Hello Students!

If you have not already done so, it’s time to see your advisor to plan your schedule for spring 2014 and beyond. Curriculum flowcharts are attached to this e-mail and are available on our webpage (click on ‘Roadmap to Success’ or click HERE).

Spring 2014 classes that may be used as CEE department-approved electives:

- **CEE 498**: Undergraduate research in waste water treatment at the Rapid City waste water treatment facility, 3 credits. Time/day TBD. Contact Dr. Lew Christopher for more information: Lew.Christopher@sdsmt.edu
- **CEE 492**: Special topics: transportation engineering, 3 credits. MWF 1-1:50 pm. Contact Dr. Soonie Nam for more information: Soonie.Nam@sdsmt.edu

**Did you know that transportation engineering makes up the second-largest section in the FE exam?** This course will introduce students to themes covered by the FE exam, and will survey topics related to road vehicle performance, geometric design of highways, pavement system design, traffic capacity and level of service analysis, traffic flow and queuing theory, and traffic control and analysis.

Also note the following curriculum changes:

- **CEE 456**, Concrete Design, will replace **CEE 357**, Design of Metal Structures, as the structures option course in the second semester of the junior year, effective spring 2014. Students wishing to take the second junior level structures course should register for CEE 456.
- **CEE 357** will no longer be offered. Beginning academic year 2014-2014, **CEE 453/553**, Steel Design, will be offered as a department approved elective.

**To register for spring 2014 & beyond:**
Click [HERE](http://webadvisor.sdsmt.edu) to go straight to WebAdvisor or visit [http://webadvisor.sdsmt.edu](http://webadvisor.sdsmt.edu)

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Register to Take the FE Exam: Deadline is Jan 1st

**Registration for the new computer-based FE examination is now open!**
Registration for the first computer-based testing session for the FE exam is now open: [http://cbt.ncees.org/register-for-your-exam/](http://cbt.ncees.org/register-for-your-exam/).

The paper-and-pencil exam is longer offered. **All CEE senior students are strongly encouraged to take this exam** prior to graduation, as passing the FE exam is an important milestone that will increase your career opportunities. The South Dakota Board of Technical Professions is developing state registration procedures now and will publish updated information soon. Updates will be posted to [http://dlr.sd.gov/bdcomm/btp/engineers.aspx#exam](http://dlr.sd.gov/bdcomm/btp/engineers.aspx#exam).

To learn more about the FE Exam and the new registration process watch this video:
- [http://www.youtube.com/watch?feature=player_embedded&v=R4M7OJyEq8U](http://www.youtube.com/watch?feature=player_embedded&v=R4M7OJyEq8U)

**About the FE Exam:** Seniors who are within two semesters of graduating may apply for the FE exam, the national examination from the National Council of Examiners for Engineering and Surveying (NCEES). The FE exam is the first step in the process leading to professional licensure.
Graduate Seminar Series & Thesis Presentations:

November 20: Geomechanical Evaluation of a Compressed Air Energy Storage (CAES) Cavern in Salt
Dr. Lance Roberts, P.E., Vice President, Mining & Engineering Division, REPSEC (CE98, MSCE99)
Time/Location: 4:00-4:50 PM in CB204W
Summary: The growth of wind energy in the United States has been significant over the past decade. The tremendous benefit with wind energy is that it is a renewable energy resource; however, numerous challenges are associated with wind energy as well. Among the greatest challenges is the ability to store power produced during off-peak times that can be used to meet peak demands. To address this challenge, large underground caverns mined in salt or other low-permeability rocks can be used to store air that is compressed into the caverns using excess electricity generated by the wind turbines during off-peak periods. The compressed air from the caverns is then used during peak demand periods to replace the first-stage compressors in gas-fired electric generators. These compressors normally consume about two-thirds of the power produced by gas-fired turbines. Using “pre-compressed” air from the caverns, the electricity generated for each pound of gas consumed increases by nearly a factor of three. This methodology is termed compressed air energy storage (CAES).

November 21: MSCE Thesis Defense
Evaluating Temporal and Spatial Scale Issues with Hydrologic Models
Dol Raj Chalis (MS Candidate)
Time/Location: 11:00 AM in CM310
Abstract: The relative accuracy of rainfall runoff models is an important issue. Some models may perform better than others in specific scenarios (e.g. wet vs. dry climates; forested vs. agricultural land use; long vs. short time steps for simulation). Two widely used models were selected for comparison to simulate runoff for watersheds in the Black Hills of South Dakota. The two models, the Precipitation Runoff Modeling System (PRMS) and Hydrological Simulation Program Fortran (HSPF), are both semi distributed, deterministic hydrological tools that simulate the impacts of precipitation, land use and climate on basin hydrology and streamflow. PRMS is primarily used by the U.S. Geological Survey (USGS) to simulate basin hydrology across the United States. HSPF is used by a larger base of public and government modelers to simulate basin hydrology, sediment processes, and water quality worldwide. One of the primary applications of this research is to help potential users to select the more appropriate hydrologic model, HSPF or PRMS, when working with a specific size of watershed.

December 12: MSCE Thesis Proposal
The Effects of Clay Mineralogy on Soil Stabilization
Karen Schaefers (MS Candidate)
Time/Location: 11:00 AM in the McKeel Room (Surbeck)

Upcoming:
- Jan. 22: Mark Hollenbeck (ChE 82), Project Manager for Powertech (USA) on the Dewey-Burdock Uranium Recovery project
- Feb. 5: Andy Baker (CE03 and MSCE 04), Daktronics
- Feb. 19: Steve Palmer (CE97), SDOT
- Mar. 5: Dr. Scott Kenner (CE77 and MSCE 79)

For updates and more information, email Sangchul.Bang@mines.sdsmt.edu or visit the CEE website HERE.
Scholarships:

Continuing Student Scholarships: DUE 12/31/13

If you wish to be considered for SDSM&T undergraduate academic scholarships for full time students awarded for the 2014-2015 academic year by the University Scholarship Committee, you must complete a short, on-line application. The on-line application is now live and can be accessed by clicking on the URL link found below. The deadline for completion and submission is the stroke of Midnight Mountain Standard time, December 31, 2013 (no exceptions) at which time the application is inactivated.

Scholarships will be awarded to full-time degree-seeking undergraduates. The minimum requirement for scholarship consideration is at least a 2.00 Cumulative GPA in all School of Mines courses as of the end of the fall 2013 semester.

Scholarship Application Link: http://sdmines.sdsmt.edu/currentstudentscholarship

It is highly recommended that you log in to the application, see what information is needed and then take your time off-line to formulate your responses. Then when you are ready, log in, complete and submit the application no later than midnight December 31, 2013.

*Please Note: Departmental scholarships are not awarded by the University Scholarship Committee; see the CEE department for information regarding CEE department scholarships.

American Council of Engineering Companies (ACEC) Scholarship Program: DUE 3/14/14

General Scholarships: Students must be entering their junior, senior, fifth, or master’s degree year in the fall of 2014 to qualify for the general scholarships. In addition, a student must be a U.S. citizen pursuing a bachelor’s or master’s degree in engineering or in an accredited land-surveying program to qualify. Five general scholarships will be awarded.

Specialty Scholarships: One specialty scholarship will be awarded to a student pursuing a master’s degree in structural engineering who is enrolled for fall 2014. Students who qualify for the specialty scholarship will also be eligible for all general scholarships.

Awards vary from $3000 to $10,000. Students’ interest and commitment to the business and management of the profession are important. Students are encouraged to reflect their interest and commitment throughout their applications. All applications will be submitted through ACEC of South Dakota. For further information and application materials, visit: http://www.acec.org/getinvolved/scholarships.cfm

Employment/Internship Opportunities:

Job Opening in California with Room to Grow:

SDSM&T alumnus Bruce Johnsen is looking to “grow his own people,” and is looking for a Mines student willing to start small for opportunities for big growth. Beginning in summer 2014 as a laborer working on concrete-related projects, time and experience would lead to greater responsibility (and of course pay!) with opportunities in estimating and project management. Interested individuals should contact Roger Johnsen (Bruce Johnsen’s Rapid City-based brother) by calling 605-342-7453. Be sure to mention that you received notice of this opportunity via information provided to the CEE department by Bruce during his visit to SDSM&T.

Entry-Level Structural Engineer: APPLICATION PERIOD CLOSES 11/22/13

The SD DOT in Pierre has an opening for an entry-level structural engineering position HERE
Student Organization Updates:

Update from ASCE:
Hi guys and gals! We’ve got several events coming your way and we’d like to see you there:

- **November 21: Fundraiser at Buffalo Wings & Rings**
  Support our chapter, pig out, and have a blast from 5:30 to 8:30 PM at Buffalo Wings & Rings
  Address: 5622 Sheridan Lake Road, Suite 102
- **December 4: Last Meeting of the Semester & Announcement of Newly Elected Officers**
  Come to CB204W at 4:00 PM to congratulate our new officers and find out more about what’s coming down the pipeline for next semester!
- **December 8: All-Department Holiday Party/Potluck at Fairway Hills Party House**
  Celebrate the season with CEE departmental faculty and staff from 4:00 to 6:00 PM. The more the merrier!
  Address: 3949 Fairway Hills Drive
  Please speak with Arlene in the CEE office regarding what to bring to the potluck.

Note from Concrete Canoe Captains Kyle & Logan:
The team this year is paddling along. We spend most Saturday afternoons practicing rowing at Pactola Lake, and the rest of the time on campus finishing up mix designs for the concrete and mold designs for the canoe. We’ve come up with a bunch of materials and processes that we haven’t used before and we’re excited to implement them this year. We are hoping that with new cement materials, new types of reinforcement, improved racing-shaped designs, and the help of a few other groups on campus, we will have a nationals-ready canoe in no time! We will be having many more meeting this and next semester, so all students are invited to stop by the ASCE office to ask about getting involved or email Kyle.Carey@mines.sdsmt.edu.

Note from Steel Bridge Captains Kirk & Nick:
Steel Bridge is going strong. We are continuing to work on and improve the design, and hope to have it finalized soon. In the meantime, we have an exciting announcement to make: the team will soon have a new home! We will be making the move from the old bridge area to our new, larger space in the old surveying lab area at 1:00 PM on Saturday, November 23. Feel free to stop by and lend a helping hand. We are also looking for some ideas for fundraising, so if you have any ideas or if you just want to ask about getting involved, please email either Nicholas.Claggett@mines.sdsmt.edu or Kirk.Ehlke@mines.sdsmt.edu.
Thanks!

Update from Engineers & Scientists Abroad:
ESA has been busy drumming up funding for several exciting projects that will take students from CEE and other departments all over the world. From drilling wells and finding appropriate sanitation solutions in Zambia to dealing with landslides and ensuring safe housing in Colombia, ESA students are creating opportunities to be of service while developing their cross-cultural, team-building, and engineering skills. To get in the loop, please email: ESA@mines.sdsmt.edu