I am delighted to welcome you to the first edition of Experience-Based Engineering, the newly launched publication of Wichita State University’s (WSU) College of Engineering (COE).

Through this forum, we will regularly keep you up-to-date on what’s happening in the COE, showcase the work and accomplishments of our students and faculty, and give you the opportunity to share in our successes.

This is an exciting time. Engineering education in the United States is going through a dramatic transformation. The pace of technological innovation, the increasing global connectedness of the world, and other social, economic, and political forces are reshaping the future at lightning speed and requiring a new approach to how future engineers are educated.

One of the challenges and responsibilities we face as engineering educators is ensuring the ongoing relevance of our curriculum. With the launch of the strategic initiative, Engineer of 2020, we proudly became the first college of engineering in the nation to place experience-based education at the core of everything we do. This gives our students a uniquely rich and meaningful learning experience grounded in the real world. And places us at the forefront in delivering what is arguably the most effective preparation for engineers.

This publication will show you some of the many reasons why the WSU COE is making such a name for itself. In these pages you will gain an insider’s look at this innovative new model of engineering education and how it distinguishes us from our peers. You’ll see exciting evidence of the ingenious culture of experiential learning we have created. And you’ll meet the dedicated faculty and hard-working students who benefit from and contribute to it.

With warm regards,

Zulma Toro-Ramos
Dean of Engineering
Ask most kids these days what “engineering” is and the response may be “Huh?” But ask any of the 3,000 middle school and high school students throughout Kansas who’ve participated in Project Lead The Way (PLTW), and you may hear “It’s awesome.”

Project Lead The Way is a national pre-engineering program that provides a rigorous and relative STEM curriculum to prepare students for careers in engineering and other technical fields while promoting teamwork and communication skills. As fewer students choose engineering as a field of study and the engineering pipeline shrinks, PLTW is drawing students in with hands-on activities and learning and helping to attract the future engineers America needs to remain economically competitive.

Since WSU became the Kansas Affiliate for PLTW in 2006, Affiliate Director Larry Whitman has seen interest explode. Nationally, over 350,000 students in 4,000 schools in all 50 states are involved. In Kansas, more than 50 middle and high schools are offering the PLTW pre-engineering curriculum. And the Derby School District is leading the nation by being the first to offer the PLTW Elementary Lessons program in elementary school.

As the Kansas Affiliate for PLTW, WSU advises schools, trains teachers to teach PLTW courses, and hosts an annual counselor conference.

In a PLTW classroom, everything is project-based. Students work in teams, apply their math and science skills to projects, and prepare to take on real-world challenges. “There’s lots of hands-on work. For example, students build a robot that can sort marbles,” Whitman said. “Students love it,” Whitman said. “The program helps students see math and science have applications that can be interesting.”

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“Students who participate in PLTW are more likely to pursue advanced degrees. Some, in fact, may not have gone into engineering without the PLTW experience. Others try it and learn engineering is not for them. All have a much better idea of what they are getting into. ‘It’s best they learn this early, before committing to college,’” Whitman said.

“We had one student tell us his life was going down the wrong path. He was making D’s and F’s. He got involved with PLTW and it turned his grades and his life around.”
How can you get middle and high school students interested in—and excited about—engineering as a field of study and career? Challenge them to create a remotely controlled robot. Give them seemingly overwhelming time and materials constraints. Throw in teams of other competitive students with the same desire to outperform everyone else. And then let them battle it out in an arena in a thrilling, day-long competition.

In a nutshell, that describes the 12th Annual Kansas BEST (Boosting Engineering, Science & Technology) robotics competition held Oct. 23, 2010, at WSU’s Koch Arena. Twenty-six high schools and organizations from Arkansas and all areas of Kansas competed in the game called “Total Recall.” The COE’s Dean’s Circle, a community advisory board, coordinates the competition.

“This is a huge outreach for WSU,” Samantha Corcoran, assistant dean of the COE, said. The COE strives to attract students while in elementary, middle and high school and encourage them to consider engineering as a career.

Using engineering methods and old-fashioned teamwork, the competing students have the opportunity to face the same problems, challenges and breakthroughs that a real engineering team faces when taking a product to market.

Each team works from identical materials kits and has six weeks to design and build their robot. Professional engineers who volunteer as mentors, along with school coaches, guide the student teams through the engineering process. Weeks of hard work culminate in a day-long competition which names one team the “BEST.”

This inspiring event combines the excitement of a high school football game with the strategy of a chess match and the intellectual challenge of a science fair.

The four winning teams representing Kansas BEST schools went on to dominate the regional competition once again at Frontier Trails BEST competition Dec. 10-11 at the University of Arkansas-Fort Smith.

Wichita Home School, Ambassadors for Christ and Kansas City Christian qualified for the national championship to be held in Orlando, Fla., in April.

Wichita Home School won first in the BEST Award and game competition in the regional competition. The BEST Award is based on a project notebook, oral presentation, table display, interviews, robot performance and overall spirit and sportsmanship. Wichita Home School was recognized for having the best notebook and marketing presentation.

Circle High School was honored for its spirit and sportsmanship. Other Kansas BEST participants also performed well. Ambassadors for Christ Academy placed third in the game competition and took third for creativity. Kansas City Christian placed fifth in the game competition.
The next generation of engineers will be working in and navigating a very different world driven by unprecedented technological change, globalization, and an explosion of knowledge. To succeed, they will need more than technical knowledge. The “new fundamentals” will include a foundation of analytical and conceptual skills, the ability to work across disciplines and communicate clearly, creativity, ingenuity, leadership, and a strong sense of ethics.

Will today’s engineering graduates possess the skills they need to contribute effectively in 2020 and beyond? That’s the question the National Academy of Engineering challenged educators with in a 2004 report on the future needs of engineering graduates. After three years of reflection, discussion, and debate among faculty and constituents, the COE responded in 2007 with the launch of Engineer of 2020.

A strategic initiative spearheaded by Zulma Toro-Ramos, dean of the COE, Engineer of 2020 has reshaped how engineering undergraduates at WSU are educated, and created a learning experience so meaningful, no other university can match it.

The vision behind Engineer of 2020 was twofold:

**To create a more relevant educational experience for students and produce a new breed of graduates who are able to respond to the fast pace of change and, thus, are more desirable to potential employers.**

According to Dean Toro-Ramos, Engineer of 2020 has accomplished both goals and, in doing so, has firmly established WSU at the forefront of engineering education. “We were the first college of engineering in the nation to come forward with a program like this. That put us at least two years ahead of everyone else,” Dean Toro-Ramos said.

Engineer of 2020 called for a bold revamping and broadening of the existing engineering curriculum and requirements for a major leading to a bachelor degree in engineering. The defining characteristic of this new model of engineering education is the importance placed on experience-based learning. Under Engineer of 2020, learning is not limited to lecture-based courses, but extends beyond the boundaries of the classroom to offer all undergraduate engineering students incomparable real-world experience while still in school.

Beginning with the fall 2007 class, students complete the engineering program course requirements including at least three or more out of six activities focusing on building the skills and knowledge required by industry in the next decade— including creativity, analytical and communication skills, leadership, ethics, resilience and flexibility.

These six activities—undergraduate research, cooperative education or internship, global learning or study abroad, service learning, leadership and multidisciplinary education—are not “extra” opportunities. They are requirements of graduation. And one more way the COE is setting the bar higher for future engineers.

“While other universities that have implemented programs similar to Engineer of 2020 encourage such activities, WSU is the only program to date that requires all students to fulfill new requirements for an engineering bachelor degree. In other words, Engineer of 2020 is not optional. This is a big difference between our program and others,” Dean Toro-Ramos said.

**Up and running for over three years now, this experience-based approach to education is woven into the fabric of the curriculum and taking many forms.**

Future engineers are teaming up to work on global learning projects that are real and relevant, filling roles at local companies as interns, and studying abroad. They are leading projects in formal leadership courses and participating in humanitarian outreach efforts. The upshot: A unique learning experience that prepares students to succeed in the world of tomorrow.
No other graduates can claim the same competitive advantage. “The hands-on experience is invaluable. I can directly relate my experiences to qualities potential employers are looking for. It has let me apply the theory I have learned in classes to practical applications,” Taylor Oxford, who is working on her master’s degree in aeronautical engineering, said.

The fact that students have the flexibility to choose activities that reflect their unique goals and take advantage of opportunities as they arise cannot be underestimated. It’s one of the reasons why students who want more than just an engineering degree choose WSU. “Each student can select activities according to their interest. This provides students with the flexibility to tailor programs that match their aspirations as engineers,” Dean Toro-Ramos said.

Providing students with the most powerful learning experience possible motivates every aspect of the program, and ensures students enter the workforce armed with the hands-on experience employers are not only seeking, but demanding. “By completing these activities, they are developing the knowledge and skills that enable them to become productive as soon as they join the workforce. There’s no gap in between the time they finish school and the time they are up-to-speed,” Dean Toro-Ramos said.

For example, students who may not have considered completing the global learning criteria may change their mind with the emergence of the Global Design Challenge—the annual competition that brings students together from multiple countries, languages and cultures to design a real-world aircraft.

It’s no wonder students have embraced Engineer of 2020. “Student response has been very positive,” according to Dean Toro-Ramos. That may be partly due to the fact that Engineer of 2020 was not imposed on students by higher ups. From the inception of the initiative, students sat on the task force that developed the program and student advisory board, and contributed their input. “Sometimes we faculty believe we really understand the needs and interests of students, but we don’t always. It is interesting to see the students’ viewpoint,” she added.

Engineer of 2020 is about filling the pipeline with students—the best and the brightest—who see engineering as a viable career choice. Recent studies indicate that, compared to other countries, the United States has a relatively low percentage of students who enter science and engineering and a high drop-out rate. Through outreach efforts under the Engineer of 2020, the COE is working to change that.

“We’re reaching out to the community to introduce high school, middle school, and even elementary school students to engineering. We’re also playing a much more active role in mathematics and science education through Project Lead The Way and other initiatives,” Samantha Ccorcoran, assistant dean of the COE, said.

As society quickens and technology becomes more pervasive, engineers must exercise leadership at all levels of the enterprise, according to Don Malzahn, professor of industrial and manufacturing engineering. “To fail to do so ignores our professional responsibility to society.”

Unfortunately, there is no leadership operating manual engineers can blindly follow on the job. They need experience. And that’s what makes “The Engineer as Leader” class Malzahn is teaching this spring to 30 undergraduate students in the COE so valuable.

Offered at the recommendation of the Engineer of 2020 program, the class is yet another way the COE is leading engineering education in the nation. Few universities offer leadership programs for engineering undergraduates. And only the COE takes an experience-based approach so empowering.

The students don’t just “study” leadership. They gain hands-on experience leading and managing as they design and execute workshops on fundamental team management skills for the rest of the class.

They also learn from successful engineering leaders what it is like to lead in the real world. This semester, three guest lecturers have been invited to meet with the students: Julie-Ellen Acosta, vice president of human resources at The Boeing Co., Lynn E. Bentigula, managing director at Black and Veatch, and John Wodsworth, president of Piping & Equipment Co. Inc.
Detecting and Preventing Carbon Monoxide Exposure in Small-engine Planes

Until three years ago, there was little measured data on carbon monoxide (CO) in small-engine aircraft. What was known was that it can affect pilots and passengers—exposed to CO during flights and landing and while taxiing to and from the runway and sitting on the ground waiting for takeoff—quiedy and swiftly. However, after the three-year research project CEI faculty members Michael Jorgensen, Roy Myose, Hossein Cheraghi, and a team of student researchers recently completed, both pilots and the general aviation industry now have clear and potentially life-saving guidelines on how to detect and prevent it.

Under the mentorship of Jorgensen, Myose, and Cheraghi, seven undergraduate and graduate students had the opportunity to go beyond the boundaries of the classroom and gain invaluable hands-on research experience. First, they reviewed the National Transportation Safety Board (NTSB) database and identified cases where CO was a contributer to accidents.

They then looked at which models of small-engine planes had the most accidents, the time of year they occurred and their exhaust and heater systems. “We found a muffler was involved in many of these cases—a defect, crack or hole that was not caught by inspection or may have developed after inspection,” Jorgensen said. “We also found a muffler life issue. Where mufflers were involved, the majority had more than 1,000 hours of lifetime use—a major finding.”

The team went on to review and document a wide range of portable CO detectors in the marketplace that may be suitable for use in a small-engine plane. “We looked at mountability, accuracy, different technologies and about 40 brands overall,” Jorgensen said. From this data they put together a database of portable CO sensors that allow pilots to conveniently review the different options available. Throughout the process the students regularly presented their most recent findings to the Federal Aviation Administration (FAA) project manager and other FAA personnel and in research forums.

Hajiz Zulkiply, now in the PhD program in petroleum engineering at the University of Texas-Austin, participated in the research and valued the data-driven approach. “As a team, we compiled a database of prior incidents related to CO exposure. Though incidental reports cite the cause of the accidents, i.e. CO exposure, we required data on how CO might seep into the cockpit. Data such as this is critical for enhanced aircraft design as well as placement of CO detection technology to detect the slightest exposure as soon as possible. In general, theory alone cannot explain the dynamics of what is going on. That void is, of course, filled through data,” he said.

Zulkiply believes his experience working on the project has been uniquely valuable.

Ali Ahmady, who was involved with the research as a graduate student, said the project provided hands-on experience that applied directly to his PhD dissertation research. “The project helped me learn, practice, develop and sharpen my research skills. I learned how to gather real-world data in the field and get familiar with the difficulty, complexity and challenge of such a task.”

Since the team’s final report was submitted to the FAA, several actions have been taken. The research was published as an October 2009 FAA technical report, Detection and Prevention of Carbon Monoxide Exposure in General Aviation Aircraft, which was referenced in other FAA policy and guidance documents. The FAA also issued a Special Airworthiness Information Bulletin to advise owners/operators of general aviation aircraft on the proper maintenance of exhaust systems and use of CO detectors. In addition, the results were used to respond to the NTSB recommendation for the FAA to investigate the prevention and detection of CO exposure.

“My hope is that certain recommendations we made will be put into practice. If pilots followed any of them, it could save lives,” Jorgensen said.
It wasn’t what you think of as your typical “industrial engineering job.” It had nothing to do with designing a production line, planning the layout of a factory, or developing more efficient machinery. Instead, three industrial engineering students worked last fall in the WSU Office of Admissions to figure out a way to improve the campus visit program.

The Office of Admissions schedules and performs campus tours for about 100-150 students each month. The original process required 30.7 minutes per student processed and three staff members. They needed a new system that required less time and effort to organize the data they track.

That’s when the team of engineering students—Lindsey Hoy, Rushan Abayagunawardena and Adam Belyamani—stepped in to create a simpler, more efficient, more streamlined process.

The large-scale project was part of the students’ Capstone Course, the final piece of an undergraduate engineering degree and where classroom study meets up with the real world.

“The results exceeded my expectations,” Kaytie Brozek, campus visit coordinator, said.

The students built, delivered to the Office of Admissions, and implemented a user-friendly database to improve data management. By automating data retrieval and storage, paperwork and clutter were reduced and the employee time required to process data on each student was slashed by 20%.

According to Kaytie, “With the database project they designed for us, we can cut down the amount of time it takes for us to schedule visitor appointments and keep more accurate data on our campus visitors. By freeing up even an extra 30 minutes each day, this project will allow our staff to dedicate more time and provide better service to our prospective students.”

“We’re happy to take on other projects around campus. So don’t hesitate to ask,” Don Malzahn, professor of industrial and manufacturing engineering, added.
Students: Ali Ahmady, a former industrial and manufacturing engineering graduate student, was awarded the 2010 Akao Scholarship, courtesy of the Quality Function Deployment Institute. This is the first time a student from a U.S. school has won this award.

Food Bank through their annual Chili Feed.

Erin Waggoner, Benjamin Knoblauch, and Nick Thomas were named finalists in the 2010 WSU Man and Woman of the Year competition.

The Engineering Council was named the best student organization at the 2010 Pumpkin Run and six engineering students placed among the top 30 finalists: Scott Reed (1), Matt Mason (1), Dustin Greer (17), Kimberly Lennon (18), Nick Thomas (25), and Iwan Broodryk (26).

Formula SAE won the Homecoming 2010 vehicle competition and the Engineering Council won the float competition.

Faculty & Administrative Staff: Two faculty members were honored with the Dwane & Velma Wallace Excellence in Research Award.

Vis Arawin is a graduate teaching assistant in the department of electrical and computer engineering and a PhD candidate. While teaching, he has continued his work as a researcher, contributing to externally funded projects and publishing papers.

Wade Jewell is a professor of electrical engineering and site director of the Power Systems Engineering Research Center at WSU. During his 22-year teaching career at WSU, he has received numerous grants to support his research in sustainability, quality, distribution and other aspects of electric power systems.

Two faculty members received the Strategic Engineering Research Fellowship which supports the development of new research initiatives in the areas of composites, bioengineering, networks, nanotechnology, sustainability and engineering education.

Yannick Divic is professor in electrical engineering and computer science. Her research interests are signal processing and communication systems, including cognitive wireless networks, cooperative systems, WCDMA, WiMAX, MIMO, and OPDM systems.

Bob Minzes is associate professor in mechanical engineering. His research interests are computational and experimental research in advanced polymer composites, nanocomposites, functionally graded hybrid composites, and metallic materials using intelligent process design, optimization, control, and sensors.

Aka Hijazi, a former WSU doctoral student, and Vis Madhavan, professor of industrial and manufacturing engineering, have developed and patented a high-speed camera, “System and Method for Capturing Image Sequences at Ultra-high Framing Rates.”

Trixie Lawrence, administrative assistant in the industrial engineering department, completed 25 years of service to WSU and was honored in the fall.

Shalini Prasad, associate professor of civil engineering, and her team won first place in the faculty division of the Celebrate Aging Research poster competition. The competition was sponsored by Lakepoint Nursing Centers. Wichita Medical Research Foundation and the Regional Institute on Aging.

Velma Wallace was awarded the first Wichita Aero Club Trophy for her exemplary contributions in the field of aerospace. Wallace and her husband, Dwane, an aerospace engineering alum, funded the building of Wallace Hall and established the COE’s largest undergraduate scholarship.

Charles Tunc was awarded the Boeing Fellowship in Globalization of Engineering. He has made outstanding contributions to the globalization of the engineering profession, WSU, and the COE, balancing excellence in education with excellence in research.

Retirement: M. Gawad Nagati, 26 years, associate professor, aerospace engineering.

Research team devises way to deliver targeted cancer drugs using nanotechnology

Chemotherapy drugs are highly effective at killing rapidly dividing cancer cells and have helped save the lives of countless cancer patients. Unfortunately, they don’t know the difference between cancer cells and normal cells. They kill both. And that can result in multiple side effects, including damage to vital organs.

Recently, researchers at WSU have been devising a way to use nanotechnology to concentrate the delivery of cancer drugs to tumors, leaving healthy cells unharmed. Ramazan Asmatulu, assistant professor in mechanical engineering, started this project about seven years ago when working on his doctoral degree.

“The idea is to localize the chemotherapy drug into the area of the tumor while using magnetic fields as well as the albumin. There is a reaction between the albumin and tumors. So the true interaction will be on the surface resulting in these drug particles staying around the tumor area,” he said. “Patients will be using 10 times less chemotherapy. The patient may still experience side effects—like the loss of hair and constipation—but perhaps 5-10 times less,” Asmatulu said.

While excited about the research, Asmatulu is just as excited about teaching students how to do the research. He has set up a “nano teaching laboratory” where he demonstrates to students working under him how to do different types of experiments.

Under Engineer of 2020, undergraduate research is one of six activities engineering students may choose to complete to fulfill degree requirements. This experience-based approach to engineering education uniquely prepares students to perform and compete in the real world of engineering.

Bailey Cooper, now a PhD student at Cornell University, was one of the students who worked in the nano teaching lab. She learned a variety of techniques that are important. Cooper discovered how to use the atomic force microscope and the zetasizer to analyze samples. She tested the particles in cell cultures and ran essays to determine the cytotoxicity and effectiveness of the particles before taking the delivery system to in vivo tests.

“My research experience at WSU gave me a good background for becoming one of the 10 students from the life sciences selected to be a Presidential Life Science Fellow at Cornell, then later selected as a National Science Foundation Graduate Research Fellow,” Cooper said.

Recently, WSU obtained a patent pending on protein/magnetic targeted drug delivery. In collaboration with the mechanical engineering department, biology department and the Orthopaedic Research Institute, the researchers have found that by utilizing a magnetic force, the effectiveness of the chemotherapy can be doubled by localizing the drug at the affected site. This treatment is being studied to treat skin cancer, breast cancer and arthritis at WSU.

“The results so far are encouraging,” Asmatulu said. He is optimistic that, soon, cancer patients will have a way to minimize the unpleasant side effects of chemotherapy without diluting the drug’s effectiveness in treating this killer disease.

AWARDS & ACHIEVEMENTS

Engineering majors Benjamin Knoblauch, Mike Staag and Erin Wescouer were named finalists in the 2010 WSU Man and Woman of the Year competition.

Mechanical engineering student Marshall Schmidt was a Homecoming 2010 Royalty candidate.

Tau Beta Pi, aerospace engineering honor society, donated nearly $100 to the Kansas Food Bank through their annual Chili Feed.

The Engineering Council was named the best student organization at the 2010 Pumpkin Run and six engineering students placed among the top 30 finalists: Scott Reed (1), Matt Mason (1), Dustin Greer (17), Kimberly Lennon (18), Nick Thomas (25), and Iwan Broodryk (26).

Formula SAE won the Homecoming 2010 vehicle competition and the Engineering Council won the float competition.
ALUMNI SPOTLIGHT

NAME: Thor Kissman
HOMETOWN: Wichita
MARRIED TO: Michelle Kesler Kissman ’92, chief of staff for the new Boeing 702MP satellite program
DEGREE: 1993
GRADUATE WORK: Master of business administration, University of California in Los Angeles, 1999

They say an engineering degree from WSU can take you anywhere you want to go. For WSU alum Thor Kissman ’93, his degree paved the way to a higher place than he ever dreamed when he helped launch the SkyTerra satellite from the Cosmodrome in Baikonur, Kazakhstan on Nov. 14, 2010.

Kissman served as director of Boeing’s Launch Day, the culmination of four years of leadership of the design, assembly and test of the 702HP satellite built for LightSquared.

In his role as Space Segment Program Manager, Kissman was responsible for the activities of more than 600 Boeing employees and more than 100 suppliers. Once operational, this satellite will allow personal PDA/smartphones that have a view of the southern sky to connect from anywhere in the United States, virtually removing bad cell coverage.

EXPERIENCE-BASED EDUCATION IN ACTION

Kissman graduated from WSU in 1993 and went on to work for Learjet, Northrup Grumman and Hughes Space and Communications, which was later purchased by Boeing. He received his master of business administration from the University of California, Los Angeles, in 1999. A Wichita native and graduate of Goddard High School, he served in active and reserve units of the U.S. Army Military Police, including deployment to the Persian Gulf for Operation Desert Shield/Storm in 1991.

He was briefly assisted on the SkyTerra satellite program by his wife and fellow WSU aerospace engineering alum, Michelle Kesler Kissman ’92. She works as chief of staff for the new Boeing 702MP satellite program. They met at Learjet while working to complete their aerospace engineering undergraduate degrees.

| “THOR AND MICHIELLE WERE GREAT WICHITA STATE STUDENTS WITH BIG DREAMS,” SAID SCOTT MILLER, WSU PROFESSOR AND CHAIR OF AEROSPACE ENGINEERING. “THEY OBVIOUSLY HAVE GONE ON TO DO BIG THINGS WITH BOEING IN CALIFORNIA. IT’S NOT EVERY DAY PEOPLE GET TO HELP SEND THINGS INTO SPACE, NOT TO MENTION IMPACT SOCIETY IN A LARGER WAY!” |

“It is amazing to see how much the world has changed in such a short time,” said Thor Kissman. “In the 1980s, I was deployed in Western Germany during the Cold War Era. I worked with a former colonel from the Soviet Union’s Missile Command in Eastern Europe to launch a satellite that will help people connect better than ever before … all made possible, in part, by my experiences and education at Wichita State. I’m living the dream every day.”

OTHER NOTABLE ALUMNI

JULIE-ELLEN ACOSTA, who has spoken at the WSU Alumni Breakfast series, has been appointed senior vice president of human resources for Boeing Commercial. Acosta received her bachelor’s degree in electrical engineering in 1980 and her master’s degree in electrical engineering in 1984 from WSU. She is a member of the Dean’s Industrial Advisory Board for the College of Engineering.

JIM FORSYTHE was elected state senator in District 4 in New Hampshire. He graduated from WSU in 2000 with a doctoral degree in aerospace engineering.

1. IF YOU COULD TAKE A TRIP ANYWHERE IN THE WORLD, WHERE WOULD IT BE? NEPAL, TO VISIT SOME OF OUR GRADUATES AND SEE THE HIMALAYAS.
2. WHAT’S IN THE TRUNK OF YOUR CAR? A YOGA MAT, ROLLERBLADES AND A BIKE.
3. WHAT’S YOUR FAVORITE ARTICLE OF CLOTHING? MY COLUMBIA FLEECE JACKET.
4. WHAT’S THE FIRST THING YOU THINK OF IN THE MORNING? THANKS FOR ANOTHER DAY.
5. WHAT IS YOUR FAVORITE SMELL? TWO-CYCLE ENGINE EXHAUST.
6. IF YOU COULD HAVE ONE SUPER POWER, WHAT WOULD IT BE? I WOULD FLY.
7. IF YOU COULD TRADE PLACES WITH ANYONE IN HISTORY, WHO WOULD IT BE? NEIL ARMSTRONG.
8. WHAT IS YOUR FAVORITE INVENTION OF ALL TIME? THE BICYCLE.
10. DO YOU PLAY A MUSICAL INSTRUMENT? THE GUITAR.
The COE was ranked number 94 in The U.S. News & World Report list of best graduate engineering schools for 2010.

The National Institute for Aviation Research (NIAR) has more than 18 state-of-the-art laboratories.

The Wallace Invitational for Scholarships in Engineering (WISE) awards over $300,000 in scholarships annually to high school Seniors entering the engineering program at WSU.

The Walter H. Beech Memorial Wind Tunnel is capable of testing at speeds of up to 245 mph.

The National Science Foundation ranks WSU third among all U.S. universities in aviation R & D expenditures.

The GEEKS program offers free tutoring to all engineering students.

Over 200 engineering undergraduate students each year participate in internships at local companies and NASA.

WSU’s Electrical Engineering and Computer Science Department is home to the first Certified Internetwork Expert Preparation (CISCO) lab in the country.