

TIER-1 ENGINEERING INITIATIVE



UNIVERSITY OF WYOMING
COLLEGE OF ENGINEERING
AND APPLIED SCIENCE
UNDERGRADUATE EDUCATION

[welcome to wyoming]



Want world-class facilities? A picturesque campus? A nationally recognized research institution? Small student-to-faculty ratio? This is the place for you. Offering the feel of a small town with all the amenities of a larger institution, UW features unlimited academic and lifestyle opportunities. Come see how the University of Wyoming will give you the tools for success.

“As I look back on my life, the two things that have caused me to be successful are the work ethic and values that go with the state of Wyoming, (and) the education I got there.”

- Greg Hill, President, Hess Corporation
Mechanical Engineering, B.S. ('83)





“Tier-1 has the potential to create a world-class engineering school in all aspects of education, research and outreach. It’s an incredible opportunity to have a huge impact.”

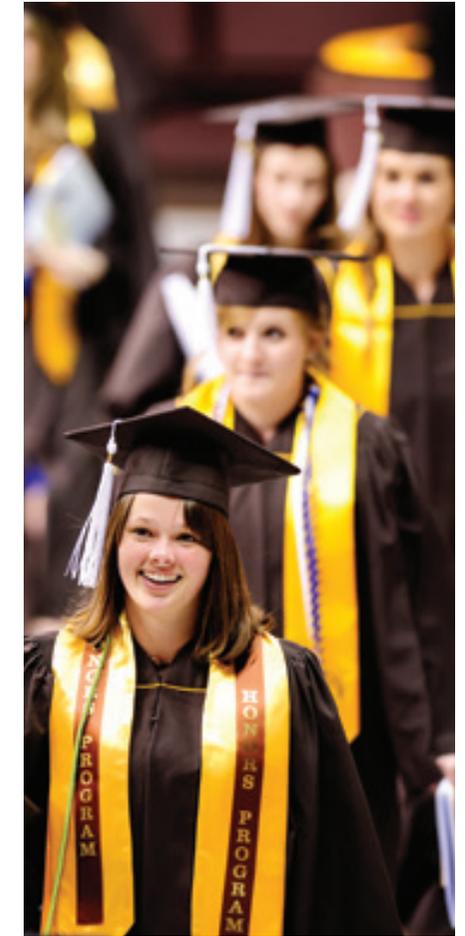
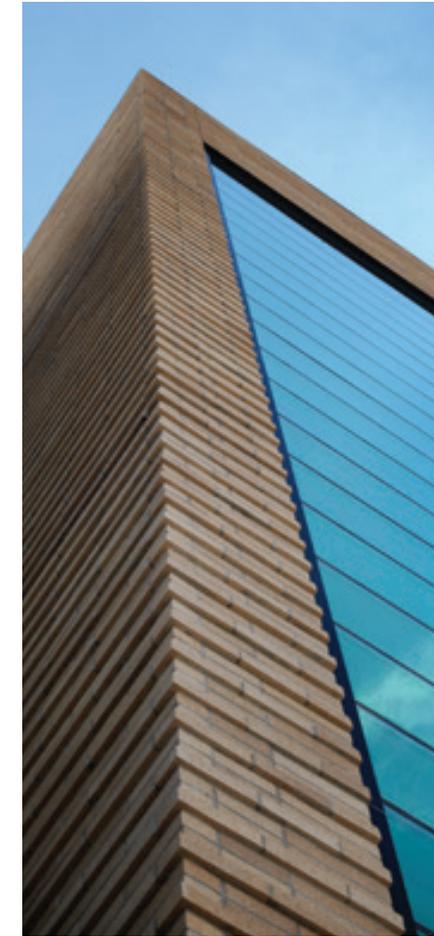
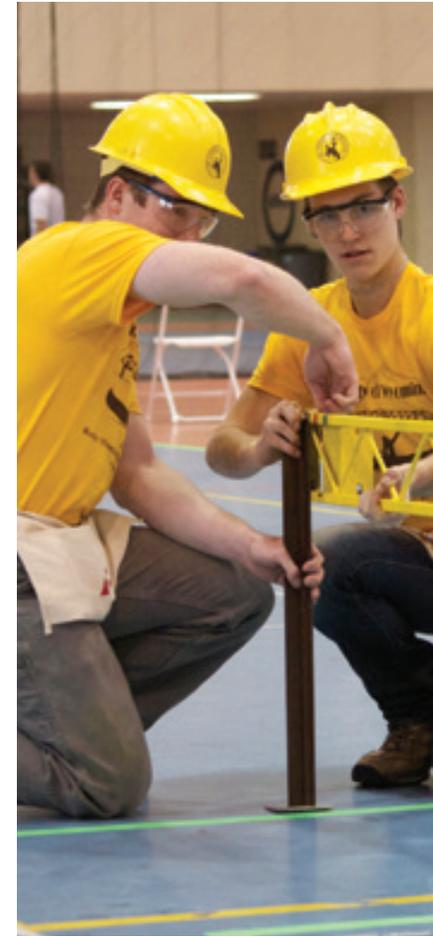
- Michael Pishko, Dean of UW College of Engineering and Applied Science

Be a Part of it: The Tier-1 Engineering Initiative

Thanks to a significant investment from Wyoming state government, now is an exciting time to be in the College of Engineering and Applied Science at the University of Wyoming. The launch of the Tier-1 initiative will elevate the college to new heights of excellence in education, research and service. Guided by the Wyoming Governor’s Energy, Engineering, STEM Integration Task Force and college leadership, the Tier-1 Initiative was born in 2012.

The implementation plan of the initiative focuses on the following strategic goals:

- Excellence in Undergraduate Education
- World-Class Research and Graduate Education
- Productive Economic Development through Partnerships
- K-14 STEM Education



“What set UW apart was the faculty of the College of Engineering. We don’t have that many students, so the professors actually develop relationships with the students.”

- Jakob Sumearll, Civil Engineering ('15)

WHY UW?

REACH YOUR POTENTIAL!

The College of Engineering and Applied Science is a nationally recognized and ABET accredited institution of academic excellence and world-class research. Rewarding and dynamic careers await individuals who graduate from one of our areas of study. Find opportunities to learn alongside industry professionals and renowned faculty by developing real-world projects.

-  90 percent of our graduates have jobs or go on to graduate programs within six months of graduation.
-  Small-class sizes (average: 28 per) ensure you'll have the opportunity to participate in hands-on research.
-  Our graduates have gone on to careers with companies like Ford Motor Company, Encana, IBM, AT&T, ConocoPhillips and NASA.
-  Scholarships are available - more than 375 merit-based awards are allocated each year to current students and high school seniors.
-  Nearly 78 percent of our graduates report a starting salary greater than \$60,000 annually, and 89 percent report a starting salary greater than \$50,000 annually.
-  Choose from undergraduate engineering programs such as architectural, chemical, civil, computer, computer science, electrical, energy systems, mechanical and petroleum.
-  Working in collaboration with the UW School of Energy Resources, students can access some of the world's finest research facilities.



[undergraduate education]

-  Nearly 95 percent of University of Wyoming students are pleased with their UW education and would recommend the university to friends and relatives - 2015 UW Student Satisfaction Survey



“ The faculty is willing to work with undergraduates who show interest in research and help them on to master’s or doctorate programs if that is their ambition. ”

- Paige Fischer, Chemical Engineering, B.S. ('13)

[careers]

Careers in Chemical Engineering - Careers in the energy, food, water, manufacturing, healthcare and pharmaceutical industries are typical. Biochemical engineering examines vaccines, stem cells, artificial organs and biofuels. Professionals work on creating and refining polymers in manufacturing and medicine.

How much will I make? - The average annual salary for chemical engineers was **\$94,350** in 2012.

Where can I work? - Companies like **Pfizer, Johnson & Johnson** and **DuPont** employ chemical engineers.



CHEMICAL ENGINEERING

Chemical engineering turns raw materials, such as crude oil, biological materials, metals and waste materials into usable products, including gasoline, foods and medications. Chemical engineers apply the principles of chemistry, biology, physics and math to solve problems that involve the production or use of chemicals, fuel, drugs, food and many other products. They design processes and equipment for large-scale safe and sustainable manufacturing, plan and test methods of manufacturing products and treating byproducts and supervise production.

Professor John Oakey's laboratory is researching biomedical applications to develop smaller instrumentation that is cost effective.

4% projected job growth from 2012-2022 in chemical engineering

Chemical engineering is an exciting and demanding field that provides excellent career opportunities in the U.S. and around the world. At UW, we strive to prepare students to be leaders in industry, government or academia. Those alumni with the advanced education and research skills associated with obtaining graduate degrees have additional flexibility, breadth, and depth to become leaders as the problems of tomorrow arise. Our faculty are award-winning, world-class researchers and teachers with a variety of research foci. The department occupies a major share of the modern 130,000- square-foot engineering addition, including six undergraduate laboratories and 20 research laboratories as well as machine, wood and instrument shops.



 UW researchers are working to develop methods to improve performance of current processes in the energy market.

“You have a very high chance of getting a great job with a great company, and the demand is always going to be there for qualified workers.”

-Sabrina Forbis, Petroleum Engineering, B.S. ('14)
Wyoming Oil and Gas Conservation Commission

[careers]

Careers in Petroleum Engineering - Petroleum engineers are involved in all facets of oil exploration and development, from identifying and characterizing the reservoir through drilling and completion to production. Petroleum engineers also find new ways to extract oil and gas from older wells.

How much will I make? - The average annual salary for petroleum engineers was **\$130,280** in 2012.

Where can I work? - Companies like **Chevron, Encana, Halliburton, BP, Hess** and **ConocoPhillips** employ petroleum engineers.



PETROLEUM ENGINEERING

Petroleum engineers travel to where the reserves are. Petroleum engineering often provides the highest earning potential of the engineering disciplines. However, it is also subject to the fluctuations in the marketplace. New technology is continually emerging, creating an industry that is full of both challenges and opportunity.

Petroleum engineering students have the opportunity to collaborate on many projects in energy research, including clean coal technology, coal gasification and advanced oil and gas recovery.

26% projected growth of jobs available for petroleum engineers by 2022

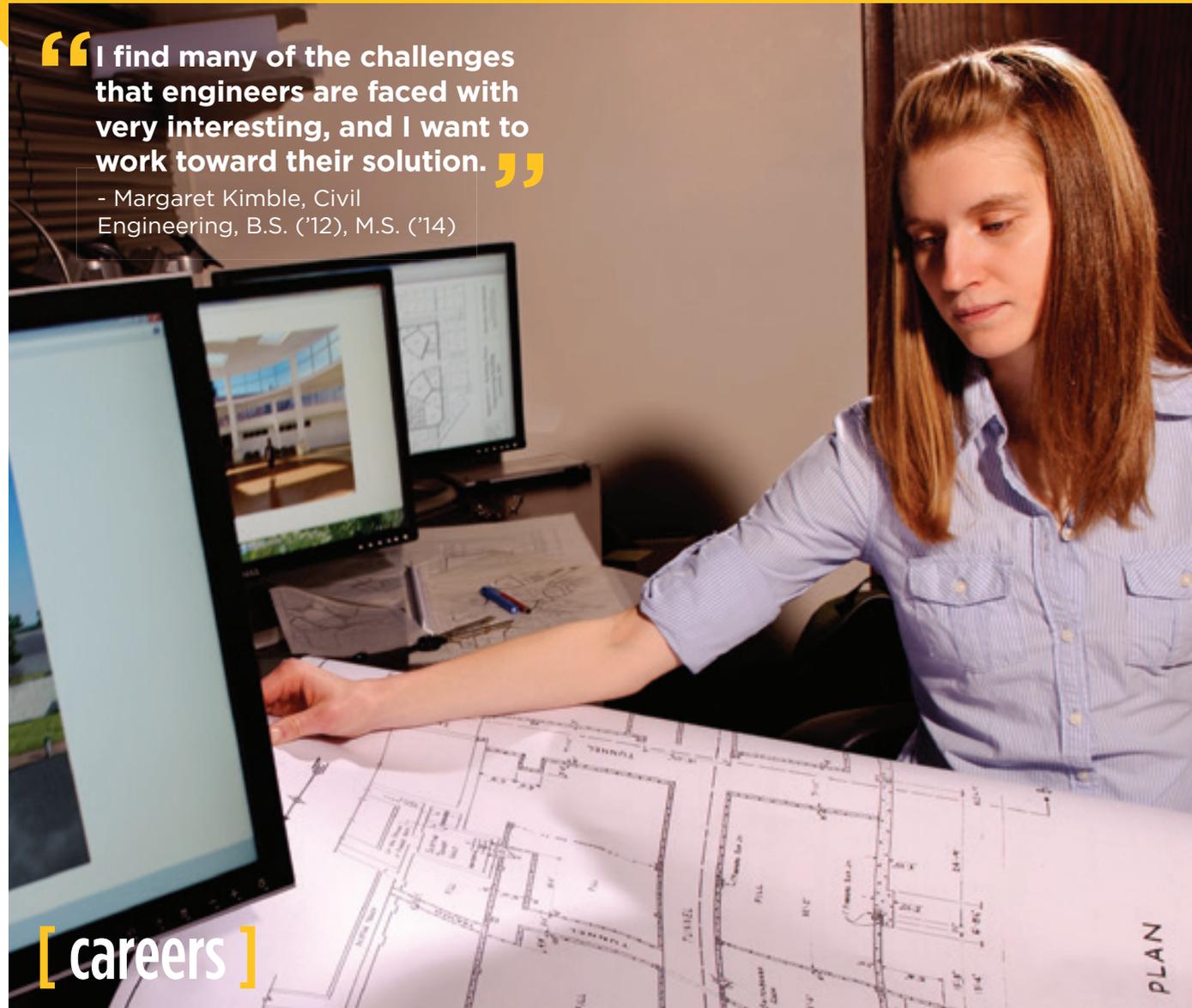
Petroleum engineering works closely with the School of Energy Resources to explore unconventional reservoirs that contain resources that do not flow at economic rates or produce economic volumes of oil and natural gas without stimulation or other recovery processes and technologies. UW petroleum engineering students have the opportunity to join professional societies to network and enhance understanding of relevant topics. Examples include the Society of Petroleum Engineers and the American Association of Drilling Engineers. These organizations are composed of undergraduates, graduates and faculty serving members, seeking to further their knowledge in exploration, development, production and mid-stream segment of the oil, gas and related industries.



UW's drilling simulator teaching laboratory allows students to experience what it's like to drill an oil well.

“ I find many of the challenges that engineers are faced with very interesting, and I want to work toward their solution. ”

- Margaret Kimble, Civil Engineering, B.S. ('12), M.S. ('14)



[careers]

Careers in Civil and Architectural Engineering - Graduates from our program find employment with public agencies, private firms and in industry in both small towns and large cities nationwide. These individuals design, construct, supervise, operate and maintain large construction projects and systems.

How much will I make? - The average annual salary for civil and architectural engineers was **\$79,340** in 2012.

Where can I work? - Companies like **Johnson Controls, Trihydro, Tower Engineering** and the **Wyoming Department of Transportation** employ civil and architectural engineers.



CIVIL AND ARCHITECTURAL ENGINEERING

The Department of Civil and Architectural Engineering emphasizes the following themes:

Environmental stewardship – Sustainable practices for natural and man-made systems to protect human health and the environment.

Infrastructure design, repair and rehabilitation – Extending the life and utility through developments in materials technology and systems operation.

Rural transportation safety – Enhancing the safety of all forms of the transportation network in the rural West.

Sustainable building practices – Model, create and operate buildings that are energy efficient, resilient and healthy.

Water resources – Understanding the changing hydrologic processes that govern the water resource.

Melinda Kolm received hands-on experience with wind turbines on the plains of Wyoming.

98% of graduates find employment with public agencies and private firms

The CAE department at UW provides ABET-accredited degree programs in civil engineering and architectural engineering, as well as a minor in land surveying. Civil engineering majors are provided course options in environmental, geotechnical, structural, transportation and water resource engineering. Architectural engineering majors have course options in building structural systems and building mechanical systems. Incoming freshmen experience at least one design-based course each year in an innovative course sequence called VISTA (for Vertically Integrated Science and Technology Application), wherein students tackle modern engineering challenges from their very first semester. Many undergraduate students find on-campus opportunities in the research laboratories and with a unique cooperative learning experience on the Wyoming Department of Transportation's Design Squad.



Environmentally friendly communities are becoming reality thanks to UW's research into zero-energy homes, which utilize renewable power sources.

“ I’d say the education I got at UW was the richest four to six years of my life in terms of learning. ”

-Neal Sample, Computer Science, M.S. ('98) - President, enterprise growth, American Express Co.



[careers]

Careers in Computer Science - Traditional careers in computer science include work in graphics, software engineering, networks, databases, multimedia and artificial intelligence.

How much will I make? - The average annual salary for computer science engineers was **\$102,190** in 2012.

Where can I work? - Companies like **Lockheed Martin, Echo Star** and **American Express** employ computer science engineers.



COMPUTER SCIENCE

There are more software jobs than can be filled with current graduates, with this remaining true for the foreseeable future. These are high-paying jobs housed in rich working environments. Traditional careers in computer science include work in graphics, software engineering, networks, databases, multimedia and artificial intelligence.

Professor Amy Banic conducts research into 3D-user interfaces, focusing on human-centered computing.

70% of all newly created STEM jobs in the next decade will be in computer science, projected by the Bureau of Labor Statistics

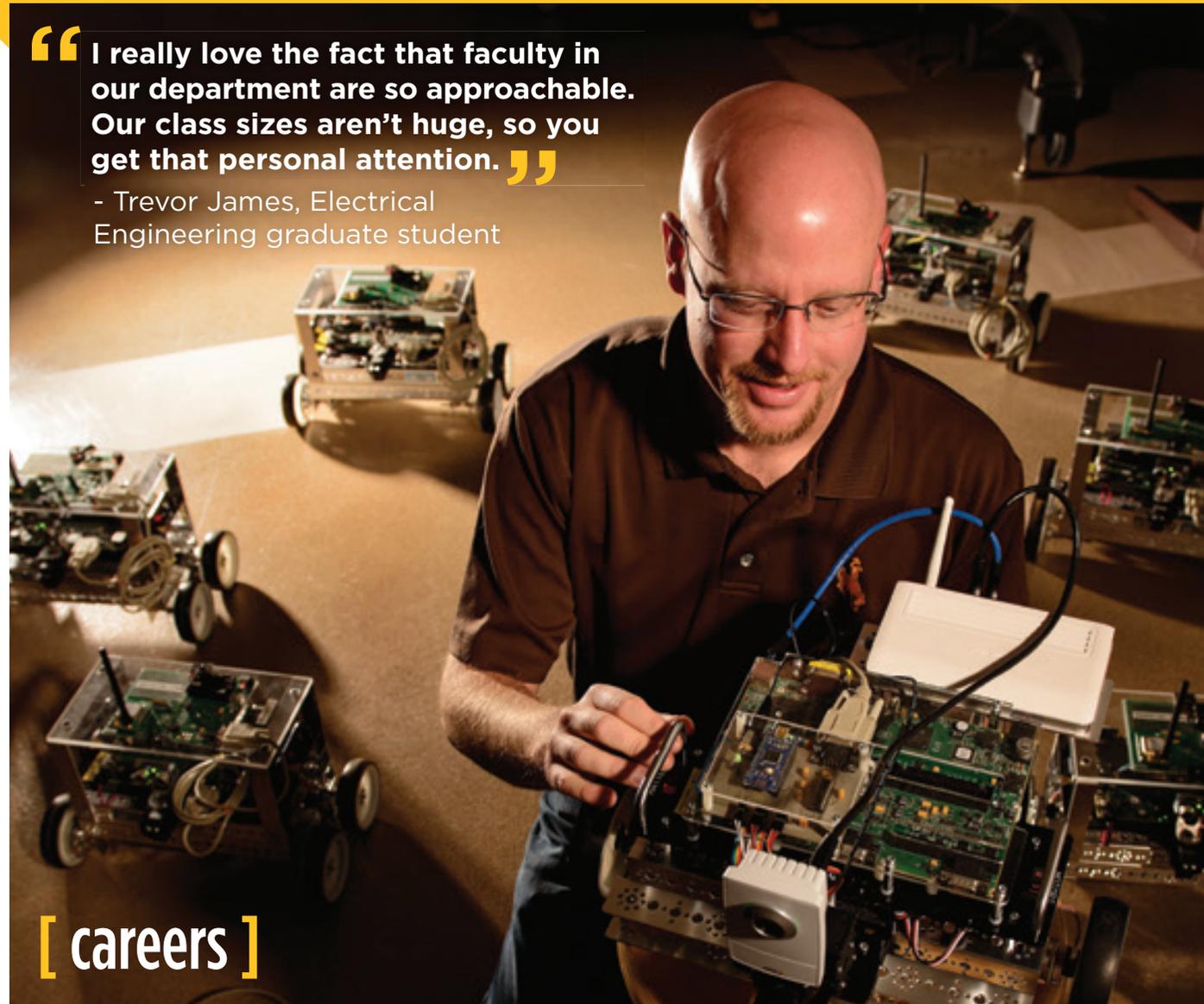
The CEAS at UW provides graduates with a well-prepared approach to careers in computer science, a rapidly growing field. The Industrial Affiliates Program (IAP) has been developed to link industrial and business partners with students and faculty members. Partner companies pay an annual fee to form unique networking possibilities. Partners belonging to the IAP offer students opportunities for internships and full-time positions with their companies. For more information and a list of partners participating the program please visit: uwyo.edu/cosc/industrial_affiliates



The Rocky Mountain Celebration of Women in Computing conference encourages the career interests of women in computing.

“ I really love the fact that faculty in our department are so approachable. Our class sizes aren't huge, so you get that personal attention. ”

- Trevor James, Electrical Engineering graduate student

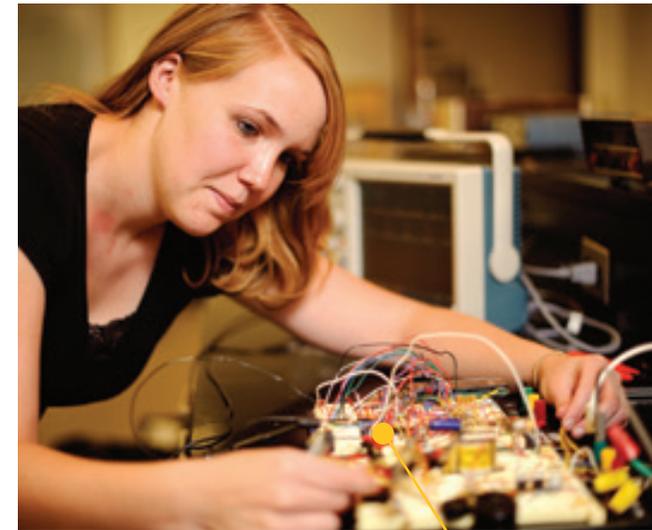


[careers]

Careers in Electrical and Computer Engineering - Industries like energy/power, aerospace, automotive/transportation, computer networks, robotics, satellite and cellular communications, music/video special effects, software design, microcomputers, biomedical instruments/imaging and electronic devices utilize the talents of electrical and computer engineers.

How much will I make? - The average annual wage for electrical engineers was **\$89,630** in 2012. The average annual salary for computer engineers was **\$100,920** in 2012.

Where can I work? - Companies like **Pacificorp**, **Microsoft** and **Google** employ electrical and computer engineers.



ELECTRICAL AND COMPUTER ENGINEERING

It has often been said ECE students get to “play” with some of the best “toys,” but students are prepared for an exciting future career. The main disciplines contained within this area of study include:

Electrical Engineering—Provides depth of understanding necessary to meet the challenges of ever-changing technology and allow students to pursue comprehensive study in at least one specialization area of electrical engineering.

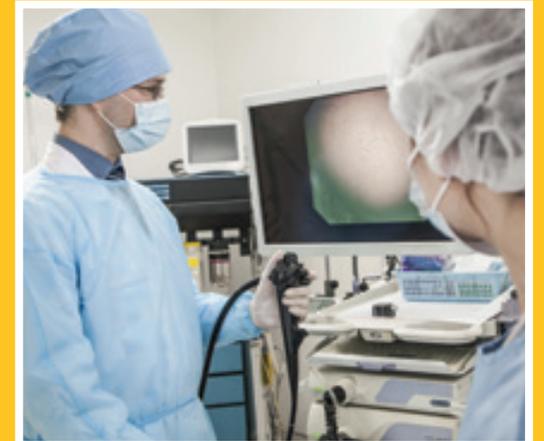
Computer Engineering—Similar to the electrical engineering program but emphasizes computer-related technology.

Jennifer Catchpole works on an alarm clock which could help individuals with hearing impairments.

12,600

 projected new jobs in electrical engineering fields by 2022

The ECE department at UW offers electrical engineering, computer engineering and a bioengineering option of electrical engineering. There is frequent opportunity for undergraduates to participate in research projects. ECE faculty members maintain a flexible open-door policy making them extremely accessible to students. The department has well-equipped laboratories, offers free access to computer systems running software needed for your studies, maintains small class sizes and provides a friendly, supportive environment for students.



 A growing number of medical devices are designed by computer engineers with a computer system and the ability to connect to the Internet.

“ I enjoy the ability to be innovative and develop creative solutions to new problems. ”

- Michael Bruch, Mechanical Engineering, B.S. ('96) Chief engineer for robotics, U.S. Navy SPAWAR Systems Center Pacific

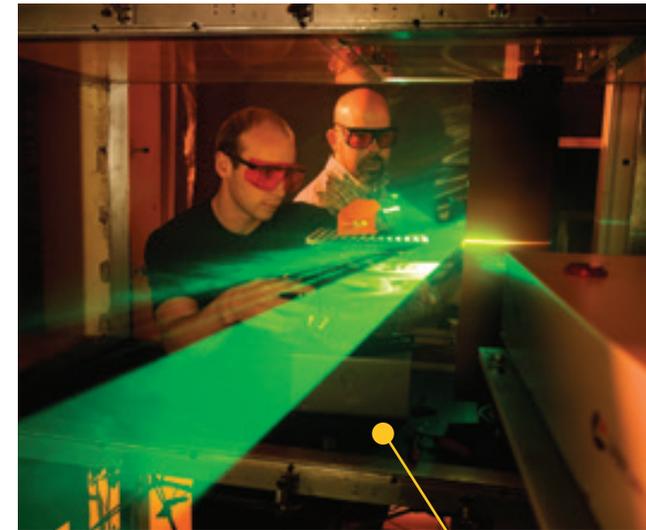


[careers]

Careers in Mechanical Engineering - UW graduates are employed at more than 700 companies and in all 50 states. Mechanical engineers find employment in industries such as automotive, aerospace, manufacturing, defense, electric utilities, chemical and oil/gas.

How much will I make? - The average annual salary for mechanical engineers was **\$80,580** in 2012.

Where can I work? - Companies like **Lockheed Martin, Boeing, GE, Cessna** and **FMC** employ mechanical engineers.



MECHANICAL ENGINEERING

Mechanical engineering is the broadest of all engineering disciplines. It deals with diverse engineering problems in solid mechanics, fluid dynamics and aerodynamics, heat transfer, energy conversion, vibration, design, manufacturing, controls, materials science and electromechanical systems, among others. Mechanical engineers are employed in almost every industry. If there are moving parts or if energy is converted from one form to another, a mechanical engineer was responsible for the design. Students receive a hands-on education with small ME class sizes averaging 28 students per lecture class and 10 students per laboratory section.

Students can study power generation from Wyoming's wind, which could diversify the economy and provide jobs.

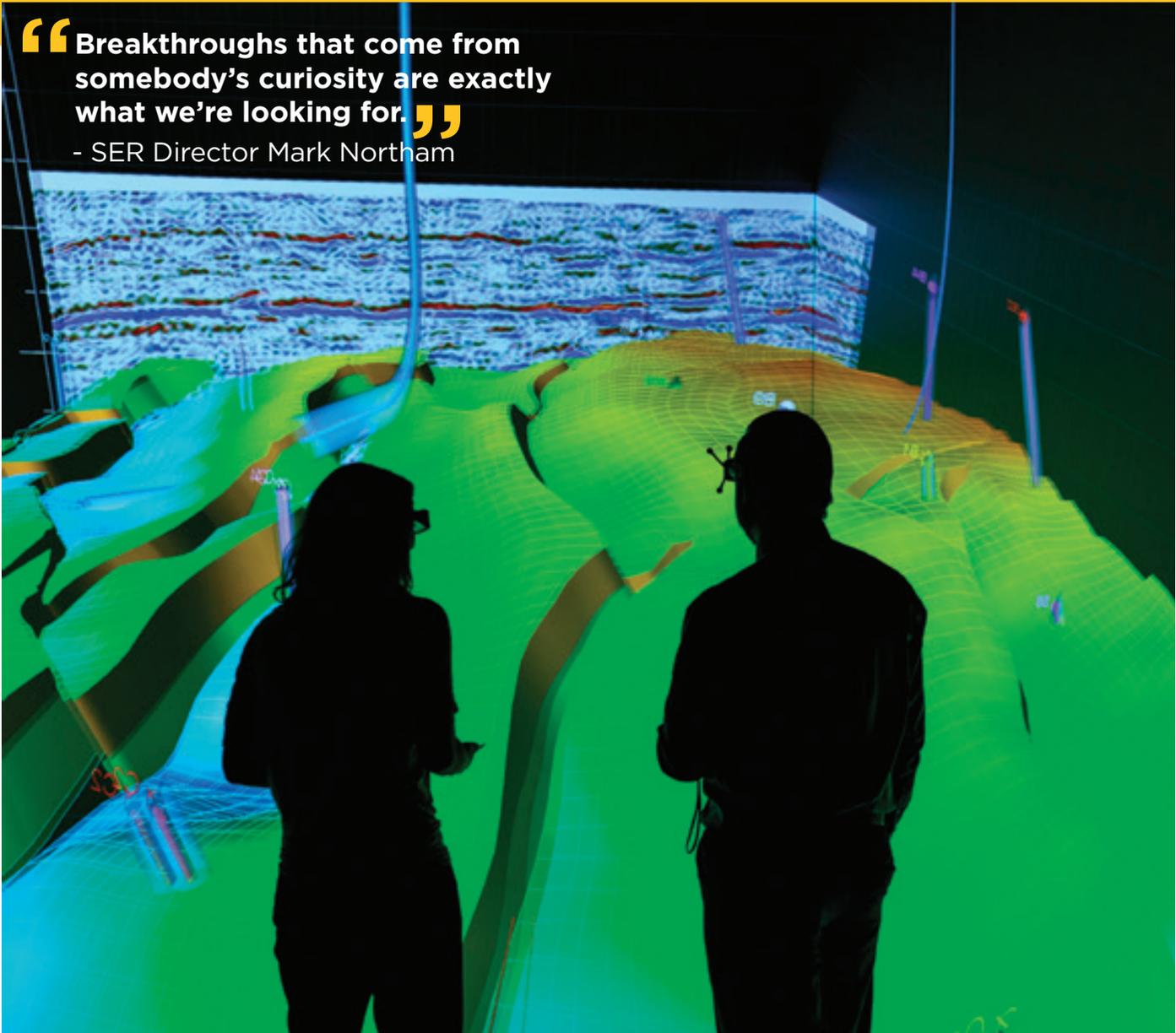
5% projected job growth in mechanical engineering by 2022

The Energy Systems Engineering program is designed to train engineers to address one of this country's foremost challenges to achieve energy independence and meet the growing demand for energy, while addressing critical environmental concerns. ESE engineers are trained in alternative and environmentally friendly energy-conversion systems such as wind, solar, and geothermal, as well as more traditional technologies. The program prepares students to be technology leaders in energy conversion and environmental protection systems, managers in the energy industry, overseers of energy development and to be environmentally sensitive liaisons between the energy industry and the public.



 Mechanical engineers design power-producing machines such as electric generators, internal combustion engines and wind turbines.

“Breakthroughs that come from somebody’s curiosity are exactly what we’re looking for.”
- SER Director Mark Northam



Shell 3-D Visualization Center - Designed, engineered and integrated by Mechdyne Corporation, the laboratory combines high-resolution stereoscopic projections and 3D-computer graphics to create a virtual environment where researchers can analyze, interpret and share a wide variety of spatially related data. One of the laboratory’s many capabilities is its ability to model oil, gas, and water movements and interactions in the subsurface environment, which will aid researchers and energy companies in deriving maximum value from their mineral resources.



SCHOOL OF ENERGY RESOURCES

Collaboration is the key to the relationship between the CEAS and UW’s School of Energy Resources. The two separate entities have mutually aligned interests which allow the CEAS and SER to work closely on many projects, including providing nationally competitive undergraduate and graduate instruction in energy-related disciplines, advancing state-of-the-art, Wyoming energy-related science, technology and economics research and supporting scientific and engineering outreach through dissemination of information to Wyoming’s energy industries, companies, community colleges and governmental agencies.

The University of Wyoming’s Energy Innovation Center (EIC) facility includes 27,300 square feet of highly technical research space.

SER students can study the latest energy technology at the Peabody Energy Advanced Coal Technology Laboratory, featuring state-of-the-art resources and world-renowned faculty.

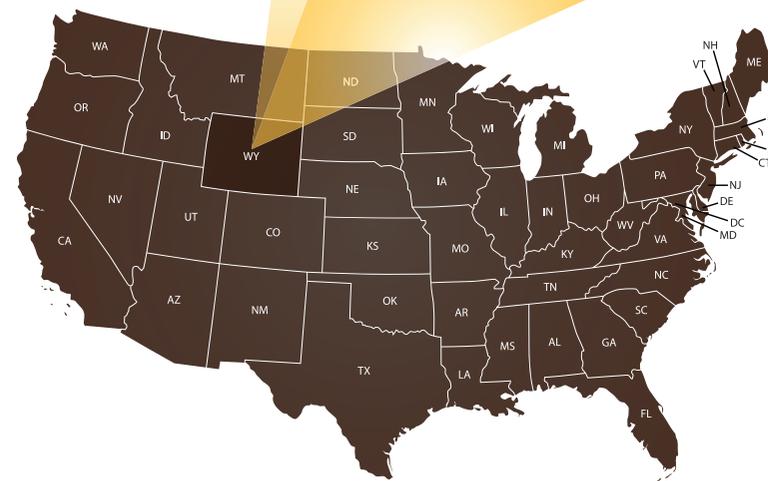
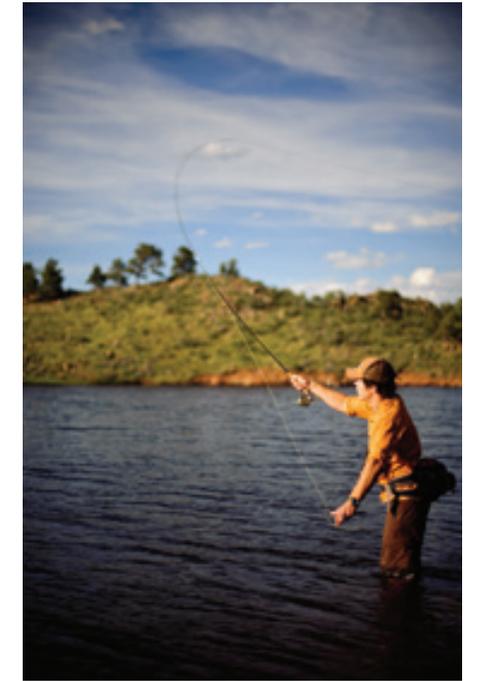
The **3** pillars of SER: Energy Education | Energy Research | Energy Outreach

The High Bay Research Facility will be a shared UW resource among the School of Energy Resources, the College of Engineering and Applied Sciences and the Department of Geology and Geophysics. This laboratory facility will contain approximately 90,000 square feet of traditional and high-bay research laboratories, offices and meeting areas. The goal of this facility is to provide sufficient space, capacity and state-of-the-art equipment to grow various niche areas of research being conducted at the University of Wyoming. The facility has been designed to be easily reconfigurable, modular and expanded as different research areas grow or dissemble over time.



 Enhanced oil recovery labs at the School of Energy Resources research issues critical to the nation’s energy future.

THE GEM CITY



Laramie - The Clear Choice

Known as the “Gem City of the Plains,” Laramie’s sparkle resonates throughout the Rocky Mountain region. A safe and vibrant community of more than 30,000, Laramie offers the amenities of big-city living with the feel of a small town.

Explore all the fine dining, coffee houses and unique shopping opportunities. Enjoy numerous activities close to home, including historic buildings, museums and cultural events like Cheyenne Frontier Days or Laramie Jubilee Days. Or hit the road, as numerous outdoor activities are within mere minutes of city limits.

Check out a home event for one of UW’s 17 Div. I athletic programs, join an intramural or club team or just participate in some UW Pride activities. If you want it, we’ve got it here!

Travel Time to Surrounding Locations

- To Denver, Colo.: 2 hours
- To Cheyenne, Wyo.: 45 minutes
- To Snowy Range Ski Area: 35 minutes
- To cross country ski areas: 20 minutes
- To Vedauwoo recreation area: 15 minutes

Area Attractions

- Vedauwoo
- Happy Jack Recreational Area
- Curt Gowdy State Park
- Medicine Bow National Forest
- Grand Teton National Park
- Yellowstone National Park

HOW TO APPLY



How to Apply

At UW, we welcome all students to apply and will consider each based on individual academic achievement. Submit a one-time, non-refundable \$40 application fee, official high school transcripts and official ACT or SAT test scores for consideration. Apply online today at uwyo.edu/apply.

WYOMING AND NON-RESIDENT SCHOLARSHIPS

Explore our competitive scholarships for resident and nonresident students, including merit and need-based awards. UW also awards scholarships based on talent, ability and student achievement. Many scholarships have specific deadlines, application or audition requirements. Explore UW's scholarships at uwyo.edu/scholarships.

All scholarships and financial aid are subject to available funding and current university and trustee policies. Most UW scholarships have specific application deadlines. Applications received after the deadlines will be considered only if funds are available.

Wyoming Resident Scholarships: Direct High School Graduates

Hathaway Scholarship

The Hathaway Scholarship Program provides merit and need-based awards for qualifying students, determined by a combination of GPA, test scores and completion of high school curriculum requirements. The merit portion of the scholarship offers three levels of support.

Honors: \$3,360 per year - Minimum GPA of 3.50 and ACT of 25

Performance: \$2,520 per year - Minimum GPA of 3.00 and ACT of 21

Opportunity: \$1,680 per year - Minimum GPA of 2.50 and ACT of 19

Students must complete certain high school courses to be considered for Hathaway Scholarships and maintain specific satisfactory academic progress standards while attending UW to continue to receive their scholarship. Hathaway awards are valid for eight semesters (four years). Students should visit with their counselor and carefully review all Hathaway details at uwyo.edu/hathaway.

Wyoming Scholars Award*

Provides \$1,000 per year to students with a 3.5 cumulative high school GPA (4.0 unweighted scale) and a 25 composite ACT. This amount is in addition to any Hathaway Honors Scholarship award received.

Trustees' Scholars Awards

The University of Wyoming will recognize a limited number of Wyoming's top resident graduating seniors for their academic achievement as recipients of the highly competitive Trustees' Scholars Award. Recipients are evaluated on their academic excellence (high school GPA, test scores, and curriculum rigor). The Trustees' Scholars award, when combined with the Hathaway Honors award, provides the equivalent cost of tuition and mandatory fees (18 credit hours per semester, excluding summer sessions), double-occupancy room and an unlimited access dining plan.

- The Trustees' Scholars Award is only available to first-time, entering resident freshmen seeking their first bachelor's degree.
- This scholarship is renewable for up to eight semesters (four academic years) or up to the first bachelor's degree, whichever comes first.
- Students must maintain full-time continuous enrollment (12 semester hours) during the fall and spring semesters each year but is not available for use during the summer semester.
- Students must maintain a 3.0 cumulative GPA (evaluated at the end of each spring semester).

NON-RESIDENT SCHOLARSHIPS: Direct High School Graduates

Rocky Mountain Scholars Award

The Rocky Mountain Scholars Award provides one of three amounts annually. Students are recognized with one of the three awards using a grid criteria including their cumulative high school GPA (4.0 unweighted scale) and composite ACT/SAT score. Additional scholarship details are available at uwyo.edu/scholarships.

Western Undergraduate Exchange (WUE)

The Western Undergraduate Exchange (WUE) provides an award amount equivalent to 150 percent of resident tuition, and is available to students who are residents of a WUE participating state. Students are recognized with a WUE award using a grid criteria including their cumulative high school GPA (4.0 unweighted scale) and composite ACT/SAT score. WUE participating states include: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah and Washington.

- To ensure Rocky Mountain Scholars and WUE consideration and eligibility students must submit all of their admission application materials and confirm enrollment by May 1. Rocky Mountain Scholars and WUE awards cannot be combined. Applications and confirmations received after May 1 will only be considered if funds remain available. Additional scholarship details are available at uwyo.edu/scholarships.

For more information on non-resident scholarships visit uwyo.edu/admissions/scholarships/non-residents.

Children of UW Alumni Tuition

Children of UW graduates are eligible to receive non-resident tuition equal to 150 percent of that paid by residents. The Child of Alumni tuition benefit is granted upon confirmation of parent UW degree completion. This program cannot be combined with the Rocky Mountain Scholars Award or WUE program. Eligible students are encouraged to also pursue merit, talent and UW Alumni Association scholarships. Visit uwyo.edu/admissions/alumnifreshman.

SCHOLARS PROGRAM



Undergraduate Engineering Scholars Program

As part of the University of Wyoming Tier-1 Initiative, the College of Engineering and Applied Science (CEAS) now offers competitive Undergraduate Excellence Scholarships—25 annually. Not only do recipients receive \$6,000 of renewable annual funding, but they are also mentored in research and scholarship.

Recipients are evaluated on their academic excellence (high school GPA, test scores and curriculum rigor). The scholarship provides \$6,000 of annual funding to help cover the cost of tuition, room and board and associated fees. The scholarship is merit based and renewable for an additional three years for a total scholarship of \$24,000. In the first two years of the program, a total of 48 scholarships were awarded annually. The total number of scholarship awards may increase substantially in years to come.

Awardees will be invited to participate in the “Engineering Scholars Program,” in which they will be given V.I.P. treatment including opportunities for undergraduate research, one-on-one work with professors, industrial opportunities, etc.

Application Requirements and Deadlines

To be considered for the Scholarship, the UW Admissions Office must have the following on or before Dec. 1:

- Application for admission and admission application fee
- The student must have a declared undergraduate major within the College of Engineering and Applied Science or be on ENUN (engineering undecided) status.
- Official high school transcripts
- Official ACT/SAT test scores
- Students selected to receive the scholarship must confirm their enrollment at UW by May 1.

Visit uwyo.edu/ceas/engineering-initiative/undergraduate-scholars.html to learn more about the scholarship.

“UW has an amazing engineering program, a beautiful campus, friendly people everywhere I looked, and was—ultimately—the most cost effective.”

- Bethany Orrick



BRINGING IN THE BEST AND BRIGHTEST

The scholars program already has attracted top students, such as Bethany Orrick of Forney, Texas, who planned on attending college in Texas before receiving the scholarship.

“I got a letter from CEAS that changed everything,” she says. “Within a couple days I had arranged a flight and was off to visit the campus. I was blown away, as nearly every hope was exceeded. Until then, only private university campuses had met my expectations. UW has an amazing engineering program, a beautiful campus, friendly people everywhere I looked, and was—ultimately—the most cost effective.”

Scholarships such as this prove the deciding factor for many students.

“As an out-of-state student, I am very grateful for the scholarships,” Orrick says, “Without them, UW wasn’t an option. It was because of the scholarships that I even came to visit the campus and then fell in love with the university.”

Orrick, who entered UW in fall 2014, is majoring in both architectural engineering and environment and natural resources.

“I hope that with the concurrent majors I will be prepared to understand both the engineering and impact of future developments to help build sustainable structures in the future.”

Bethany Orrick, Architectural Engineering and Environment and Natural Resources student

ENGINEERS ON THE JOB

Meet 7 College of Engineering and Applied Science graduates working at some of the nation's top companies.

STEM:

As the nation's economy evolves, the demand for employees in the STEM - science, technology, engineering and math - field has grown rapidly. Hear from these seven graduates, who are filling those roles thanks to their UW education.



Kendra Williams

Degree: B.S. '12, Petroleum Engineering

Occupation: Drilling engineer

Company: Hess Corp. - Houston, Texas

Hometown: Pinedale, Wyo.

She said it: "What makes my job enjoyable is the fast pace. We are averaging less than 20 days per well we drill and strive to operate more efficiently while still being focused on safely executing operations. This provides many opportunities to test new technologies and learn a lot in a short amount of time."

Dylan Mair

Degree: B.S. '12, Chemical Engineering

Occupation: Production engineer

Company: Encana Corp. - Denver, Colo.

Hometown: Mountain View, Wyo.

He said it: "I love to contribute to a team that produces oil. The most challenging part is that there's always something we can do better. The biggest thing for a production engineer is to get to know your wells and get to know how they're doing and how to recognize a change and do diagnostics to catch problems early."



Brittni Emery

Degree: M.S. '13, Atmospheric Science

Occupation: Air quality meteorologist

Company: Inter-Mountain Labs Inc. - Sheridan, Wyo.

Hometown: Montevideo, Minn.

She said it: "The variety of my job makes it fun. Sometimes I am working with data while other times I am out in the field fixing our air-sampling equipment. As a person with a background in meteorology, I particularly enjoy working in air quality because it impacts both industry and the individual."



Keith Herring

Degree: B.S. '14, Petroleum Engineering

Occupation: Graduate engineer

Company: ConocoPhillips Inc. - Anchorage, Alaska

Hometown: Encampment, Wyo.

He said it: "One of the most challenging aspects of working in an older oil field is developing viable economic solutions that will put oil in the pipeline. ConocoPhillips has an accelerated program for new engineers, and I recently completed my first role in the well integrity group and started a new role in the coiled tubing drilling development group. I enjoy learning all the new technology."



Christine Sednek

Degree: M.S. '12, Environmental Engineering

Occupation: Engineer in training

Company: Burns & McDonnell - Centennial, Colo.

Hometown: Kersey, Colo.

She said it: "I work with designing water and wastewater facilities. I like that it's challenging and that it's serving communities with clean water and treating their wastewater."



John Greff

Degree: B.S. '14, Petroleum Engineering

Occupation: Reservoir engineer

Company: BP PLC - Houston, Texas

Hometown: Riverton, Wyo.

He said it: "We're always discovering new fields and new technologies. I worked in natural gas fields in high school and I've always had an interest in it. I definitely would not have gotten this job had I not gone to UW."



Alicia Martin

Degree: M.S. '13, Mechanical Engineering

Occupation: Mechanical maintenance engineer

Company: Tronox Limited - Green River, Wyo.

Hometown: Evanston, Wyo.

She said it: "I enjoy the variety of equipment I am responsible for and being involved in root cause failure analysis, where I rely heavily on my materials science background and failure analysis skills gained from the mechanical engineering program at UW."

WHAT'S NEXT?



“ We are a leader in energy production. With that great blessing comes a great responsibility to provide leadership. This is the opportunity we have. It’s more than just numbers and buildings. It’s an opportunity to improve the quality of life for the citizens of Wyoming, the nation and the world. ”

– Wyoming Gov. Matt Mead

WHAT'S NEXT?

One tangible impact of the Tier-1 Engineering Initiative will be the construction of new engineering buildings and renovation of the current building. The facilities will enable the delivery and completion of strategic imperatives defined by the UW Tier-1 Implementation Plan. That includes the High Bay Research Facility, the Michael B. Enzi STEM Facility and the Engineering Building Expansion.

The timeline: The various projects have completion dates scheduled for late 2015 and 2016.

The details: A new engineering complex north of the present CEAS building is estimated to cost \$106 million—the largest single capital project in UW history—and includes the construction of a new purpose-built building equipped with the very latest education and research laboratory capabilities that will include dedicated collaboration activity spaces and forums. The opportunity will also be taken to renovate, rejuvenate and refresh the current Engineering Building.

What it means: These projects are intended to provide new spaces for modern instruction and research, including a new shop and student project areas; teaching and computer labs in an active-learning configuration; reconfigurable research labs with associated office and collaborative spaces; meeting/conference rooms; and an expanded drilling simulator facility.



The New Engineering Building - A conceptual rendering of the engineering building expansion. The additional spaces will create a learning and discovery continuum that promotes innovation and creativity, offering an integrated approach to education and research.



High Bay Research Facility - This facility will be equipped to carry out large-scale research and development to solve energy-related challenges. Featuring a world-class facility to investigate flow in porous media in oil and gas reservoirs, it will initially host studies and projects to improve understanding in porous media, unconventional reservoir production and coal conversion. The \$50 million public-private investment is due for completion in 2016.



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