BACHELOR OF SCIENCE DEGREE
EARTH SCIENCE-INTERDEPARTMENTAL
COORDINATE MAJOR
(RECOMMENDED FOR SECONDARY EDUCATION ONLY)

FOR ADDITIONAL INFORMATION, PLEASE CONTACT THE COLLEGE OF NATURAL SCIENCE

(1) UNIVERSITY REQUIREMENTS

**Writing Requirement**
Tier I: LB 133
Tier II: Satisfied by completing the Lyman Briggs College History, Philosophy and Sociology of Science and Senior requirements listed below.

**Integrative Studies in Arts & Humanities (IAH)**
IAH 201-210* 4
IAH 211-241† 4

**Integrative Studies in Social, Behavioral & Economic Sciences (ISS)**
ISS 200-level course* 4
ISS 300-level course†‡ 4

*National, International, & Multicultural Diversity
Students must include at least one "N" course and one "I" course in their Integrative Studies programs. A "D" course may meet either an "N" or an "I" requirement, but not both.

†Beginning Summer 2013, LB 331, 333, and 336 will fulfill the IAH "B" university requirement (IAH 211 or higher). Please consult your LBC advisor for specific details for your program.

‡Beginning Summer 2013, LB 332, 334, and 335 will fulfill the ISS 300-level university requirement. Please consult your LBC advisor for specific details for your program.

**Mathematics, Biological and Physical Sciences**
Satisfied by the Lyman Briggs College requirements in Mathematics, Biological and Physical Sciences (see below).

Minimum number of credits required: 120
Minimum cumulative and major grade point average: 2.0

(2) LYMAN BRIGGS COLLEGE REQUIREMENTS

**Biological Sciences (9 cr.)**
Complete ONE of the following groups of courses
(1) LB 144 & 145 9
(2) BS 161, 162, 171, & 172 10

**Chemistry (8-9 cr.)**
Complete ONE of the following groups of courses
(1) LB 171, 171L, 172, & 172L 9
(2) CEM 141, 142, & 161 8
(3) CEM 151, 152, & 161 8

**Physics (8 cr.)**
Complete ONE of the following groups of courses
(1) LB 273, 274 8
(2) PHY 183 & 184 8
(3) PHY 231, 232, 251, & 252 8

**Mathematics (6-7 cr.)**
Complete ONE of the following groups of courses
(1) LB 118 & 119 8
(2) LB 118 & STT 231 7
(3) MTH 132 & 133 7
(4) MTH 132 & STT 231 6

**History, Philosophy & Sociology of Science (11-12 cr.)**
LB 133 4
LB 330-336, 355, 490E; ENG 473A; HST 425; SOC 368 7-8

**Senior Seminar (4 cr.)**
LB 492 4

*Physics and Mathematics requirements vary depending on concentration within the major. Consult your advisor for more information.
MAJOR REQUIREMENTS

Complete ALL of the following courses (18 cr.)

- AST 207 The Science of Astronomy 3
- GEO 203 Introduction to Meteorology 3
- GLG 201 The Dynamic Earth 4
- GLG 303 Oceanography 4
- GLG 304 Physical and Biological History of Earth 4

Choose ONE of the following two concentrations:

(1) General Earth Science

Complete the following courses (8 cr.)

- GLG 321 Mineralogy and Geochemistry 4
- GLG 401 Plate Tectonics 4

Complete ONE of the following courses (3 to 4 cr.)

- GEO 306 Environmental Geomorphology 3
- GLG 412 Glacial and Quaternary Geology 4

Complete at least SIX credits of the following (6 cr.)

- AST 303 Planetary System Astronomy 3
- AST 312 Observational Astronomy 1
- ENT 319 Introduction to Earth System Science 3
- GEO 402 Agricultural Climatology 3
- GEO 405 Weather Analysis and Forecasting 4
- GEO 409 Global Climate Change and Variability 3
- GEO 424 Advanced Remote Sensing 4
- GLG 411 Hydrogeology 3
- GLG 421 Environmental Geochemistry 4
- GLG 422 Aquatic and Marine Organic Geochemistry (W) 3
- GLG 434 Evolutionary Paleobiology 4
- PLB 335 Plants Through Time 3

(2) Meteorology/Atmospheric Sciences

Students completing this concentration must satisfy the Physics requirement with LB 273 and LBS 274 or PHY 183 and 184 (calculus-based physics).

Complete ALL of the following courses (18 cr.)

- GEO 403 Dynamic Meteorology 3
- GEO 405 Weather Analysis and Forecasting 4
- GLG 405 Weather Analysis and Forecasting 4
- LB 220 Calculus III 4*
- MTH 235 Differential Equations 3

*LB 220 can be substituted with MTH 234.

Complete ONE of the following courses (3 cr.)

- GEO 402 Agricultural Climatology 3
- GLG 409 Global Climate Change and Variability 3

Complete THREE of the following courses (10 or 12 cr.)†

- GEO 324 Remote Sensing of the Environment 4
- GEO 402 Agricultural Climatology 3
- GEO 409 Global Climate Change and Variability 3
- GLG 411 Hydrogeology 4
- GLG 412 Glacial Geology and the Record of Climate Change 4
- GLG 421 Environmental Geochemistry 4

†GEO 402 or 409 may be used for this requirement and the one above.

ADDITIONAL REQUIREMENTS FOR TEACHER CERTIFICATION

Complete ALL of the following courses (21 cr.)

- TE 150 Reflections on Learning 3
- TE 250 Human Diversity, Power, and Opportunity in Social Institutions 3
- TE 302 Learners and Learning in Context (W) 4
- TE 407 Teaching of Subject Matter to Diverse Learners (W) 5
- TE 408 Crafting Teaching Practice (W) 6

Students wishing to complete requirements for Teacher certification must obtain formal admission into the College of Education.

IMPORTANT: These guidelines are presented for planning purposes only. Students MUST consult a department advisor for confirmation of major requirements.