students attended the concert, many bringing friends to share the experience. This activity was not a field trip because the choice of a concert and venue was up to each student, as long as each student went to a symphony concert prior to the report due date. We offered, however, a great deal on discount tickets.

Activity Related to Course:

The Physics of Music course is designed to give a useful and fun understanding of music and sound for general education, physics and performing arts students interested in music and speech. The format includes lectures, demonstrations, and hands-on activities. After covering the basic foundations of sounds and music, the students investigate each musical instrument group, including percussion, plucked strings, bowed strings, air pipes, reed instruments, horns and the human voice. To enhance the course, we wanted to expose students to a professional orchestra's live performance.



This project directly supports the Physics of Music course by expanding the class presentations on musical instruments to seeing and hearing the instruments in an exciting live performance. The many instruments that they studied individually were integrated into one unit. Many of the instruments, like the violin, trumpet, flute, clarinet, oboe and timpani, had been covered in class but many other instruments were only mentioned, like the cello, double bass, bassoon, piccolo, French horn, trombone, and many percussion instruments. Only a few instruments had been demonstrated in class by guest musicians.

Learned from Activity:

After the concert, each student wrote a paper for course credit about the concert. The paper had to address the physics of the instruments and the sounds observed, including these four points:

- What musical instruments were particularly interesting and why?
- What new musical instruments did you notice?
- Describe your impressions of the combined sounds of the symphony.
- What did you like about a live symphony performance? What did you learn from it?

Most of the students thought the symphony performance was outstanding and several looked forward to future symphony concerts, which is what we really hoped to achieve. The students were amazed by the fullness of the sounds and the complexity of the playing. They said the concert was a highlight of the class and a great way to solidify their knowledge of physics of the musical instruments.

Seeing a professional orchestra was a wonderful experience for our students. The New West Symphony has been trying for years to establish a relationship with the university and they were very excited that our Physics of Music class included a symphonic performance in our curriculum.

Accounting:

The IRA funding approved for “New West Symphony Orchestra – Physics of Music”, TK910-821-90469, was \$120.

Sandy Galin of the NWS office offered \$10 tickets, which is much less than the lowest single-seat ticket prices of \$25. The students originally had to pay \$20 to reserve a ticket, because I was buying the tickets on my credit card. I found that student do not show up if they don’t have any “skin in the game”. After the symphony, I reimbursed the full \$20 back to the students. Students also paid for their own transportation and parking.

The total amount requested for reimbursement from IRA is \$150. Another IRA funded program for my Physics of Music class, “Guest Musicians – Physics of Music”, TK910-821-90470, was approved for \$1500 but only spent \$900. Hopefully, the remaining \$600 can be applied to cover the \$30 overage.

Number of tickets for students in class	15
Cost at \$10 per ticket to be reimbursed	\$150
Cost for instructor’s ticket (not reimbursed)	\$25
Total charge to credit card (receipt attached)	\$175

