BSCE ENVE EMPHASIS & ENVE MINOR CURRICULUM FLOWCHART (2014-15) 130 credits

First Semester
- Engl 101 Composition I (3cr)
- Chem 112 General Chem I (3cr)
- Chem 112L Exp. General Chem I (1cr)
- Math 123 Calculus I (4cr)
- CEE 130/L Intro to CEE (2cr)
- 100/200 Humanities Elective (3cr)

Second Semester
- Engl 279 Technical Com I (3cr)
- Chem 114 General Chem II (3cr)
- Math 125 Calculus II (4cr)
- Math 217 Chem Engr Mtrl Balances (3cr)
- 100/200 Social Science Elective (3cr)

Third Semester
- CEE 326 Enve Engr I (3cr)
- Chem 114L Gen. Chem II Lab (1cr)
- Math 225 Calculus III (4cr)
- CEE 217 Chem Engr Mtrl Balances (3cr)
- 100/200 Humanities Elective (3cr)

Fourth Semester
- CEE 284 F/S App. Numerical Methods (3cr)
- EM 214 Statics (3cr)
- CEE 282 F/S Engr Hydrology (3cr)
- Phys 211 University Phys (3cr)
- 100/200 Humanites Elective (3cr)

Fifth Semester
- CEE 326/L Envr Engr II (3cr)
- EM 316 F/S Statics (3cr)
- CEE 325 S Intro to Sustain Design (3cr)
- Math 321 F/S Differential Eq. (3cr)
- 100/200 Social Science Elective (3cr)

Sixth Semester
- CEE 336/L Hydro Sys Design (3cr)
- EM 321 F/S Mechanics of Materials (3cr)
- CEE 316/L F Construction Materials (3cr)
- CEE 327/L S Envr Engr II (3cr)
- CEE 463 F Concepts of Professional Practice (2cr)

Seventh Semester
- CEE 337 S Engr Hydrology (3cr)
- CEE 346/L F Geotech Engr I (3cr)
- CEE 489 F/S Capstone Design (3cr)
- CEE 317 F Chem Engr Heat Transfer (3cr)
- CEE 474 S Constr. Engr & Mgmt (3cr)

Eighth Semester
- Select One
  - GeoE 221/L S Geology for Engineers (3cr)
  - Geol 201 F/S Physical Geology (3cr)
  - Math 381 F/S Intro to Prob & Stats (3cr)
  - 300/400 HUM or SS Elective (3cr)

Notes: This worksheet is for planning information only and does not supersede requirements as stated in the university catalog.

Highlighted courses are required for the Environmental Engineering Minor.

*Refer to the catalog for Humanities & Social Sciences courses needed to meet Goal 3 and 4 requirements.

**Choose from: CBE 455, CEE 421, CHEM 326, CHEM 482, GEOE 475/L, IENG 331, MEM 405

A complete list of science and department approved electives is available at http://www.sdsmt.edu/Academics/Departments/Civil-and-Environmental-Engineering/Roadmap-To-Success/

2/12/2015
The BSCE curriculum includes **15 credit hours** (12 for civil emphasis students – see BSCE civil emphasis flow chart) of Department Approved Electives that students may use to broaden their education in civil and environmental engineering areas, gain knowledge and skills in a specialized area or create a knowledge base tailored to their individual career goals.

Department Approved Electives include the following:

- **At least 9 credits of CEE 400-, 500- or 600-level coursework not applied to another BSCE graduation requirement.** Classes cross-listed with CEE prefix courses also meet this requirement.

- Up to 6 credit hours of CEE 498 (Undergraduate Research/Scholarship), CEE 491 (Independent Study) or CP 497 (Cooperative Education); not more than 3 credits may be CEE 491 or CP 497. Students taking CEE 498 must work with a faculty member and submit a summary of their research/scholarship/independent study plans to the CEE department head prior to enrolling. The form is available here: [http://www.sdsmt.edu/Academics/Departments/Civil-and-Environmental-Engineering/Roadmap-To-Success/](http://www.sdsmt.edu/Academics/Departments/Civil-and-Environmental-Engineering/Roadmap-To-Success/).

- Up to 3 credit hours of 300, 400, 500 or 600-level courses in engineering, science, math or computer science not applied to another BSCE graduation requirement (6 credits for BSCE - environmental engineering emphasis students). Accelerated MS CENE degree students may take 500 and 600-level courses. A complete list of science and department approved electives is available at [http://www.sdsmt.edu/Academics/Departments/Civil-and-Environmental-Engineering/Roadmap-To-Success/](http://www.sdsmt.edu/Academics/Departments/Civil-and-Environmental-Engineering/Roadmap-To-Success/).

**Environmental Engineering Minor**  
**Program Coordinator:** Dr. James Stone  
**Civil and Environmental Engineering Department**  
[ james.stone@sdsmt.edu](mailto:james.stone@sdsmt.edu); 605-394-2443

Environmental engineers design systems and solve pressing global problems in all areas related to the environment and public health: sustainable design of drinking water treatment and wastewater treatment, and solid and hazardous waste disposal systems; development of air quality monitoring and pollution prevention programs; design of site remediation and mining reclamation programs; and development of ecosystem protection and restoration efforts, among others. Students from any discipline at the School of Mines may pursue a Minor in Environmental Engineering by completing 18 credit hours of coursework as described below.

**Required core courses:**

- CBE 217 Material and energy balances  
- BIOL 341 Microbial processes in engr. & natural sciences  
- CEE 326 Environmental engineering 1  
- CEE 327 Environmental engineering 2

In addition, students select one 3-credit elective course from the list below. To ensure that enrollees gain the broad and interdisciplinary background expected in the environmental engineering discipline, the elective must be taken from a discipline outside the student’s major field of study.

- CBE 455 Pollution phenomena and process design  
- CEE 426 Environmental engineering physical/chemical process design  
- CEE 427 Biological process design  
- CHEM 326 Organic chemistry I  
- CHEM 482 Environmental chemistry  
- GEOE/CEE 421/521 Aqueous geochemistry  
- GEOE/CEE 475/575/L Groundwater  
- IENG 331 Safety engineering  
- MEM 405 Mine permitting and reclamation  
- MET 220/L Mineral processing and resource recovery (NOTE: this course is not a BSCE department approved elective)

**NOTE:** To earn the minor, you must fill out the minor form, available here: [http://www.sdsmt.edu/Academics/Departments/Civil-and-Environmental-Engineering/Roadmap-To-Success/](http://www.sdsmt.edu/Academics/Departments/Civil-and-Environmental-Engineering/Roadmap-To-Success/), get the appropriate signatures from Dr. Stone and Dr. Gribb, and turn it in to the registrar’s office by the beginning of the first semester of your senior year.