



MCDANIEL COLLEGE

Physics professor wins \$170,000 national science grant to develop course

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The National Science Foundation has awarded a \$170,000 grant to McDaniel College Physics Professor Jeff Marx to develop, deliver and assess a novel science course for non-science majors on “The Nature of Science.”

For this project, Marx is collaborating with Karen Cummings, a Physics professor at Southern Connecticut State University in New Haven. Several McDaniel science faculty from Biology, Physics and Chemistry are involved in this project, with of them to test one or two modules in their courses and provide feedback.

The grant period, which began in October, is designed to last 2 ½ years. Marx said he imagines he will be tweaking the course well beyond that, as he hopes to apply for an even larger grant to hold workshops and disseminate the materials nationally.

The newly developed course – which Marx began teaching spring 2010 – aims to strengthen students’ sense of science, expand their ability to understand and conduct scientific inquiry, and cultivate their recognition of the relationship between science and society.

Of particular interest, Marx says, is giving non-science students a classroom experience that enables them to better retain their science knowledge.

“We know that no matter how well presented, general education students, understandably, shortly forget specific content due to a lack of use,” Marx says. “By analogy, many students study a foreign language such as German in high school, but would find it of little help if they finally visited Germany many years later.”

Marx and Cummings are incorporating teaching experiences to develop relevant alternative approaches with effects that will be more lasting, he says.

“Enhanced literacy will be of use in the everyday life of a typical American,” Marx says. “And we hope that usefulness will make the classroom experience enduring.”

“We want to help students understand what science is, what scientists do, and to develop in them aspects of a scientist's world view that will be useful for them when, for example, they watch the news, act as consumers, or consider risks associated with a given behavior,” Marx adds.

“Expanding science literacy at the college-level represents a part of the solution to this nation's science literacy problem.”

Through lengthy phone conversations, frequent emails and meetings at conventions, Marx and Cummings have worked tirelessly to move the project forward. Marx says he anticipates campus visits where he and Cummings will watch each other in action with the materials as they continue to hone the course.