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Ohio University grad students to 'STEAM' up middle school education

ATHENS, Ohio (July 3, 2006) -- Ask middle school teachers their toughest job, and you're likely to hear it has something to do with creating lesson plans that are educational while being engaging and fun. The simple fact is, students learn better and perform better when they enjoy what they're doing.

Next year, eight exceptionally talented engineering graduate fellows will help facilitate engaged learning at the middle school level through a new medium – video games. This unique partnership between college and community is possible with a three year, \$1.67 million National Science Foundation grant won by faculty at Ohio University's Fritz J. and Dolores H. Russ College of Engineering and Technology and College of Education. The grant is one of the largest Ohio University has ever been awarded.

It won't all be fun and games for the graduate students – Bruce Bilyeu of Barnesville, Ohio; Mitch Leitch of Mentor, Ohio; Chad Mourning of Middleport, Ohio; Scott Nykl of Walworth, Ohio; Eric Petri of Bellbrook, Ohio; Joshua Schendel of Elroy, Wisconsin; Mark Smarcheck of North Canton, Ohio; and James Wyllie of Novelty, Ohio. They will spend at least 15 hours a week researching the topics, developing or customizing software tools, working on curriculum development, and providing engaging in-class experience for middle school students.

The project, Science and Technology Enrichment for Appalachian Middle-Schoolers (STEAM), is being led by Chang Liu, assistant professor in the School of Electrical Engineering and Computer Science (EECS); David Chelberg, EECS associate professor; and Teresa Franklin, instructional technology associate professor in the College of Education. Jason Mayles, a Ph.D. student in the College of Education, will assist Franklin with training the graduate fellows for classroom teaching.

The digital curriculum will offer unique learning opportunities for science and math related disciplines. Simulated science investigations will allow students to develop and utilize higher-order thinking skills such as analysis, logical reasoning and synthesis.

According to Wyllie, the development of these skills early on is essential for the long term educational success of students – especially middle school students who are just beginning to develop and hone their intellectual interests. "They are in a crucial point in their education," he said.

Wyllie's fellow grad student Petri hopes that his work in the classroom will capture students' interests and enhance their abilities in science, math or

engineering – fields that they may not have noticed or considered themselves capable in previously. "I want to show the students the endless possibilities in science-related fields right now – regardless of their decision to pursue science or math later in life. It's worth it, just to give students exposure to something they may not have experienced before," he said.

Liu notes that STEAM will have a substantial affect on not only the education of middle school students, but also the professional development of their teachers. "Through co-teaching, the fellows will help expose teachers to the latest developments in science and technology," he says. "These are valuable resources for professional development that teachers don't always have the time or monetary resources to pursue otherwise."

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Media Contact: Russ College Director of External Relations Colleen Girton, (740) 593-1488 or girtonc@ohio.edu, or Media Specialist Jack Jeffery, (740) 597-1793 or jefferyj@ohio.edu

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