MEETING THE NEEDS OF STUDENTS

A common question heard from undergraduate students today is “What is the point?” From questioning their parents to questioning an instructor, students today seek validity in what they are spending their time doing. Students want to know that what they are spending their time on in the classroom is worthwhile and not just a time filler to get to the end of the semester. Last year, the Department of Physics at UNI made changes to their course offerings in order to better meet the needs of their students and in return, have kept that common phrase from being muttered in the labs of Begeman Hall.

Dr. Tim Kidd, associate professor of physics at UNI, has assisted in the planning of the new and redesigned courses. Changes have included:

The creation of the course First Year Projects in Physics (Physics 1000). The revamping of the course Digital Electronics & Robotics, which was renamed Physical Computing (Physics 4310). Finally, the splitting of the course Introduction to Electronics (Physics 4300) into two courses, Introduction to Electronics (Physics 4300) and Project Lead the Way: Digital Electronics (Physics 4290).

“When we were looking at updating our courses we started with our Introduction to Electronics course,” explained Kidd. “That course was taught to a mix of science education majors and science/engineering majors and was based in algebra.” With this course being split into two separate courses, the curriculum was re-designed with the students in mind.

“The old Introduction to Electronics course did not have content that our science education majors needed in order to teach in high school,” stated Kidd. “For our science and engineering students, they weren’t getting the math they needed for graduate school or industry prep. So we split the course into two so we could tailor the material to the students in each major.” The new Introduction to Electronics course is calculus based and geared more toward science and engineering students while the new Project Lead the Way: Digital Electronics course is taught using the PLTW curriculum for science and technology education students.

“[PLTW] is a national curriculum for high school teachers that many school districts are using. When our students complete and pass the course, they can receive a certification to teach this curriculum in a school,” said Kidd. “So by teaching our students using this curriculum as the basis, it gives the students a leg up when applying for teaching jobs because they already have the certification and the school districts don’t have to pay to certify them.”

This wasn’t the only course redesigned to assist students in gaining practical knowledge and a certificate for their future career. The course, Physical Computing, was revamped to allow students who have taken the course to become certified in the first level of a program called LabVIEW.

“When we redesigned this course, we focused on a program called LabVIEW,” stated Kidd. “The certification from LabVIEW is heavily used in the industry and businesses are actively seeking people who have knowledge using the program. As an entry-level
employee, our students will most likely need to have this certification so we figured, why not prepare them in class so they are prepared to obtain this certification before they enter the job market.”

This semester, Joe Kosmicki, a sophomore majoring in physics, is enrolled in the new *Introduction to Electronics* course in addition to *Physics 3: Theory & Simulation, Calculus 3* and *Japan*. He says that the new electronics course is by far his toughest class this semester.

“It’s really challenging me but I’m learning a lot,” Kosmicki said. “I want to become a mechanical engineer so I don’t see myself going into the area of electronic engineering, but this course is making me well rounded in the technology field so I have the background knowledge, even if it’s not something directly related to my future career necessarily.”

The purpose of revamping the courses offered through the physics department was to meet the needs of today’s students and what they are expected to know in the field once they graduate from UNI.