

COMMUNICATION METEOROLOGY— INTERDISCIPLINARY MINOR

A minor in the area of meteorological communication is available to students who wish to become informed interpreters and communicators of weather information to mass audiences via electronic and print media. The minor consists of 19 or more credits selected from courses in the Departments of Communication and the Earth Sciences and elsewhere as appropriate to individual goals.

Courses will be selected, by advisement, in various combinations depending on the individual's background and major program.

For more information, contact Gustavo Pereira, Department of the Earth Sciences, (585) 395-2636.

DEPARTMENT OF COMPUTATIONAL SCIENCE

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Associate Professor and Chair: Robert E. Tuzun, PhD, University of Illinois/Urbana-Champaign; *Empire Innovation Professor:* Osman Yasar, PhD, University of Wisconsin/Madison; *Associate Professor:* Leigh J. Little, PhD, Arizona State University; *Assistant Professor:* Wensheng Shen, PhD, University of Kentucky, and PhD, Tennessee Technological University.

- Requirements
- Combined BS/MS Program
- Courses

Along with traditional experimental and theoretical methodologies, advanced work in all areas of science and engineering has come to rely critically on computation. Computer modeling combined with visualization represents a new paradigm for scientific exploration and technological research and development. It permits a new approach to problems that were previously inaccessible. The goal of the computational science program is to enable students to perform computational modeling in problems of technological and societal relevance. To this end, students learn a core set of skills in mathematics, computer programming, visualization, and simulation/modeling. Students may then apply these skills to application areas of interest to them.

Nearly all areas of science and engineering now use computers for modeling and problem solving. The aerospace industry uses this approach to design safe and economical aircraft. The automobile industry uses similar techniques to design better engines and safer vehicles. Computational technology is used in the medical and pharmaceutical industries to develop new drugs, interpret and construct visual images of medical data such as MRI, and to assist in medical procedures. Meteorologists use computational techniques to predict the weather and long-term climate changes. Ecologists and biologists use computer models to study the environment, population dynamics, and the influence of pollutants on the body, the air and the ocean. Economists use computers to predict future behavior of many financial systems, including the stock market. Computer modeling enables the study and performance testing of systems before they are put into production. This approach has saved billions of dollars and years of development time.

The Department of Computational Science has received equipment support from Sun, Intel and Silicon Graphics and works closely with local industry. The program is flexible so as to allow students to follow their particular interests and continue, if desired, with advanced degrees. Our