

Meteorology (BS) - Graduate School Track

Degree Requirements

General Education Requirements (53-57 Hours)

Area I - Written Composition (2 Courses, 6 Hours)

- A. 3 hours: EH 101
- B. 3 hours: EH 102

Area II - Humanities & Fine Arts (5 Courses, 15 Hours)

No more than six hours from any one discipline.

- A. 3 hours: CA 110
- B. 3 hours from: EH 215, EH 216, EH 225, EH 226, EH 235, EH 236
- C. 3 hours from: ARH 100, ARH 103, ARH 123, ARS 101, DRA 110, MUL 101
- D. 6 hours from: AFR 101, ARH 100, ARH 103, ARH 123, ARH 203, ARS 101, CLA 110, DRA 110, EH 215, EH 216, EH 225, EH 226, EH 235, EH 236, JHS 101, JOU 252, LG 101, LG 102, LG 111, LG 112, LG 121, LG 122, LG 131, LG 132, LG 141, LG 142, LG 151, LG 152, LG 153, LG 171, LG 172, LG 173, LG 201, LG 202, LG 211, LG 212, LG 213, LG 221, LG 222, LG 231, LG 232, LG 234, LG 241, LG 242, LG 251, LG 252, LG 271, LG 272, LG 273, LGS 101, LGS 102, LGS 106, LGS 107, LGS 110, LGS 111, LGS 171, LGS 172, LGS 201, LGS 202, LGS 206, LGS 207, LGS 210, LGS 211, LGS 271, LGS 272, MUL 101, PHL 110, PHL 120, PHL 121, PHL 131, PHL 220, PHL 231, PHL 240, REL 100, REL 200, REL 201

Area III – Natural Sciences & Mathematics (3 Courses & Labs, 11-14 Hours)

- A. 3-4 hours from: MA 110, MA 112, MA 113, MA 115, MA 120, MA 125, MA 126, MA 227, MA 237, MA 238
- B. 8-10 hours from: AN 121 & AN 121L, BLY 101 & BLY 101L or BLY 121 & BLY 121L, BLY 102 & BLY 102L or BLY 122 & BLY 122L, BMD 110, BMD 111, CH 101 & CH 101L, CH 103 & CH 103L, CH 131 & CH 131L, CH 132 & CH 132L, GEO 101 & GEO 101L, GEO 102 & GEO 102L, GY 111 & GY 111L, GY 112 & GY 112L, MAS 134 & MAS 134L, PH 101 & PH 101L, PH 104 & PH 104L, PH 114 & PH 114L, PH 115 & PH 115L, PH 201 & PH 201L, PH 202 & PH 202L

Area IV – History, Social & Behavioral Sciences (4 Courses, 12 Hours)

No more than six hours from any one discipline.

- A. 3 hours from: HY 101, HY 102, HY 121, HY 122, HY 135, HY 136
- B. 9 hours from: AN 100, AN 101, CA 100, CA 211, CJ 105, ECO 215, ECO 216, GEO 114, GEO 115, GS 101, HY 101, HY 102, HY 121, HY 122, HY 135, HY 136, IS 100, IST 201, NAS 101, PSC 130, PSY 120, PSY 250, SY 109, SY 112

Area V - (3 Courses, 9-10 Hours)

- A. Foreign Language. 6 hours from any one group:

LG 101 & LG 102, LGS 106 & LGS 107, LGS 110 & LGS 111, LG 111 & LG 112 or proficiency test or LG 113, LG 121 & LG 122, LG 131 & LG 132 or proficiency test or LG 134, LG 141 & LG 142, LG 151 & LG 152 or proficiency test or LG 153, LG 171 & LG 172 or LG 173, LGS 171 & LGS 172

Students may fulfill the foreign language requirement by passing a proficiency test offered by the Department of Modern and Classical Languages at the level equivalent to the second semester of the foreign language sequence, or by passing another test (e.g., AP (Advanced Placement) or CLEP (College Level Examination Program) at the equivalent level). Students who pass a proficiency test at the level equivalent to first semester of the foreign language sequence are required to complete only the second semester and will fulfill the foreign language requirement with 3 credit hours of course work.

- B. Natural Sciences/Math. 3-4 hour lab science or math/stat course from:

AN 121 & AN 121L, BLY 101 & BLY 101L or BLY 121 & BLY 121L, BLY 102 & BLY 102L or BLY 122 & BLY 122L, BMD 110, BMD 111, CH 101 & CH 101L, CH 103 & CH 103L, CH 131 & CH 131L, CH 132 & CH 132L, GEO 101 & GEO 101L, GEO

102 & GEO 102L, GY 111 & GY 111L, GY 112 & GY 112L, MAS 134 & MAS 134L, PH 101 & PH 101L, PH 104 & PH 104L, PH 114 & PH 114L, PH 115 & PH 115L, PH 201 & PH 201L, PH 202 & PH 202L, ST 210, MA 113- 299 (except 201 and 202).

Students must complete a 6 credit hour sequence either in literature (Area II – EH 215 & EH 216, EH 225 & EH 226, or EH 235 & EH 236) or history (Area IV – HY 101 & HY 102 or HY 135 & HY 136 or HY 121 & HY 122).

All undergraduates must complete two designated writing credit (W) courses, at least one of which must be in the student's major or minor.

Major Requirements (47 Hours)

Meteorology Major Core (9 Courses, 33 Hours)

A. 33 hours: MET 140 and MET 140L, MET 443 (W), MET 353, MET 354, MET 355, MET 356, MET 360, MET 454, MET 455

Graduate School Meteorology Track (4-5 Courses, 14 Hours)

A. 4 hours: MET 420

B. 3-4 hours from: MET 358, MET 370

C. 6 - 7 hours from, including at least one 2+ hour 400-level course: MET 191, MET 342, MET 357, MET 358, MET 359, MET 370, MET 410 (W), MET 430, MET 440, MET 442, MET 456 (W), MET 490, MET 495, MET 496, MET 497, GY 425, GIT 460, MGT 300, MKT 320

Minor Requirements (18-24 Hours)

A minor is required for this degree program

Notes:

Additional Information

The Meteorology degree also requires: MA 125, MA 126, MA 227, MA 238, PH 201& PH 201L, PH 202& PH 202L, ST 315

Note that Area III General Education requirements are fulfilled by these major requirements.

Graduation Plan

Meteorology (BS) : Graduate School Track (47 Total Hours)

First Year - Fall Semester

Course ID	Course Description	Hours
MA 125	Calculus I	4
MET 140	Introduction to Meteorology	3
MET 140L	Introduction to Meteorology Lab	1
*GEO 115	World Regional Geography (**Area IV, B)	3
*MET 191	Tropical Weather Discussion (**MET Concentration)	1
CAS 100	First Year Experience - College Success	2

EH 1010	English Composition I	3
Total Hours		17

First Year - Spring Semester

Course ID	Course Description	Hours
MA 126	Calculus II	4
MET 353	General Meteorology	4
CA 110	Public Speaking	3
EH 102	English Composition II	3
Total Hours		14

Second Year - Fall Semester

Course ID	Course Description	Hours
MA 227	Calculus III	4
PH 201	Calculus-Based Physics I	4
PH 201L	Calculus-Based Physics I Lab	0
MET 420	Computer Applications in Meteorology	4
*MET 357	Meteorological Instrumentation (MET elective)	2
Total Hours		14

Second Year - Spring Semester

Course ID	Course Description	Hours
MA 238	Differential Equations I	3
PH 202	Calculus-Based Physics II	4
PH 202L	Calculus-Based Physics II Lab	0
*MET 342	Severe Weather (**MET Concentration)	3
MET 443 (W)	Climatology	3
History	**Area IV, A	3
Total Hours		16

Third Year - Fall Semester

Course ID	Course Description	Hours
*MA 332	Differential Equations II (**Math minor elective)	3
MET 354	Dynamic Meteorology I	3
MET 356	Physical Meteorology	3
Fine Arts	**Area II, C	3
Foreign Language I	**Area V, A	3
Total Hours		15

Third Year - Spring Semester

Course ID	Course Description	Hours
ST 315	Applied Probability – Statistics	3
MET 355	Dynamic Meteorology II	3
*MET 358	Radar Meteorology (**MET Concentration)	4
MET 360	Atmospheric Analysis	1
Foreign Language II	**Area V, A	3
Literature	**Area II, B	3
Total Hours		17

Fourth Year - Fall Semester

Course ID	Course Description	Hours
MET 454	Synoptic Meteorology I	6
*MET 410 (W)	Meteorological Phenomenology (**MET Concentration)	3
Humanities/Fine Arts	**Area II, D	3
Social/Behavioral Science	**Area IV, B	3
Total Hours		15

Fourth Year - Spring Semester

Course ID	Course Description	Hours
MET 455	Synoptic Meteorology II	6
Social / Behavioral Science	**Area IV, B	3
Humanities / Fine Arts	**Area II, D	3
Elective		3
Total Hours		15

Notes

* Recommended Course

** See Degree Requirements

Upon completion of Meteorology major requirements, students are only one course short of a minor in Mathematics. This recommended template incorporates a Math minor specifying MA 332 (Differential Equations II, Partial Differential Equations) since most Meteorology graduate programs require it.

Department Information

Department of Earth Sciences website
<http://southalabama.edu/colleges/artsandsci/earthsci/>

The Department of Earth Sciences includes the disciplines of Geography, Geology, and Meteorology, and it offers a B.S. degree as well as a minor in each of these three majors. Students can also earn a GIS Certificate and/or a minor in Geographic Information Technology (GIT) Geography, which is both a natural and a social science, studies the location, spatial distribution, and spatial interaction of Earth's natural and human environments. Courses and research in the program encompass the broad subfields of Human Geography (for example, tourism, health, and social justice), Physical Geography (like climatology, natural hazards, and environmental geography), Regional Geography (International Economics and Relations), and Geographic Techniques, including Geographic Information Science and Technology (GIS/GIT) and Remote Sensing. Upon completing their degree, geography students are employed in government, industry, and nonprofits in multiple kinds of work environments (includes field, lab, computer, office and work).

Geology is an interdisciplinary physical science pertaining to the study of the Earth. Courses and research within the department address the chemical and physical properties of minerals, rocks, soils, sediments, and water; the processes that shape the Earth's surface; the stratigraphic, paleobiological, and geochemical records of Earth history; and the processes associated with deformation in the Earth's crust and mantle. Together an understanding is obtained of present-day, historical, and long-term feedbacks between global systems, as well as the origin and occurrence of our natural resources.

Meteorology is the study of atmospheric phenomena and the processes that cause weather. The science of meteorology is firmly rooted in basic physical laws governing mass, momentum, and energy. Many weather processes are simulated by complex computer models; however, accurate weather analysis and forecasting often requires meteorologists to identify and conceptualize weather patterns often missed by automated techniques.

The programs of the Department of Earth Sciences are designed to give the non-major a background in Earth and atmospheric science and the human impact on the landscape as part of a general education. Students pursuing a degree in Geography, Geology, or Meteorology must also have a minor in another discipline.

The Department of Earth Sciences offers a departmental honors program that allows exceptional students to pursue independent research. Students work with a faculty committee to choose an Earth Sciences research project (Geography, Geology, Meteorology), develop a prospectus, and complete a senior thesis. Students completing this program graduate with departmental honors.

Requirements for successful completion of an honors degree in Geography, Geology, or Meteorology include a GPA of at least 3.50 at graduation and completion of ES 492 (Honors Earth Sciences Seminar), ES 497 (Senior Thesis Prospectus), and six hours of ES 499 (Senior Honors Thesis). These classes are in addition to those required for the major in Geography, Geology, or Meteorology. All honors courses are listed under the prefix ES. Students interested in Earth Sciences honors must apply for the program by their junior year. Complete requirements are available on the departmental web page.

All first-time freshmen must successfully complete CAS 100: First Year Experience as a degree requirement. Students must enroll during their first term at USA, except for summer-entry students who must enroll in the fall semester following entry. Students must demonstrate technology proficiency by passing the designated class in their major. GEO 331 for Geography majors, GY 301 for Geology majors, or MET 455 for Meteorology majors.

Graduate Studies

Although the Department of Earth Sciences has no graduate degree program, courses, including Geographic Information Technology (GIT), are offered at the graduate level for students enrolled in Biology, Public Administration, Marine Sciences and Environmental Toxicology, and others who need such course work. Contact the Department for more information.