Internet Science Explorations

During the week of Internet Science Explorations, students learned how the internet works and how to most efficiently use the internet as a resource to find, retrieve, evaluate and relay information online. E-mail and chat sessions showed students how the internet could also be used for communication. To finish up the week, students learned how to create their own web-pages using the basics of HTML.

Modeling Your World

Modeling Your World was a course in which participants used several modeling tools (with an emphasis on the modeling software program STELLA) to investigate authentic scientific problems found in the natural phenomena of our everyday world. Individual case studies allowed students to investigate and focus on a topic of their greatest interest.

Stimulating Understanding of Computational science through... Collaboration Exploration Experiment & Discovery

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Math Explorations

Math Explorations focused on teaching students how to understand connections between mathematical concepts and the world around us. They compiled and compared their own data using graphs and spreadsheets and then practiced effective communication of their information. Students had a weeklong assignment of working in pairs to learn about a mathematical concept well enough to teach it to the class by the end of the week.

Scientific Computing

The Scientific Computing workshop taught students with an interest in computer programming several different aspects of computing. Topics covered include the applications of scientific computing, computer programming, and scientific visualization (graphics). Students learned how to compile and compare research data using graphs, spreadsheets, and computing languages such as C++ and Perl.

Engineers in Training

Students in our new offering, Engineers in Training, underwent a laboratory-style class that introduced students to the computer-aided engineering design process. Assignments included designing and constructing projects in structural, mechanical and aeronautical engineering. All of the projects involved computer use for design, investigation, measurement and collection of data, and the construction of an engineered system.

Medicine & Biosciences

Medicine & Biosciences was a course designed to allow high school students who are interested in a medical career to gain a stronger understanding of the field. Because the role of computing in medicine and biosciences is becoming increasingly important, students were taught to build computational solutions to problems involving the study of disease, the behavior of drugs and the workings of the body.

Astronomy & Astrophysics

The goal of the Astronomy & Astrophysics course was to give students an opportunity to learn about space using computer technology to model different astral phenomena. Through the use of lectures, hands-on explorations, computational modeling and a small research project, students got a better understanding of concepts that are out of this world.

Environmental Science

Science helped give students a better understanding of the current situation of the environment by combining knowledge in the chemistry, biology and technology fields. Some topics that were studied include air and water pollution, ecosystem dynamics, population dynamics and predator-prey relationships.

Forensic Science

The course in Forensic Science taught students different techniques of investigation as well as different ways to examine the reliability and validity of evidence. Through hands-on activities, students learned how to put the scientific method into practice. Emphasis was placed on the use of communication and computer technology to increase understanding of an activity. To allow students to demonstrate all that they learned, a mock court trial was held at the end of the week.