WOU students putting fitness to the real test

By Emily Mentzer
The Itemizer-Observer

MONMOUTH — Fitness is more than just a number on the scale or the reflection in a mirror.

It's about body composition, risk factors, lifestyle and aerobic endurance — and there's a science behind it all.

Students at Western Oregon University work in a modern exercise science lab, getting hands-on training on how to help their future clients and patients achieve better overall health, not just a smaller pants size.

Equipment used to measure fitness includes a metabolic cart and a bio pod. The cart can measure a person's aerobic endurance, metabolism and carbon dioxide-oxygen exchange, among other things.

The bio pod determines a person's body composition very accurately, as well as metabolism and calories burned versus calories consumed, allowing for accurate counseling on weight control programs rather than relying on guesswork, said Tom Kelly, WOU assistant professor of exercise science.

"We're learning how to test people to see if they're healthy enough for exercise, identifying risk factors for cardiovascular health, lifestyle, blood cholesterol," said Tyler Crawford, exercise science major.

Through the tests, he will be able to tell if a client needs to see a doctor before a workout regimen can be prescribed and how intense that program can be.

Kelly said students in the program focus on a variety of things, including pre-med, pre-physical therapy, pre-occupational therapy and cardiac rehabilitation.

The exercise science lab provides students with hands-on, high-tech learning, Kelly said.

Jared Holloway, a senior in exercise science, wants to become a strength and conditioning coach. Hands-on experience is more effective than pouring over tomes, he said.

Regina Bishop, a senior in exercise science, will work as a physician's assistant to help people prevent disease through fitness and nutrition, though it isn't what she thought she would do.

"When I came here, I was a psychology major," she said. "Through some mishap, I got into this program. I found myself enrolled in an advanced nutrition class over the summer and thought, 'these are my people.'"

The exercise science lab is exciting for research, Kelly said.

"They (students) come in here, and you can see how you can change people's lives with cardiac rehab or avoiding those diseases. (Students) get motivated."

EMILY MENTZER/ Itemizer-Observer
Assistant professor Tom Kelly prepares Jared Holloway to take a fitness test on the treadmill using a metabolic cart, which can identify a variety of health factors.

Central Class of 2016 may not have to present projects

By Emily Mentzer
The Itemizer-Observer

INDEPENDENCE — Central High School juniors may not need to worry about putting together a senior project next year, pending decisions from the school board.

It's a step toward aligning Central's graduation requirements with those outlined by the state, Principal Greg Mitchell said.

The senior project was started as an answer to the state's requirement that graduates have "personalized learning."

"It's something that we built around extended application requirements," he said. "They (Oregon Department of Education) don't give you a lot of information. We had to make it up."

The idea behind senior projects was for students to use the skills they learned in school, Mitchell said.

For example, a student who wanted to pursue natural sciences might go out and clean up wetlands, he explained.

"That's not what was happening," Mitchell said. "Kids will say, 'I want to be an engineer.' Then they'd rent out the Elks (Lodge) and host a dance as a fundraiser for something."

Other changes suggested for the CHS diploma involve credit requirements. Currently, Central graduates are required to take four credits of social studies classes. The state only requires three.

The state requires three credits in a second language, arts, or career and technical education. The district specifies that one of those three be spent in college preparation computers.

Mitchell said college prep computers may have been necessary 10 years ago, but is not very forward-thinking, and severely limits the business-based classes the high school can offer.

Removing the requirement to take college preparation computers and lowering the social studies credits would get Central's credit requirements in alignment with the state, Mitchell said.

The school board heard Mitchell's presentation at its Jan. 13 meeting, but nothing was set in stone. The changes and timeline will be ironed out in the next month, he said.

"It would be most effective to happen next year, the graduating class of next year (2016)," Mitchell said.

JOLENE GUZMAN/ Itemizer-Observer
LaCreole Middle School science teacher Ken Guffey (seated) and other teachers on a tour of PGE's Smart Power Center react to the sounds of the center powering on.

TEACHING TECHNOLOGY

Local educators get hands-on STEM experience that should benefit students in their classrooms

By Jolene Guzman
The Itemizer-Observer

JOLENE GUZMAN/ Itemizer-Observer
Kevin Whitener, right, the Smart Grid Project manager, leads a tour through the center's battery bank on Friday. It was part of an all-day STEM workshop for teachers.

SALEM — A few clicks of a mouse and what is essentially a five-megawatt "battery" is online.

LaCreole Middle School science teacher Ken Guffey is at the controls — really a computer and series of monitors at PGE's Smart Power Center in Salem.

Guffey and three other LaCreole math and science teachers were participating in South Metro-Salem STEM Partnership's PGE STEM (science, technology, engineering and math) Workshop on Friday. The workshop included a series of tours and presentations demonstrating how teachers can show students "real world" connections to the lessons they teach in class.

Teachers from three school districts — Dallas, Newberg and Salem-Keizer — joined the all-day workshop.

On the power center tour, it was the teachers' curiosity that was piqued, especially at the end when Guffey was given the opportunity to flip the power switch on the smart grid.

The first step — turning on the center's bank of lithium-ion batteries — ends in a series of pops.

"Hear that noise?" said Kevin Whitener, PGE engineer and Smart Grid Project manager. "Ken is connecting the whole system."

"I've got the power!" Guffey said, smiling.

"He does, he has five megawatts of power," Whitener said.

The Smart Power Center is part of a five-year demonstration project developing technology in energy storage, integrating renewable energy, and creating better power plant efficiency. It is an example of the type of technology the energy industry would like to implement nationwide — as well as one of the innovative career pathways science, math and engineering students have open to them.

Guffey, along with Dallas High School teacher Lee Jones and Whitworth Elementary School fourth-grade teacher Brian Williamson, are part of a consortium working to develop a STEM program in the Dallas School District. LaCreole's math and science instructors also will develop ways to use what they learned Friday in the classroom.

Teachers spent Friday morning taking a virtual tour of Sanyo Solar of Oregon, PGE's smart plant, and Covanta Energy in Brooks. In the afternoon, teachers attended workshops on sample lessons and how to adapt them to their classrooms.

Guffey said what STEM lessons will look like at LaCreole is a work in progress, but learning about possible career applications — and being able to share that with students — is a big first step.

"Having an outside facility that you can talk with is really important," Guffey said. "That's what I lack — that 'Hey guys, this is how you are going to use this stuff we are trying to teach you.'"

PGE, and other science and technology-heavy industries, sees partnerships with schools as crucial to its future. Teachers like those who took the tour Friday will play a critical role in shaping its workforce, said PGE spokeswoman Melanie Moir.

"It's neat to see the teachers engaging and thinking about what they will bring back to their classrooms about that real-world experience," Moir said. "The teachers are the ones who are going to reach the students and we see the students as the workforce of our future. Opportunity abounds as long as our students are properly prepared."

She said technology industries will soon be calling on those students.

"We see a wave of retirements coming," she said, adding there is already more demand for workers than what can be filled.

Math and science teachers in Dallas hope to develop programs that will better prepare their students to fill that void.

"Honestly, having the information is the first part of it," Guffey said. "The next part is trying to figure out how to integrate it. We are going to sit down as a team and figure out what we can do now."