ENVIRONMENTAL SCIENCES, POLICY AND MANAGEMENT B.S.
Corporate Environmental Management Track
Fall 2015

The Corporate Environmental Management (CEM) track is designed to provide graduates with the fundamental skills to systematically determine the environmental burdens associated with a firm’s products or manufacturing processes and to identify opportunities that generate value from environmental risk reduction, regulatory compliance programs, and other alternatives for improving environmental performance. Student experiences within this emphasis will focus on analytical tools; the business, legal, regulatory, and ethical framework in which industrial firms operate; physical, chemical, and biological mechanisms associated with industrial emissions; techniques used to reduce the environmental impacts of industrial activity; and effective communication. The CEM emphasis prepares students for positions within growing environmental, health, and safety organizations housed within private enterprises, consultancies, and governmental institutions, as well as for graduate study in business, public policy, environmental sciences, and industrial ecology.

Note: One course cannot satisfy multiple requirements in the major; however a course can satisfy a major requirement and a liberal education and/or CFANS minor requirement.

A. Integrated ESPM Core (12 credits)
   ___ ESPM 1001 Orientation to ESPM: Freshmen Students (1 cr, F)
   or ESPM 1002 Orientation to ESPM: Transfer Students (1 cr, F)
   ___ ESPM 1011 Issues in the Environment (3 cr, F/S)
   ___ ESPM 2021 Environmental Sciences – Integrated Problem Solving (3 cr, S)
   ___ ESPM 3000 Seminar on Current Issues in ESPM (1 cr, F/S)
   ___ ESPM 4041W Problem Solving for Environmental Change (4 cr, F)
   OR ESPM 4021W Problem Solving: Env Review (4 cr, S)

B. Communications (7 credits)
   ___ Writ 1301 University Writing (4 cr, F/S)
   or Writ 1401 Writing and Academic Inquiry (4 cr, F/S)
   ___ Comm 1101 Introduction to Public Speaking (3 cr, F/S)
   or AFEE 2421 Communication for Ag, Food & Env.

C. Mathematical Thinking (12 credits)
   ___ Math 1271 Calculus I (4 cr, F/S)
   ___ Math 1272 Calculus II (4 cr, F/S)
   ___ Stat 3011 Intro. to Statistical Analysis (4 cr, F/S)

D. Physical and Biological Sciences (20 credits)
   ___ Biol 1001 Introduction to Biology (4 cr, F/S)
   or Biol 1009 General Biology (4 cr, F/S)
   ___ Chem 1061 Chemical Principles I Lecture (3 cr, F/S)
   ___ Chem 1065 Chemical Principles I Lab (1 cr, F/S)
   ___ Chem 1062 Chemistry Principles II Lecture (3 cr, F/S)
   ___ Chem 1066 Chemical Principles II Lab (1 cr, F/S)
   ___ Phys 1301W Intro Physics for Science & Engineering I (4 cr, F/S)
   ___ Phys 1302W Intro Physics for Science & Engineering II (4 cr, F/S)

E. Social Sciences (7 credits)
   ___ ApEc 1101 Principles of Microeconomics (4 cr, F/S)
   or ESPM 3261 Economics & Natural Resources Mgmt (4 cr, S)
   ___ Chem 1061 Chemical Principles I Lecture (3 cr, F/S)
   ___ Chem 1065 Chemical Principles I Lab (1 cr, F/S)
   ___ Phys 1301W Intro Physics for Science & Engineering I (4 cr, F/S)
   ___ Phys 1302W Intro Physics for Science & Engineering II (4 cr, F/S)

F. Internship and Field Experience (1-4 credits) choose one
   ___ ESPM 4096 Professional Experience Internship (1 cr, F/S)*
   *Requires approval/supervision of faculty advisor in the track
   OR ESPM 3111 Hydrology and Water Quality Field Methods (3 cr, S)
   OR FNRM 2101,2102,2104 Forest Plants, Forest Ecology and Forest Measurement Techniques (4 cr, S)

G. CEM Track: Core and Contract Courses (36 credits)

CORE COURSES (22 CREDITS)
   ___ ACCT 2050 Introduction to Financial Reporting (4 cr, F/S)
   ___ MGMT 3001 Fundamentals of Management (3 cr, F/S)
   ___ ESPM 3602 Regulations and CEM (3 cr, S)
   ___ ESPM 3603 Environmental Life Cycle Analysis (3 cr, F)
   ___ ESPM 3604 Environmental Management Systems and Strategy (3 cr, F)
   ___ BBE 4407W Bioproducts : Manufacturing and Applications (3 cr, F)
   ___ ESPM 4601 Environmental Pollution (3 cr, F)
   ___ ESPM 4607 Industrial Biotechnology and the Environment (3 cr, S)
   ___ ESPM 4609 Air Pollution Impacts, Management and Ethical Challenges (3 cr, F)
   ___ BBE 2201 Renewable Energy & the Environment (3 cr, F)

CONTRACT COURSES (COMPLETE MINIMUM OF 12 CREDITS)
   ___ ESPM 3202W Environmental Conflict Management, Leadership, and Planning (3 cr, S)
   ___ ESPM 3605 Recycling:Extending Raw Materials Supplies (3 cr, S)
   ___ ESPM 3607 Natural Resources, Consumption, and Sustainability (3 cr, S)
   ___ ESPM 3658 Composting & Organics Utilization (3 cr, S)
   ___ ESPM 4216 Contaminant Hydrology (2 cr, F)
   ___ ESPM 4601 Environmental Pollution (3 cr, F)
   ___ ESPM 4607 Industrial Biotechnology and the Environment (3 cr, S)
   ___ ESPM 4609 Air Pollution Impacts, Management and Ethical Challenges (3 cr, S)
   ___ BBE 3033 Material & Energy Balance in Biological Systems (3 cr, S)
   ___ BBE 4504W Bio-based Products Development & Mgmt (3 cr, S)
   ___ BBE 4608 Environmental & Industrial Microbiology (3 cr, formerly ESPM 4608 Bio remediation)
   ___ BBE 4535 Assessment and Diagnosis of Impaired Waters (3 cr, F)
   ___ BEE 4744 Engr Prin for Biol Scientists (4 cr, F)
   ___ AFEE 3361 World Development Problems (3 cr, F)

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H. Liberal Education: Diversified Core, Designated Themes and Writing Intensive Requirements (6 additional credits)
Students must complete four of the five Themes.

Completed through required coursework:

- F – Freshman Composition Requirement
- M – Mathematical Thinking
- B – Biological Science
- P – Physical Science
- SS – Social Science
- E – Environment Theme
- CIV – Civic Life and Ethics Theme

Can be completed through taking indicated courses or contract course work (or must be completed by taking other courses):

- GP Global Perspectives Theme
- TS Technology & Society Theme
- L Literature (ENGL 3501)
- AH Arts/Humanities (WRIT 3315)
- HP Historical Perspective (HSCI 3244)
- DSJ Diversity & Social Justice in the United States Theme (3 cr)

Writing Intensive Courses (WI)
(Required: 4 WI courses, 2 of them 3xxx OR 4xxx, one in your major)

- Phys 1301W
- Phys 1302W
- ESPM 3606W
- ESPM 4041W or 4021W

I. Free Electives (21 Credits)

Students are encouraged to make choices that strengthen their expertise in an area and/or provide comparative understanding from another culture or discipline. To this end, students should strongly consider using free electives to complete a University minor, study abroad experience, or a student designed content area. Students construct these expertise areas with the help of their advisors, and such areas can be integrated as contract courses.

Courses suggested as worthwhile free electives:

- EE 1701W Energy, Environment and Society (3cr, F) E, WI
- CFAN 1501 Biotechnology, People, and the Environment (3cr, S) E
- ESPM 3108 Ecology of Managed Systems (3 cr, F)
- ESPM 3011W Ethics and Leadership in Resources Management (3cr, F/S) E, WI
- ESPM 4061W Water Quality: Management of a Natural Resource (3cr, F) E, WIFI
- ESPM 4242 Natural Resource and Environmental Policy Analysis (3cr, even Falls)
- ESPM 5019 Business, the Natural Env., and the Global Economy (2 cr, S) (same as MGMT 5019)
- PLPA 3002 Air Pollution, People & Plants: the Science and Ethics (3cr, F) E, WI
- SCO 3001 Operations Management (3cr, F/S)
- UC 4526 Garbage and the Human Environment (3cr, F)

Please Note:

Students are strongly encouraged to have an international experience before graduation.

Courses completed during an international experience (study, work, volunteer, research) can meet program requirements, liberal education requirements, and/or electives. Discussion with an advisor prior to commencing an international experience is required to plan how courses tie into ESPM program and the CEM track.