

**SOIL, ENVIRONMENTAL & ATMOSPHERIC SCIENCES B.S. DEGREE WITH
EMPHASIS IN ATMOSPHERIC SCIENCE**

I. General Education (37 cr)

A. Communications (12 cr)

English 1000 - Exposition and Argumentation (3 cr) FS

Communications 1200 – Intro. To Speech and Communication (3 cr) FS

Additional Writing Intensive Class (3 cr)

Atmospheric Science Writing Intensive offering

B. Social and Behavioral Sciences (9 cr)

Course to fulfill State Law Requirement (3 cr)

(*History 1100, 1200, or 1400 or Political Science 1100 or 1700*)

Economics/Business Elective (3 cr)

Additional Social Science Elective (3 cr) (choices include classes in Geography)

C. Humanities (9 cr) – Fine arts: art, music, theatre (3 hrs of performance credits allowed if on approved Gen Ed course list). Cultural arts: literature, philosophy, classical humanities, religion. Foreign language: min **12 hrs** same language

D. Computer Science (3 cr)

Computer Science 1040 –Intro. to Problem Solving and Programming (3 cr)

E. Capstone Experience (4 cr)

Atmospheric Science 4320...Atmospheric Dynamics (4 cr) S

II. Quantitative Skills (24 cr)

A. Statistics

Stat 1400...Statistical Analysis (3 cr) FS **or**

Math 4315/Stat 4710 Intro to Mathematical Statistics (3 cr)

B. Math sequence

Math 1160 (or equiv.) - Precalculus Mathematics (5 cr) FS

Math 1500...Analytical Geometry and Calculus I (5 cr) FS

Math 1700 - Calculus II (5 cr) FS

Math 2300 - Calculus III (3 cr) FS

Math 4199 - Differential Equations (3 cr) FS

III. Sciences (45 cr)

A. Chemistry (4 cr)

Chemistry 1320 - College Chemistry I (4 cr) FS

B. Physics (10 cr)

Physics 2750 - University Physics I (5 cr) FS

Physics 2760 - University Physics II (5 cr) FS

IV. Departmental Requirements (39-44 cr)

A. Soil / Environmental Sciences (3 cr)

Soils 2100 - Introduction to Soil Science (3 cr) FS **or**

ENV SC 1100 - Introduction to Environmental Science (3 cr) F

B. GIS Requirement (3 cr)

GEOG 3040 – GIS 1 **or**

ENVSci 4320 – Watershed Modeling using GIS **or**

NATR 4325 – Introduction to GIS

C. Atmospheric Science Requirements (33-38 cr)

Atm Sci 1050 - Introduction to Meteorology (3 cr) FS

Atmospheric Science 2720...Weather Briefing (1 cr) S

Atmospheric Science 4310...Atmospheric Thermodynamics (4 cr) F
Atmospheric Science 4320...Atmospheric Dynamics (4 cr) S
Atmospheric Science 4550...Atmospheric Physics (3 cr) F
Atmospheric Science 4590...Radar Meteorology. (3 cr) S
Atmospheric Science 4710...Synoptic Meteorology I (4 cr) F
Atmospheric Science 4720...Synoptic Meteorology II (4 cr) S

Choose courses from the following disciplinary electives when offered

Atmospheric Science 2150...Natural hazards (3 cr)
Atmospheric Science 2792...Weather Communication (1 cr)
Atmospheric Science 3600...Climates of the World (3 cr) S
Atmospheric Science 4110...Broadcast Meteorology (2 cr)
Atmospheric Science 4350...Mesoscale Meteorology and Dynamics (3 cr)
Atmospheric Science 4500...Instrmnt., Exprmnt., and Observ. (3 cr)
Atmospheric Science 4510...Remote Sensing for Met. and Natr. Res. (3 cr) F
Atmospheric Science 4520...Environmental Biophysics (3 cr)
Atmospheric Science 4400...Micrometeorology (3 cr)
Atmospheric Science 4650...Long Range Forecasting (3 cr)
Atmospheric Science 4730...Advanced Forecasting Laboratory (3 cr)
Atmospheric Science 4800 - Numerical Methods in Atmospheric Sci. (3 cr)
Atmospheric Science 4950...Undergraduate Research in Atmospheric Research (1-4 cr) FS

Additional credit in meteorology

Atmospheric Science 3000...Independent Study (1 - 3 cr) arranged
Atmospheric Science 4949...Internship in Meteorology (1 - 6 cr) arranged

V. Electives

Remaining hours from general, quantitative, science, and department to complete 128 credit hours total requirement.

List of suggested electives:

GEOG 2840 ... Introduction to Mapping Science (3 cr).
GEOG 3830 ... Remote Sensing (3 cr).
GEOG 4940 ... Geographic Information Systems II (3 cr).
CV ENG 4200 ... Remote Sensing of the Environment (3 cr).
BIO EN 4150 ... Soil and Water Conservation Engineering (3 cr).
CV ENG 3702 ... Hydrology (4 cr).
FOR 4390 ... Watershed Management and water quality (3 cr)
MATH 4300 ... Numerical Analysis (3 cr.)
MATH 4140 ... Matrix Theory (3 cr.)
MATH 4570 ... Fluid Dynamics and Geophysical Applications (3 cr).
MATH 4320/ Stat 4750 ... Intro to Probability Theory (3 cr)
CS 2040 ... Algorithm Analysis and Programming II (3 cr)
CS 2050 ... Algorithm Design and Programming II (3 cr).
GEOL 2200 ... Oceanography (3).
GEOL 2300 ... Earth Systems and Global Change (3).
GEOL 2450 ... Global Water Cycle (3).
GEOL/PHYS 4180 ... Solar system science (3)
ECE 4020 ... Energy systems and resources (3)