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Tucson, Arizona | Published: 03.21.2005

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## Section: Tucson Region

# UA science students add a bit of business to their curriculum



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Benjie Sanders / Arizona Daily Star

Niranjan Kesani, left, John Goulding, center, and Warren Donian have installed their BOB technology on a model all-terrain vehicle.

By Marcee McKernan ARIZONA DAILY STAR



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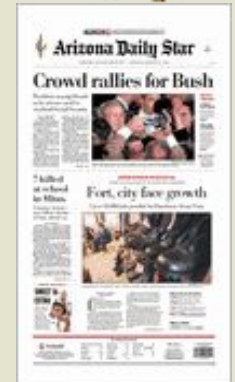
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Turning science students into entrepreneurs is the goal of a University of Arizona graduate class - an increasingly important lesson in the highly competitive world of academic research.

"Scientists today have to have some business knowledge," said Pier Ingram, a UA graduate student who took the class last semester. "We seldom are exposed to the business aspect of what we are doing, and that's unfortunate."

The course, which started in January 2004 with the help of a grant from the McGuire Entrepreneurship Program and the Kaufman Foundation, is offered only to graduate students in science and engineering. With just 20 seats available each semester, the class is in great demand.

"The class covers topics that are at the intersection of science and business, and bridges the



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gap between the two in an innovative way," said Alaina G. Levine, the class administrator and director of special projects at the College of Science.

The class offers students the opportunity to connect with entrepreneurs, scientists, businesspeople and industry leaders who have successfully combined science and business in their careers, Levine said. Listening to guests talk about their experiences - rather than reading from a book - is what appeals most to students, she said.

There's also another attraction: Each week after class, Levine treats a handful of students to dinner with the guest speaker.

Early this month, Ford Burkhart, foreign news editor at The New York Times, discussed how scientists become communicators and explained the evolution of a news story.

And Kathleen Perkins, CEO of Tucson's Breault Research Organization, recently talked with students about turning academic research into product development.

"Scientists will hypothetically spend about 40 years in a lab, which is fine, but at some point their research and testing will intersect with product development, sales and marketing," Perkins said.

Another guest speaker, Kirt Gardner, chairman of the board for Tucson-based Apta Software, also serves as a mentor to some of the students in Levine's class as well as to students in the UA's Eller College of Management.

When they're not listening to guest speakers, the students work on team projects, forming mock companies and developing business plans.



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For some students, the class assignment has turned into an actual startup business, which Levine said has been "a delightful and unexpected surprise."

John Goulding, a doctoral student in optical science, and his team wrote about how cell phones could be used to control robots. Goulding and Warren Donian, who is seeking a master's in business administration, then took the idea a step further and created BOB - or Brains On Board - a robot prototype that allows vehicles to be operated by remote control.

The grad students used machine vision to augment the Global Positioning System technology used in agricultural equipment today, Goulding said.

The current target market for BOB is agriculture, eventually allowing farmers to drive their large sprayers and tractors without actually being in the vehicles, Donian said. The long-term goals include homeland security, military and border inspection applications. BOB can go where agents can't, Donian said.

● *Contact reporter Marcee McKernan at 573-4142 or [mmckernan@azstarnet.com](mailto:mmckernan@azstarnet.com).*

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