

ITconnections

Information technology applications at the University of Oregon

SPECIAL OLYMPIC TRIALS ISSUE 2008



GTF athletic trainers Tori Noda (standing) and Wade Soenksen (in pool) demonstrate a rehab session in one of the Athletic Medicine Center's therapeutic pools. The pool is equipped with a rubber-mat treadmill for exercising. Images from an underwater camera are projected on a big flat-screen TV so the athlete and trainer can monitor progress and correct movements. See article on page 4.

IT IN ATHLETICS

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IT@UO

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Striving for Excellence...



A message from our CIO

This summer the University of Oregon will be the location for the US Olympic Team Track and Field Trials that will determine who will represent the United States in the 2008 Beijing Games. As you might imagine, work has been underway at Hayward Field and other facilities for months in preparation for this event. That this work would include resurfacing the track, laying new sod, or adding grandstands or lights, wouldn't be a surprise to anyone. Yet there has also been a lot going on from an information technology perspective to support this event. The article titled "Getting Ready for Eugene 08: Behind the Scenes at Hayward Field" tells of some of the work Information Services staff has undertaken in this regard.



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Editorial and Writing

Joyce Winslow jwins@uoregon.edu
Vickie Nelson vmn@uoregon.edu
Patrick Chinn pchinn@uoregon.edu

Design and Production

Joyce Winslow jwins@uoregon.edu

Photography

Dave Ragsdale dave@uoregon.edu

VP for Information Services and CIO

Don Harris cio@uoregon.edu

<http://it.uoregon.edu/itnews/>

Preparing the site for the trials is only one aspect of the story of how computer-based technology is being used in athletics at the University of Oregon. Working with UO Athletics, we were able to easily build a theme issue of *IT Connections* that allowed us to share some of the innovative uses of technology being employed to increase athletic performance, as well as care for the health and well being of our student athletes.

What is particularly interesting is to see how UO Athletics is making use of common products in new and creative ways to benefit our student athletes. Who would have guessed that iTunes and GarageBand programs would be adapted for use in a sports psychology program for athletics? Or that cameras and performance metrics would go underwater in a hydrotherapy pool? Even computer gaming technology has been adopted in an instrument that improves muscular and mental agility.

The serious business of nutrition and health monitoring is also highlighted in this issue. While we are interested in the technology being used to monitor health, or the "coolness" of the Bod Pod, the integration of these activities with educational goals cannot be missed. While student athletes are focused on performance they are also learning about the impact of nutrition on performance. These are lessons that will benefit our athletes after their days as students are over.

For spectators at the trials, our friends in the Department of Geography's InfoGraphics Lab have created some dynamic maps that will help us navigate our way through venues like the "fan festival area." These very useful maps will be available prior to the trials on the Internet at: <http://infographics.uoregon.edu/eugene08.html>.

All this focus on Olympic athletes even has inspired us to add a new piece of technology to our student lab, the "Walkstation." Making use of a low-speed treadmill and a special work surface, the Walkstation allows a student to work on a computer while walking at an easygoing pace of two miles an hour. (Okay, not exactly Olympic training pace, but enough to burn a few calories and increase productivity according to the Mayo Clinic doctor who developed it.) We'll have the Walkstation at our student labs this summer and I encourage you to drop by and give it a test run.

It's an exciting time as we anticipate the best track and field athletes coming from across the country to compete for positions on the Olympic Track and Field Team. And it's exciting for us knowing that information technology has had a role to play in preparing athletes, as well as supporting those who attend the event. We look forward to cheering on the athletes at the trials, as well as working with our university athletes and the athletic staff as they strive for excellence in the days ahead.

Don Harris
VP for Information Services and CIO
cio@uoregon.edu

InfoGraphics Lab Team Maps Eugene 08

Patrick Chinn

pchinn@uoregon.edu

When 15,000 track fans descend on Hayward Field this June for the Olympic Trials, each person at some point will ask, "Where can I get something to eat?"

The answer will be illustrated by maps created by the University of Oregon InfoGraphics Lab in the Department of Geography. The team, comprised of Assistant Director Ken Kato, GIS Specialist Blake Andrew, and several student interns, are excited to have their work in the hands—literally—of thousands of visitors from across the country.

The InfoGraphics Lab has been working since September 2007 to create infrastructure maps for the Olympic Trials. Ken and his team volunteered to produce a public map so fans can find their way around Hayward Field and the Eugene 08 Festival. A PDF version of this map is available online at <http://infographics.uoregon.edu/eugene08.html>. The InfoGraphics Lab is working on an interactive electronic version of the public map. It will be available online shortly before the event begins on Friday, June 27.

The public map of Hayward Field and the adjoining Eugene 08 Festival area.



Ken Kato points out some features of the 3-D Hayward Field animation he and his staff produced for UO Athletics and the Eugene 08 committee. The fly-over animation illustrates Hayward Field's layout and how that fits with the surrounding festival. The video, which runs just under two and a half minutes, took nearly five hours to render. It can be viewed at <http://infographics.uoregon.edu/eugene08.html>.

More than Meets the Eye...

The beauty of the UO's new Athletic Medicine Center is not just skin deep

Joyce Winslow
jwins@uoregon.edu

From the moment you press the big **O** in the door handle of the University of Oregon's new Athletic Medicine Center, you sense you're about to enter a different world.

Inside is a dazzling, ultra high-tech space filled with glass, mirrors, bold buffed-metal graphics—even a waterfall. But behind the breathtaking bling is serious functionality. This facility was built with student athletes' total health in mind, and the athletes themselves played a role in its design.

Completed in the summer of 2007, the center is the result of months of preliminary research and consultation with coaches and athletes as well as architects and administrators. Three times the size of the facility it replaced, the 14,000-square-foot center has the technology and human know-how not only to immediately diagnose and treat injuries, but to foster every aspect of an athlete's mental and physical well being.

The center has seven full-time athletic trainers who oversee rehabilitation and therapy for injuries, two on-site physicians, a physical therapist consultant, a team of orthopedic consultants, nine graduate student assistants, and a full-time nutritionist and life skills counselor. To help them do their work, there is a new digital X-Ray unit, an array of therapeutic tubs (including three with HydroWorx underwater treadmills), a dental screening room, a vision testing room, a nutrition bar, exercise machines and strength training equipment for every body part, a machine that measures lean body mass, and a small pharmacy.

Student athletes also benefit from experimental new technologies such as the ARP (Accelerated Recovery Program), an electrical stimulus device that's used for rehabilitation or as part of a dynamic warm-up. Kat Kaihoi, a second-year GTF who works as an assistant athletic trainer for football, says the ARP is most commonly used for dynamic warm-ups and describes how it works: "The electrodes are placed on the proximal and distal portions of a muscle that you hope to stretch. While the ARP is

turned on, the athlete performs dynamic stretches of the muscle group. The idea is that the electric stimulus allows the muscle to be more relaxed, enabling it to stretch further. This theory is not scientifically proven yet, as the ARP is a fairly new modality, but we have been trying it out this year."

The medicine center is not just about the latest and greatest in technological advances, however, even though these definitely play an important role in assisting athletes to be at their best. The center's athletic training program also covers self-care ba-

sics like nutrition and dental hygiene, as well as life skills such as financial planning, time management, career goals, and community service. The aim is to prepare student athletes for all aspects of life. The center's staff are mentors, friends, counselors, and role models as well as technical experts in their field.

Like most of her colleagues, Kim Terrell, associate director of the Athletic Center, particularly enjoys the "mentoring piece" of her job. "I love helping athletes achieve their goals. They are already so motivated, it's a joy to work with them," she says.



Graduate assistant athletic trainer Kat Kaihoi poses in the foyer of the Athletic Medicine Center. Behind her, barely visible through the glass wall, are tables for massage and rehabilitation therapy and offices for medical consultation and diagnosis.

Rehab, Training, Diagnostics...

Korebalance computerized balance training system

GTF *Tori Noda* subtly shifts her body weight to hit the targets in a 3-D video game designed to improve both muscular and mental agility. The *Korebalance* system is also used to measure recovery from concussions.



Hydrotherapy with underwater treadmills

The *HydroWorx* underwater treadmills are one of the most frequently used tools for rehab. They speed recovery time by allowing an injured athlete to perform motions pain-free in the water at a time when it might be harmful for them to be functional on land.



Digital X-ray unit

The center's new digital X-ray unit has a network connection to Peace Health, and its detailed digital images can be shared by specialists all over the country. From the minute they leave the field, injured athletes have immediate access to doctors, diagnosis, and medical treatment.



- continued on page 6

More than Meets the Eye, continued...

“Of course the athletes like all the bells and whistles that our new Athletic Medicine Center has. But if you ask the athletes who have undergone major surgeries or lengthy rehabilitation programs, they do appreciate the space and equipment our facility has to offer. They realize and appreciate that they have access to the best medical care as a collegiate athlete, and I believe it helps motivate them to work hard and do well.”

- Kat Kaihoi, graduate assistant athletic trainer

Nutrition, Health Monitoring...

Nutrition Bar



*James Harris
Director, Sports Nutrition*

Harris shows off the center's nutrition bar, where student athletes can get healthy snacks, hydrating drinks, and nutritious shakes after their workouts. The bar also dispenses flax seed oil supplements and vitamins, along with a generous dose of Harris' friendly nutrition advice.

Bod Pod



James Harris' assistant, GTF dietician Jessica Wilson, gets ready to take body fat measurements with the Bod Pod. This futuristic-looking machine determines lean body mass by measuring air displacement and density. Subjects must wear spandex body suits and hair coverings to ensure accurate readings.

“Did you eat breakfast this morning?” James Harris asks paternally. Harris looks barely older than his charges, the 440 athletes whose health habits are his responsibility. He dispenses advice with a broad smile and a light touch, but his serious intent is unmistakable.

Harris, who will succeed Karen Nelson as Life Skills director when she retires on July 1, is a strong believer in building good relationships with his students. “Build trust. Be involved in students' everyday lives, become aware of the challenges they face,” he says. “That's the best way to form the foundation for being an effective mentor.”

Harris is as firm in holding coaches to good health habits as he is with students. “Coaches must be a positive example,” he says. In addition to the classes he teaches in nutrition basics, Harris offers individual counseling, taking body type and personal eating habits and histories into account. His aim is “to build a culture, show them how the food choices they make directly affect what happens on the field.” Harris tests each athlete two or three times a year with the Bod Pod to help them keep track of their progress.

Getting Ready for Eugene 08: Behind the Scenes at Hayward Field

Patrick Chinn
pchinn@uoregon.edu

In 1999, Hicham El Guerrouj of Morocco set a world record by running a mile in 3 minutes, 43.13 seconds. In contrast, Information Services has spent several hundred hours installing a mile of cable at Hayward Field as part of the renovations for Eugene 08. Had El Guerrouj been pulling out a mile-long bundle of cable behind him, he may have never finished! Our photographer went to Hayward on a rainy spring morning to capture some of the behind-the-scenes action (below).



Don Williams (red jacket) works with an IES Security employee (right) to feed cable into the conduit in the west Hayward Field grandstand as part of the larger wiring upgrade project. Information Services installed several kinds of cable for a variety of purposes. The new scoreboard alone (shown in the background) required fiber optic, cable TV, phone wire, and custom cabling.

Information Services' Don Williams (left) and Dennis Vosika (right) tape telecom cable, optical fiber cables, and two fire alarm wiring packages to a thick TV cable. This bundle, which was as stiff as metal pipe, was then pushed through a conduit from one side of Hayward Field to the other. Halfway through the project they discovered the conduit had a tight turn that the thick bundle could not navigate. The solution was to splice the TV cable.



Sports Psych Meets the iPod Generation

UO sports counselor Karen Nelson adds iTunes and GarageBand to her bag of performance-building tools

Joyce Winslow
jwins@uoregon.edu

“When the gun goes off, I explode out of the blocks strong and powerful...In my mind I feel the rhythm I will run... it’s like a pulse for me...”

“I’m in my zone...I will catch anything that is thrown my way. My hands are the target and the ball is like a missile locked onto that target...”

“I stay focused on the present and the present height. Each time I put myself in position to clear the bar...Approach is still relaxed, don’t push...I drive in, swing aggressively from the shoulders. Early turn, feet going up, stay with the pole. I’ve cleared again!”

These are some of mantras University of Oregon athletes silently rehearse as they prepare for the pressure of intense competition, when a split-second’s loss of focus can cost them everything.

The link between mind and body is not a new concept, and sports psychology has played a key role in athletic training for more than thirty years. But changing times call for new methods, so UO sports counselor Karen Nelson recently added iTunes and the creative music-editing software GarageBand to her clinical toolbox.

As increasing numbers of students began using iPods, Nelson realized the advantage of incorporating



Karen Nelson and student assistant Katie Harbert demonstrate a typical “self-talk” script recording session in Nelson’s office. The scripts, which are customized by each athlete with soundtracks created using iTunes and GarageBand, are burned onto a CD, making them easily accessible in the car, at home, or between classes.

popular music software and podcasting techniques into one of her staple counseling stratagems. This technique, called scripting, has been used for decades to help professional athletes improve their performance.

“Ninety percent of an athlete’s success is mental,” Nelson explains. “Confidence and emotional control are essential for top performance.” The mind-body connection in sports first became apparent to her during her time as head coach for girls’ basketball and volleyball at Marist High School in Eugene. “My coaching experience taught me that the mental component is as important, if not more so, than skill and talent,” she says.

Sports psychology was embraced by the world of professional sports shortly after it was pioneered by Scott Pengelly, a Eugene clinical psychologist who works with a stellar international clientele including Nike athletes and Athletics West track and field teams. But this type of therapy was practically unknown at the collegiate level in 1985, when football coach Rich Brooks invited Nelson to become the UO’s first sports counselor.

Nelson created the UO sports psych program from scratch, building on her coaching—and parenting—experiences (she is the mother of two sons who played football for the UO in the 80s), and employing techniques she learned while completing her master’s degree in sports psychology and counseling from the UO.

One of the cornerstones of the program is teach-

ing athletes to become aware of “negative forecasting”: subliminal self-talk that causes tension, disrupts focus, and inhibits success. Sports psychologists train athletes to listen carefully to their language to identify self-defeating mental habits. Pengelly describes this as “teaching them to look for the underlying fears that hold them back. Give them a list of phrases that are tip-offs for failure, such as *I try, I should, I would, but, what if...* all are deadly, defeating comments.”

Becoming aware of negative forecasting is only the first step in what can be a long process of eliminating bad patterns and creating positive reinforcement. The overwhelming demands of tight academic and training schedules, the stress of new social adjustments, homesickness, or personal life trials can also take a huge toll on student athletes. And then there is the athletic effort itself: no matter how talented or fit an athlete may be, the ability to concentrate is the first thing to go when one is stressed by pain or fatigue.

One vital component of Nelson’s therapeutic tool kit is a relaxation CD. With the aid of iTunes and GarageBand, Nelson records and distributes a relaxation CD for students to play throughout their day, both as a reminder and a guide for coping with tension. For an athlete, relaxation is more than just a way to calm the jitters. Stress reactions have physical consequences. As Nelson points out, “Tension affects motion. Athletes must learn to relax *while doing* their sport.”

Another key tool for maximizing performance is the individual “self-talk” CD. After intensive personal interviews and with Nelson’s support and input, students write and record a personalized affirmative narrative, adding their own sound track using iTunes and GarageBand. Students live with these scripts day in and day out, rehearsing performance scenarios in their particular sport. This repetition and positive visualization can then become automatic in the heat of competition, when it matters most.

Individual counseling is voluntary, but Nelson

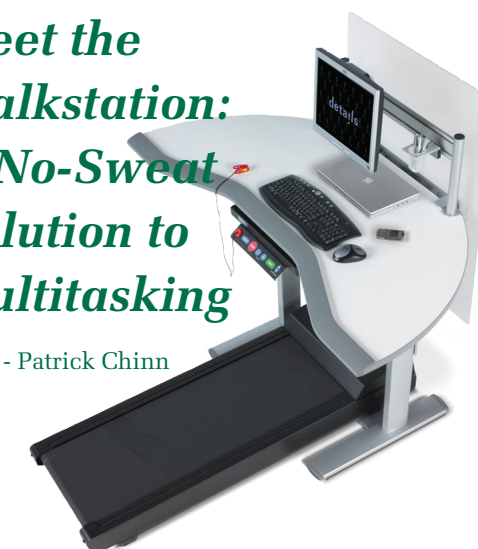
casts a wide net to help the 400-plus student athletes in her charge as assistant athletic director of student services. The award-winning Life Skills program (SOAR, a pilot of the NCAA’s Life Skills Program) which she founded in 1993, is another important factor in the UO’s comprehensive support system for student athletes. SOAR stands for scholastic excellence, outstanding character, athletic achievement, and responsibility to self and others. In addition to encouraging student athletes to be good citizens and role models, the SOAR program includes a mandatory class for all freshmen athletes, Issues in Intercollegiate Athletics. This course covers such topics as time management (essential for students whose schedules are so packed that they often have little time for eating or sleeping), drugs and alcohol, nutrition, and other practical issues.



The finishing touch: Karen Nelson guides Katie Harbert through the process of editing her script’s sound track with GarageBand.

Meet the Walkstation: A No-Sweat Solution to Multitasking

- Patrick Chinn



Not too long ago I saw a news segment about a doctor who combined a treadmill and a computer desk, producing what he calls the Walkstation. Pure torture? Perhaps, but as a runner who sits in front of a computer all day, I was intrigued.

The idea of working on a treadmill may conjure visions of an out-of-breath, sweat-drenched runner gasping for air and ineffectively poking at the keyboard mid-stride. Fortunately, that’s far from reality. The Walkstation has a maximum speed of two miles per hour, the speed of an easy walk. Research published in the *British Journal of Sports Medicine* showed that “...subjects tolerated the workstation well and were able to use all the standard computer functions while walking and working.” The creator of the Walkstation, Dr. James Levine of the Mayo Clinic, claims that users can burn 100-130 calories an hour, lose up to 40 pounds a year, and increase productivity at work.

Information Services will be testing out a Walkstation when it arrives later this month. Look for a full review in a future issue of *IT Connections*.



ROOM RACE

UO Housing adds fun interactive features to its online dorm sign-up system

Joyce Winslow
jwins@uoregon.edu

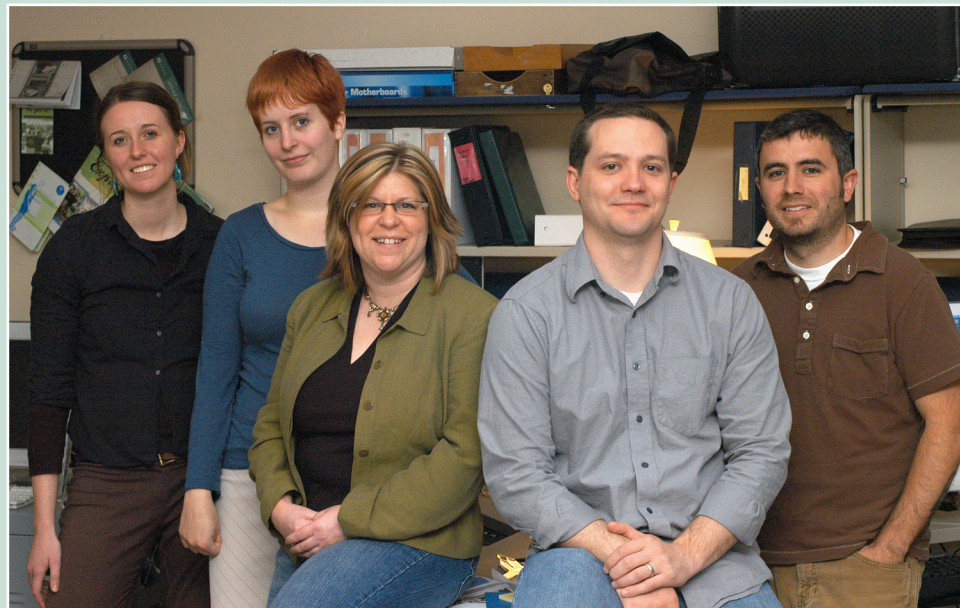
No need to be a track star to participate in Room Race!

If you're a current resident hall student interested in reserving campus housing, all that's required is your Room Race access code, an Internet connection, and a few minutes of your time.

May 1 marked the fifth anniversary of Room Race, UO Housing's online sign-up system for reserving dorm rooms and requesting roommates. The website with the Track Town theme (<https://housing.uoregon.edu/roomrace/>) is the brainchild of Tenaya Meaux, Housing's director of marketing and communications.

Meaux had long recognized the need for a more streamlined way of doing business. Eight years ago, students were still queuing around the block to sign up for housing, and the entire process took several days. "We tried to make the sign-up experience fun by offering pizzas and prizes, but it was quite cumbersome," Meaux recalls. "Students were selecting rooms from maps on the wall—it was very analog." The system was onerous for Housing staff, too. After registration was complete, all the data had to be laboriously typed into a database.

Meaux was determined to bring UO Housing into the 21st century. "Staying young, stay-



The Room Race web team: (l to r) student interns Shannon Lattin and Genevieve Curry, Marketing and Communications Director Tenaya Meaux, Web Developer Jesse Sedwick, and Graphic Designer Brent Ross.

ing current," was her goal. The first online version of Room Race was static: it consisted of a PDF document that could be downloaded, printed, and filled out by hand. That eliminated the need to stand in line, but it was still fairly primitive.

Over the years, the website has become more interactive. Today students register entirely online, and it takes just minutes for them to choose their rooms and roommates. The feature-rich site offers easy navigation, campus maps, and color coding to indicate room type and availability. In addition, it clearly shows which rooms are ADA (Americans with Disabilities Act) accessible.

This year's version of Room Race took a giant leap forward by introducing a graphical interface that allows students to click directly on the rooms they want. It also incorporates social networking features, including MySpace-inspired student profiles to aid in roommate selection. Overall, Meaux and her web team are pleased with the result. "It's more intuitive now, and fun. It meant more work for our staff, but the complexity is all on the back end, hidden from users."

Next year, Meaux and her team hope to add a search feature to make the site even more user-friendly.

Veteran Room Racers



Nisrine Al-Abssi
Senior majoring in women's and gender studies and psychology

I transferred from Arapahoe Community College in Littleton Colorado, so I enrolled in the University of Oregon as a junior and I had never experienced a sign-up system like Room Race.

Room Race is really awesome—very to-the-point and user-friendly. It took me less than five minutes to sign up!

Speak Out



Shoshana Tirzah McClellan
Sophomore majoring in history, Honors College

I used Room Race only once (last year). I found it to be both easy and intuitive, and it explained every step as I went through the process. It was kind of fun...

The freshmen that I've talked with about Room Race sound intrigued and even a little impressed by the idea of being able to select exactly the room they want.

edu Tech Roundup

Vickie Nelson

MIT Provides High Schools with OpenCourseware

High school students and teachers who wish their schools could delve more deeply into science, technology, and engineering should check out MIT's recently created Highlights for High School. This set of OpenCourseWare includes video demonstrations, lecture notes, assignments, and audio clips as well as high school courses developed by MIT students. Learn more at <http://ocw.mit.edu/OcwWeb/hs/home/home/index.htm>

Virtual Library of Virginia Teams up with PBS

VIVA, the Virtual Library of Virginia, has licensed 500 hours of programming from PBS. With the University of Virginia hosting the videos and streaming them out to VIVA's 70 public and private colleges and universities, programs such as Frontline and Nova reach a potential audience of 400,000 users. VIVA makes sure only students and staff of member schools access the programs by using InCommon, an identity management program. See http://www.incommonfederation.org/docs/eg/InC_CaseStudy_VIVA_2008.pdf

University of Texas Professor Takes to Twitter

YouTube, blogs, and podcasts have all been explored for use in the classroom, but does anyone see an academic use for Twitter, the social media tool that has people sending out brief updates on where they are and what they are doing? Yes, according to David Parry, assistant professor of Emerging Media and Communications at the University of Texas at Dallas. See Parry's "Twitter for Academia" blog entry at <http://academhack.outsidethetext.com/home/2008/twitter-for-academia/>

Information Services Guide

UO Website

<http://www.uoregon.edu/>

IT Website

<http://it.uoregon.edu/>

Campus Modem Number

(541) 225-2200

Microcomputer Services

(151 McKenzie Hall)

<http://micro.uoregon.edu/>

(541) 346-4412

microhelp@lists.uoregon.edu

- Mac OS & Windows help
- Help with damaged disks, files
- Help with Duck ID
- Help with Internet connections, file transfers
- Antivirus & antispyware

Electronics Shop

(151 McKenzie Hall)

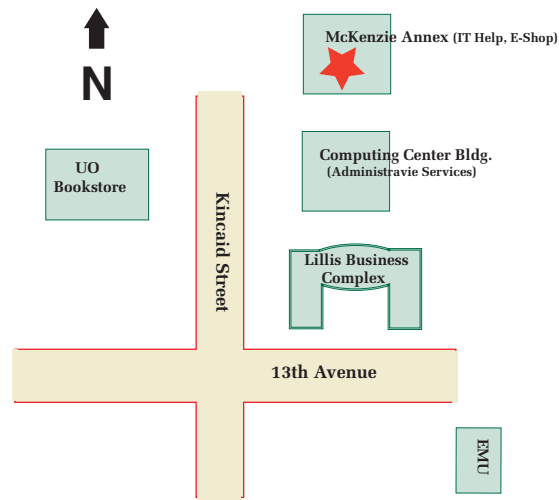
http://is.uoregon.edu/e_shop/

(541) 346-3548

hardwarehelp@uoregon.edu

Computer hardware repair, upgrades

Metered parking available in lot 7B off Kincaid Street



Help Desk Hours (151 McKenzie)

Mon - Fri 8:00 A.M. - 5:00 P.M.

McKenzie Building Hours

Mon - Thu 7:30 A.M. - 11:30 P.M.

Friday 7:30 A.M. - 7:30 P.M.

Saturday 9 A.M. - 9:30 P.M.

Sunday 9 A.M. - 9:30 P.M.

Computing Center Building Hours

Mon - Fri 8:00 A.M. - 5:00 P.M.

Note: These are *building* access hours; hours for individual facilities may vary.

Collaboration Center

(175 McKenzie Hall)

<http://is.uoregon.edu/docsrn/>

(541) 346-4406

docsrn@uoregon.edu

SMART Board and other interactive technologies, computing-related books, CDs, and training videos

Network Services

<http://ns.uoregon.edu/>

(541) 346-4395

nethelp@ns.uoregon.edu

Central data communication and network services

Telecommunications Services

<http://telecom.uoregon.edu/>

(541) 346-3198

Local and long distance phone service for UO campus

Administrative Services

<http://ccadmin.uoregon.edu/>

(541) 346-1725

Programming support for campus administrative computing



UNIVERSITY OF OREGON

OFFICE OF THE VP FOR INFORMATION SERVICES AND CIO

1212 University of Oregon

Eugene, OR 97403-1212