Physics for Elementary Teachers

Physics for Elementary Teachers (PET) is a new one-semester curriculum (60 contact hours) designed to achieve the following four goals:

<table>
<thead>
<tr>
<th>Physics content</th>
<th>Nature of science</th>
<th>Elementary Students’ ideas</th>
<th>Learning about Learning:</th>
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</thead>
<tbody>
<tr>
<td>To help students develop a deep understanding of a set of physics ideas that can be used to explain interesting phenomena. These ideas are similar to the ideas that elementary students learn.</td>
<td>To help students practice the scientific process and understand how knowledge is developed within a scientific community: that doing science involves using evidence and creative thinking; that knowledge is established through collaboration and consensus; and that science knowledge can change over time.</td>
<td>To help students analyze and appreciate the thinking of elementary students while they engage in scientific inquiry, and to make connections between children’s learning and their own learning of physics.</td>
<td>To help students become more aware of how their own physics ideas change and develop over time, and how the structure of the learning environment and curriculum facilitate these changes.</td>
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The PET curriculum is designed around the common theme of interactions. Students learn to describe interactions in terms of either energy or forces. The course content consists of seven cycles of learning:

- **Cycle 1:** Interactions and Motion
- **Cycle 2:** Interactions and Forces
- **Cycle 3:** Interactions and Fields
- **Cycle 4:** Model for Magnetism
- **Cycle 5:** Electric Circuit and Electromagnetic Interactions
- **Cycle 6:** Light and Infrared Interactions
- **Cycle 7:** Interactions and Conservation

http://cpucips.sdsu.edu/web/pet/

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apply their evolving physics knowledge in the context of the elementary classroom. Students do this by analyzing video segments of elementary students as they work through physics activities that are similar in nature to activities contained within the PET Curriculum. In some ESI activities, PET students also analyze elementary students’ diagrams of physical phenomena.

A comprehensive web-based PET Teacher Guide provides detailed information and sample videos to help teachers implement the curriculum in the classroom.

You can find out more about PET by visiting the website at:

http://cpucips.sdsu.edu/web/pet/

PET Workshop

If you are interested in using PET you can apply to attend a special 5-day PET workshop, to be offered this summer in San Diego, July 12–16, 2004. Application forms are available on the PET website.

For further information, contact Judith Leggett jleggett@sciences.sdsu.edu.