Invent Tomorrow

SOUTH DAKOTA
SCHOOL OF MINES
& TECHNOLOGY

www.gotomines.com
You’ve felt it as long as you can remember...

A curiosity about how and why the world works... a drive to build things, maybe intricate and small, maybe mind-blowing in scale... a passion to work problems to their sometimes not-so-logical conclusions.

If this is you, welcome to your future. You’re ideal for the South Dakota School of Mines and Technology.

www.gotomines.com
The School of Mines has been recognized by many for excellence in science and engineering:

- Seven straight years in America’s 100 Best College Buys
- Boeing Outstanding Educator Award winner
- CASE Carnegie Professor of the Year Award winner

"This is a great school. It’s small. The people are great. I did consider bigger schools, but I chose the School of Mines because it had a great reputation, and there’s no better place to study engineering and science for the cost."

Jennie Wentz
Civil Engineering
Lemmon, SD

Did you know...

...that the South Dakota School of Mines and Technology is the first university in the nation with equipment for evaluating integrated circuits at the nanoscale? Our partnership with nano-manufacturing leader Zyvex Corporation has helped put us—and you—on the cutting edge in the exploding field of nanotechnology, which has been called “the next industrial revolution.”

“Here you’ll invent tomorrow by collaborating with fellow students and world-class professors to create engineering and science solutions for the real world. Work hard. Earn a School of Mines degree. Join thousands of our graduates in well-paying professions throughout South Dakota, the nation, and the world. Live out your dream of impacting the world day-in and day-out. How cool is that?”
day one:

Invent Tomorrow Starting Today

At the School of Mines, you will be an engineer or scientist from the time you arrive on campus.

We believe in doing what other universities often just talk about, with roll-up-your-sleeves, hands-on opportunities to complement your outstanding classroom education. More than 75 percent of our students gather relevant work experience outside of their already-engaging course work through co-ops and internships.

Our exceptional Center of Excellence for Advanced Manufacturing and Production (CAMP) is a competitive, nationally-recognized program that brings together students, faculty, and industry leaders to partner on real-world projects.

You can be part of a team preparing for national competition by building alternative fuel vehicles, a concrete canoe, an unmanned aerial vehicle, or a mini Indy or Baja car, or working on projects involving robotics or hydrogen fuel cells. Check out http://camp.sdsmt.edu for more information.

Inside Mines:

- Technology is an essential part of your School of Mines education. We offer you:
  - Access to multiple computer platforms and hundreds of computers throughout campus
  - 24-hour computer labs for everything from research to gaming
  - A secure campus wireless network

- Gaining real-world experience in the field can take you places—many Mines students have traveled abroad to work and study in countries such as Norway, Guatemala, Mongolia, and Mozambique.

- Devereaux Library in the heart of campus is home to books, periodicals, and electronic information—databases that are critical to your School of Mines success.

- Many undergraduate students have a role in campus research projects. The School of Mines has received approximately $12 million in annual funding for research initiatives to study remote sensing, lightning’s impact on global warming, fiber-reinforced composites, ultra-lightweight space systems, national defense projects, and the role of wetlands in climate change.

- A tablet PC program integrates computers into course work.

In only its fifth year of competition, the South Dakota School of Mines captured first place in the international Aero Design West remote-controlled airplane competition (and an added third place for design). The Stinger team spent months designing, building, and testing the remote-controlled biplane that beat the best efforts of some of the world’s better known aeronautical engineering programs.

South Dakota School of Mines and Technology’s commitment to hands-on learning is further evidenced in our newest campus facilities:

- The Tech Development Laboratory is the spacious home to many cutting-edge research projects.

- A Computational Mechanics Lab provides you access to the latest computational mechanics hardware and software used in industry.

- A Business Incubator Building will give a single home to our successful entrepreneurship activities.
The South Dakota School of Mines serves as the lead institution for the National Science Foundation's friction stir processing research program that gives dozens of students experience with state-of-the-art technology.
Laboratory experiences prepare students for industry. Here, Mining Engineering and Management students set up a core sample for stress test analysis.
As a School of Mines engineering student, you will learn from—and work side-by-side with—exceptional faculty in class and on a wide range of projects. In addition, you will have access to facilities that give you the tools for exploring, inventing, and building—regardless of the type of engineering you want to pursue.

All of our eligible engineering programs are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

Inside Mines:
- As a recognized leader in engineering, the School of Mines hosts a number of events such as the Star of the West Speaker Series and Engineers Week, which bring the best and brightest in industry to campus for you to meet and learn from.
- The School of Mines has received the Boeing Outstanding Educator Award for our innovative engineering education.
- Design and build your very own project in a simulated industrial environment in your capstone course.

Chemical Engineering students prepare experiments in our mini-plant laboratory so they experience what graduates will find in industry.

Metallurgical Engineering student Lizabeth Nielsen and Professor Jon Kellar use the transmission electron microscope to analyze the molecular structure of metals.

Industrial Engineering students use the Computer Integrated Manufacturing Laboratory to explore various facets of computer-controlled manufacturing, including material handling, inventory control, robotics, computer-aided design, CNC machining, and flexible manufacturing.

Engineer the World around You

Engineering Programs
- Chemical Engineering
- Civil Engineering
- Computer Engineering
- Electrical Engineering
- Environmental Engineering
- Geological Engineering
- Industrial Engineering
- Mechanical Engineering
- Metallurgical Engineering
- Mining Engineering and Management
The School of Mines offers a wide range of science programs leading to an even wider range of careers and graduate school opportunities.

Along with specific academic tracks, we offer an exceptional Interdisciplinary Sciences program that provides you a wide range of broad-based career tracks in the sciences:

• Prepare for medical or dental school in pre-professional Health Sciences.
• Study meteorology and the environment in our Atmospheric Sciences specialization.
• Get ready for one of the most important growth careers of this century by integrating business principals to the science and technology industry in our Business Applications in Science and Technology track.
• Examine the role of science and technology in our lives in Science, Technology, and Society as you build a foundation for law school or graduate school in politics or public policy.

Our science laboratories will allow you to test what you learn from the time you set foot on campus until you walk across the stage to receive your diploma.

Science Programs
• Chemistry
• Computer Science
• Geology
• Interdisciplinary Sciences
  – Atmospheric Sciences
  – Business Applications in Science and Technology
  – Pre-Professional Health Sciences
  – Science, Technology, and Society
• Mathematics
  (Applied and Computational)
• Physics

Rare fossils, like this ancient horse, are common in the School of Mines’ fossil and mineral collection. Students have access to more than 300,000 specimens for preparation, research, and study.

You can use the Black Hills as a million-acre natural laboratory for field research, just like these Geology students are doing near Crazy Horse Memorial.
Inside Mines:

• Our Museum of Geology and Paleontology holds the largest fossil and mineral collections in the Dakotas.

• Join the many School of Mines alumni with successful/acclaimed legal and medical practices.

• You can take part in research projects as an undergraduate, an honor often reserved for graduate students. The projects will allow you to use your skills and imagination to solve science challenges.

• The School of Mines computer programming team recently traveled to Prague, Czechoslovakia, to compete in an international programming contest sponsored by IBM. You can take part in any of the many competitive academic teams we offer.

Experimentation is a critical part of the School of Mines education. You will test what you learn so you understand the why and the how and even discover the what if. Students routinely present research findings at regional and national conferences.

“The School of Mines is small and specialized, and that allows us to get more attention from professors. It also challenges us, giving us an advantage after graduation.”

Dan Rausch
Computer Science and Mathematics
Big Stone City, SD
The Office of Career Planning, Placement, and Cooperative Education helps you plan your future. Talented staff will help you find internships and co-ops while you are a student and job opportunities when you're ready to graduate. Staff will help you craft excellent letters and résumés and will take part in mock interviews so you're ready to impress potential employers.

Ensure your future success

South Dakota School of Mines and Technology graduates earn an average annual starting salary of nearly $48,000.
Great Things

by gaining valuable experience through internships and co-ops. Seventy-five percent of our students gain an advantage over the competition by working in meaningful engineering and science positions. Last summer, our students worked for more than 75 employers in 23 states and earned nearly $15 an hour. You can too. Our students have:

- Conducted research at the Smithsonian Institution’s National Museum of Natural History in Washington, D.C.
- Helped advance the nation’s space program at the Air Force Research Laboratory.
- Tested ammunition for a firearms company.
- Designed road projects for the South Dakota Department of Transportation.
- Worked for Bobcat, Rockwell Collins, Archer Daniels Midland, Caterpillar, U.S. Forest Service, Cargill, Goodrich, Oak Ridge National Laboratory, and many others.

A sample of recent employers of our graduates include:

- 3M
- Air Force Research Laboratory
- Boeing
- Cargill
- Caterpillar
- Coca-Cola
- Daktronics
- Dow Corning
- Gateway
- Lockheed Martin
- Microsoft
- Motorola
- U.S. Army Corps of Engineers
- U.S. Forest Service

Internships have helped me prepare for my career as a civil engineer by giving me hands-on experience. You can only learn so much in a classroom before you need something to bring it all together, and internships have really done that for me.”

Brandy Pelton
Civil Engineering
Killdeer, ND

The Senior Design Fair is the climax of your School of Mines academic experience. Students, professors, and potential employers attend the fair to admire the results of yearlong senior design projects that utilize the same teamwork skills used in industry. Recent design projects of note have involved ethanol production, arsenic removal from water, a duct-cleaning robot, a voice-activated skeet launcher, cruise control for a solar car, voice-controlled home theater, and a skateboard park design.
You’ll meet students of many ethnic backgrounds from across the world at the School of Mines. On-campus cultural activities such as the Diwali Festival, Multicultural Expo, and special interest clubs for American Indian and international students are open to all. More than 20 countries and numerous American Indian tribes are represented in our student body.
Students tell us that the relationships they make at the School of Mines are as important as the world-class education they receive. The School of Mines campus is home to an endless range of diverse interests that bring students together and create lifelong friendships.

- Regardless of your hall choice, you’ll find your home-away-from-home close to academic buildings and research, lab, and recreation facilities.
- Our new 300-bed Howard Peterson Hall offers suites and standard double rooms, a kitchen, and an exercise room, and is attached to the hub of campus student life, the Surbeck Center.
- The Surbeck Center is home to the Hardrocker Dining Hall and its many daily menu options, the Miner’s Shack Snack Bar (which can deliver made-to-order pizza to your room), the campus bookstore, and the ballroom for guest speakers and campus-wide social events.

Living on Campus
If you plan to live on campus, know that at the School of Mines you will be part of a vibrant, highly motivated residential community.

All proud universities have strong traditions, and the School of Mines is certainly no exception. You will enjoy participating in M-Week traditions (“Homecoming” at most schools, a little more special here).

You can get involved in our more than 75 student-run clubs and organizations as your time and interests allow:

- Play an instrument in the Hardrockers Pep Band or Jazz Band, or sing in the Concert Choir.
- Join a fraternity or sorority for social and service activities.
- Take to the skies with the Hardrockers Flying Club.
- Host your own radio show on KTEQ.
- Work with area youth as part of the Circle K service organization.
- Make policy as a student government representative.
- Explore your faith in a religious organization.
- Scale to new heights in the Hardrocker Climbing Club.
- Immerse yourself in your academic interest by joining its student organization—all engineering, science, and technology majors have one.
- Hit the slopes with our Ski Club or Snowboard Club at some of the West’s top snowpacked destinations.

...and much more!
While the School of Mines is a premier academic university, we are very competitive (and successful) in intercollegiate athletics. Here, sports and other physical activities are a big part of everyday life.

Hardrocker and Lady Hardrocker teams play for conference and even national honors in the competitive DAC-10 conference of the National Association of Intercollegiate Athletics (NAIA). Just like major universities, we have true rivalries complete with intense competition and proud, vocal fans. In fact, a Mines-Black Hills State football or basketball game is an “event” for players and spectators alike!

The School of Mines has a fine record of athletic success. More importantly, our athletes routinely make the list of Academic All-Americans.

The Lady Hardrocker basketball team has a proud history of success, with 10 NAIA national tournament appearances since 1994.

Hit the weights, elliptical trainers, or treadmills in the on-campus wellness center. This facility and our swimming pool, gymnasium, and racquetball courts are free for you to enjoy as a South Dakota School of Mines student.

**MEN**
- Basketball
- Cross Country
- Football
- Golf
- Track & Field

**WOMEN**
- Basketball
- Cross Country
- Golf
- Track & Field
- Volleyball
You can join your fellow School of Mines students in our year-round intramural program, which includes everything from flag football and basketball to soccer and raquetball.

Watching a football game or track meet at O'Harra Stadium is a treat, whether you are in the stands or in one of the 300 cars that ring the field on multiple levels. The stadium has an all-weather track and will soon have an artificial turf playing surface for Hardrocker intercollegiate athletes and School of Mines students to enjoy.
Ideal. That describes our location in a city that is the region’s economic and cultural center and is in the heart of the Upper Midwest’s foremost wilderness area. From movie theaters and shopping to snowboarding and solitude, the School of Mines location provides you with an exceptional range of out-of-class opportunities.

“It’s just a really good community here. It’s fun-loving and friendly.”

Gustavo Hernandez
Mechanical Engineering
Fort Worth, TX
About Rapid City
South Dakota’s second-largest city (population of more than 60,000) offers a quality of life that any university student can love. Because the Black Hills are next door and Rapid City is the region’s cultural and trade center, you can find a number of restaurants, entertainment outlets, shopping options, and recreation activities galore. As a School of Mines student, you can:

- Try ethnic foods, dine in a nationally recognized restaurant, or try the well-known restaurants that college students love like Applebee's, Chili's, Ruby Tuesday, and many others.
- Shop at Rushmore Mall or downtown Rapid City.
- Browse at Borders, Gap, Old Navy, and American Eagle Outfitters.
- Rollerblade, bike, or run the Rapid Creek trail system right by campus.
- Visit Reptile Gardens, Mount Rushmore, Devils Tower, Crazy Horse Memorial, Custer State Park, and Badlands National Park—or any of the many tourist destinations around the city.

About the Black Hills
One of the most historic and beautiful places in the Midwest, the million-plus-acre Black Hills National Forest and surrounding area is far more than Mount Rushmore and outlaw legends. Fabulous caves, remote canyons, abundant wildlife, forests, and other natural attractions are close to campus and are part of the School of Mines experience. Our students love recreational opportunities like snowboarding, kayaking, mountain biking, powwows, fishing, camping, snowmobiling, boating, hunting, and lots more.
Starting with our Freshman Introduction to Real Success at Tech (FIRST) program and continuing with tutoring in our Learning Center and counseling services, you’ll find the School of Mines is a supportive environment committed to your college success.

ADMISSIONS
Our professional admission staff will work with you to make a School of Mines education a reality. They will help you complete the admission process, which involves filling out the application and sending us your test scores and transcripts. You can fill out the application included with this book, or go online for a complete checklist of admission requirements at admission@sdsmt.edu.

SCHOLARSHIPS and FINANCIAL ASSISTANCE
The School of Mines is well-respected for offering an affordable university education—we’ve been listed in America’s 100 Best College Buys for seven straight years. Still, we understand that you and your family are interested in exploring the availability of scholarships, or perhaps need-based sources of financial assistance to further reduce your costs. We offer scholarships of varying amounts and sponsor grants, loans, and college work-study funds that, together, can be a helpful financial package. For more information, go to www.sdsmt.edu/freshmanscholarship.

VISIT US
The only way you’ll know if the South Dakota School of Mines and Technology is the right choice for you is to visit. Tour campus, talk to students, meet a faculty member or two in your fields of interest, and experience the campus and the city.

In addition to special visit events, you can schedule a visit weekday mornings or afternoons or by special appointment at many other times. Call us at (605) 394-2414, (877) 877-6044, or e-mail us at admission@sdsmt.edu.

“"I'm living the dream. Every day I get to come here, build things, see how they work, and improve on them.”
Tony Amert
Electrical Engineering
Madison, SD
You might be able to make an affordable School of Mines education even more so—we administer more than $11 million in scholarships and need-based aid annually.

Loan debt of School of Mines graduates is significantly lower than the national average. In 2004-05, School of Mines graduates averaged only $18,867.

Hands-on Academics:
A School of Mines education is all about getting to work on projects from day one. You can choose from challenging programs in:

**College of Engineering**
- Chemical Engineering
- Civil Engineering
- Computer Engineering
- Computer Science
- Electrical Engineering
- Environmental Engineering
- Geological Engineering
- Industrial Engineering
- Mechanical Engineering
- Metallurgical Engineering
- Mining Engineering
- and Management

**College of Science and Letters**
- Chemistry
- Geology
- Interdisciplinary Sciences
  - Atmospheric Sciences
  - Business Applications in Science and Technology
  - Pre-Professional Health Sciences
  - Science, Technology, and Society
- Mathematics (Applied and Computational)
- Physics

(877) 877-6044
Top five reasons to come to the School of Mines:

• **Affordability**
  At the School of Mines, you’ll get an outstanding education on par with any of the great schools, but at a fraction of the cost. We weren’t named a Best Buy for nothing!

• **Achieve great things**
  Nearly 80 percent of School of Mines graduates gain valuable experience through co-ops and internships prior to graduation. This makes graduates highly sought after by employers, and it shows in our 95 percent placement rate and $48,000 starting salaries for graduates.

• **Small campus size**
  With approximately 2,300 students, the School of Mines is large enough to expand your horizons, but small enough to feel like a community. And with a student-to-faculty ration of 18:1, you’ll get the personal attention to help you succeed.

• **Recreation**
  The School of Mines is located in Rapid City, South Dakota, at the foot of the beautiful Black Hills, where there are outdoor recreational opportunities any time of year, from hiking and biking to skiing and snowboarding.

• **It’s so easy to get involved!**
  With more than 70 student-run clubs and organizations, there is no shortage of ways to get involved. With musical, Greek, service, religious, and academic organizations, you are sure to find something to fit your interests.

**CAMP:**
The exceptional Center of Excellence for Advanced Manufacturing and Processing (CAMP) is a competitive, nationally-recognized program that brings together students, faculty, and industry leaders to partner on real-world projects. CAMP is designed to teach students engineering, science and design skills, as well as the ability to work in teams.

**Results:**
• Placement rates of 95 percent
• Average starting salaries of $48,000

**Enrollment:**
• Approximately 2,300 students
• 40 states and 24 countries represented in the student body
• The School of Mines has the highest academic profile in the state of South Dakota based on ACT composite scores

**Research:**
Each year, student and faculty research leads to scientific and technological advances in a wide range of fields. In 2005-2006, nearly $14 million of funded projects came from agencies such as:
• NASA
• National Science Foundation
• Army Research Laboratory
• Air Force Research Laboratory
• State of South Dakota
• United States Department of Energy
• And many more

**Scholarships and Financial Assistance:**
While a School of Mines education is cited as one of the nation’s best values, we still offer merit- and need-based financial assistance to our students.

**Annual Costs**: Tuition and Fees, Fall 2006

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*(15 credits per semester)
**Rates based on average room and board costs.
***Includes Tablet PC program.

**Contact:**
501 East Saint Joseph Street
Rapid City, SD 57701
(605) 394-2414
(800) 544-8162 Ext. 2414
www.sdsmt.edu

**www.gotomines.com**