

**College of Natural Resources and Environment**  
**Department of Geography – Bachelor of Science in Meteorology**  
**Major: Meteorology**

**APPROVED**  
**University Registrar**

(For students graduating in calendar year 2017)

Required minimum hours in the major is 72. Minimum number of hours for the degree is 120.

Satisfactory Progress: The overall and in-major GPA required for graduation is 2.0. To make satisfactory progress towards the Meteorology degree, upon completion of 60 hours, students must have completed 15 hours in Geography/Meteorology including at least three of the four fundamentals courses. Courses for in-major GPA computation include all GEOG courses, and approved physical sciences.

Student \_\_\_\_\_

Email \_\_\_\_\_

**Core Requirements: 9 credit hours required**

- GEOG 1004: Introduction to Human Geography (3) \_\_\_\_\_
- GEOG 1014: Introduction to World Regions (3) \_\_\_\_\_
- GEOG 1104: Introduction to Physical Geography (3) \_\_\_\_\_

**Mapping and GIS: 16 credit hours required**

- GEOG 1084: Digital Planet (3) \_\_\_\_\_
- GEOG 2084: Principles of GIS (3) \_\_\_\_\_
- GEOG 2314: Maps and Mapping (3) \_\_\_\_\_
- Or GEOG 3314: Cartography (3) \_\_\_\_\_
- GEOG 4084: Modeling in GIS (3) \_\_\_\_\_
- GEOG 4354: Introduction to Remote Sensing (3) \_\_\_\_\_
- GEOG 4554: Remote Sensing of the Atmosphere (1) \_\_\_\_\_

**Human Systems: 3 credit hours required**

Select 3 credit hours from following—

- \_\_\_\_\_
- PSCI 1004: Nations and Nationalities (3)
- GEOG 1115: Seeking Sustainability I (3)
- GEOG 2004: Introduction to Water Resources and Environmental Issues (3)
- GEOG 2134: Geography of the Global Economy (3)
- GEOG 2214: Geography of North America (3)
- GEOG 3104: Environmental Problems, Population, and Development (3)
- GEOG 3224: Geography of Appalachia (3)
- GEOG 3244: The U.S. City (3)
- GEOG 3464: Appalachian Communities (3)
- GEOG 4054: Geography of Wine (3)
- GEOG 4074: Medical Geography (3)
- GEOG 4204: Geography of Resources (3)

**Meteorology: 25 credit hours required**

- GEOG 1504: Survey of Meteorology (1) \_\_\_\_\_
- GEOG 2505: Weather Analysis I (3) \_\_\_\_\_
- GEOG 2506: Weather Analysis II (3) \_\_\_\_\_
- GEOG 3114: Introduction to Meteorology (3) \_\_\_\_\_
- GEOG 3504: Severe Weather (3) \_\_\_\_\_
- GEOG 3515: Dynamic Meteorology (3) \_\_\_\_\_
- GEOG 3516: Dynamic Meteorology (3) \_\_\_\_\_
- GEOG 4504: Synoptic Meteorology (3) \_\_\_\_\_
- GEOG 4524: Physical Meteorology (3) \_\_\_\_\_

**Field Experience: 3 credit hours required**

- MTRG 2964/4964: Field Study (3) \_\_\_\_\_
- MTRG 3524: Meteorology Field Methods\* (3) \_\_\_\_\_
- MTRG 3954: Meteorology Study Abroad (3) \_\_\_\_\_
- MTRG 4974: Operational Meteorology/Independent Study (3) \_\_\_\_\_
- MTRG 4994: Undergrad Research (3) \_\_\_\_\_

**Math: minimum of 5 credit hours required**

- MATH 1114: Elementary Linear Algebra (2) \_\_\_\_\_
- Or MATH 2114 (3) \_\_\_\_\_
- MATH 2214: Introduction to Differential Equations (3) \_\_\_\_\_

**Statistics: 3 credits required**

- STAT 2004: Introduction to Statistics (3) \_\_\_\_\_
- STAT 3604: Statistics for Social Sciences (3) \_\_\_\_\_
- STAT 3615: Biological Statistics (3) \_\_\_\_\_

**Physical Science Electives: 9 credit hours required**  
**Select 9 credits—at least 3 credits of 3000-4000 level**

Note: The physical sciences elective requirement is also met by minoring in: Astronomy, Chemistry, Computer Science, Geosciences, Geospatial Information Science, Math, or Physics

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

- CS 1044: Introduction to Programming in C (3)
- CS 1114: Introduction to Software Design (3)
- CS 1124: Introduction to Media Computation (3)
- CS 2114: Software Design and Data Structures (3) (Pre: CS 1114 or 1124, MATH 1205)
- CSES 3114: Soils (3) (Pre: CHEM 1036 – Co-req 3124)
- CSES 3124: Soils Laboratory (1) (CO: 3114)
- CSES 3134: Soils in the Landscape (3) (Pre: one year of introductory CHEM, BIOL, or GEOS)
- CSES 3634: Physics of Pollution (3) (Pre: 3114, PHYS 2205, MATH 2024)
- FOR 3104: Principles of Watershed Hydrology (3) (Pre: MATH 1226)
- FOR 4374: Forested Wetlands (3) (Pre: CSES 3114 or 3134)
- GEOG 3304: Geomorphology (3)
- GEOG 3404: Mountain Geography (3)
- GEOG 4044: Biogeography (3)
- GEOS 1004: Physical Geology (3)
- GEOS 1014: Earth and Life through Time (4)
- GEOS 1024: Resources Geology and the Environment (4)
- GEOS 1034: Earth's Natural Hazards (3)
- GEOS 3014: Environmental Geosciences (3) (Pre: 1004 or 1024 or 2104)
- GEOS 3034: Oceanography (3) Pre: MATH 1206
- GEOS 4804: Groundwater Hydrology (3) (Pre: MATH 1206, PHYS 2205, or PHYS2305, MATH 1206, GEOS 1014)
- STAT 3616: Biological Statistics (3) (Pre: STAT 3615)

**Free Electives (14 hours)**

\*Field Methods Course topics may vary: e.g. Great Plains Storm Chase, Mountain Weather, Coastal Weather

Curriculum for Liberal Education (CLE) Requirements (36 hours)

For approved Curriculum for Liberal Education course listings see: http://www.cle.prov.vt.edu/guides/index.html

Area 1: Writing and Discourse (6 credit hours)

ENGL 1105 \_\_\_\_\_
ENGL 1106 \_\_\_\_\_
or ENGL H1204 \_\_\_\_\_

Or COMM 1015 \_\_\_\_\_
COMM 1016 \_\_\_\_\_

Area 2: Ideas, Cultural Traditions, and Values (6 credit hours)

Approved CLE courses \_\_\_\_\_

Area 3: Society and Human Behavior (6 credit hours)

\*Approved CLE courses \_\_\_\_\_

Area 4: Scientific Reasoning and Discovery (8 credit hours in Physics)

PHYS 2205 and 2215 \_\_\_\_\_ OR PHYS 2305 \_\_\_\_\_
PHYS 2206 and 2216 \_\_\_\_\_ OR PHYS 2306 \_\_\_\_\_

Area 5: Quantitative and Symbolic Reasoning (8 credit hours)

MATH 1225 \_\_\_\_\_ MATH 1226 \_\_\_\_\_

Area 6: Creativity and Aesthetic Experience (1 credit hour)

Approved CLE course \_\_\_\_\_

Area 7: Critical Issues in a Global Context (3 credit hours)

\*\*Approved CLE course \_\_\_\_\_

Foreign Language: A sequence of two (2) foreign language courses is required for graduation unless two (2) high school credits of the same foreign language or six (6) transfer credit hours of foreign language have been earned. These credits do not count toward graduation. See catalog section on "Graduation Requirements."

Free Elective List:

Three horizontal lines for listing free elective courses.

There are no hidden prerequisites on this check sheet

\*The Meteorology major covers this area (if GEOG 1004 and GEOG 1014 are taken)
\*\* The meteorology major covers this area (if GEOG 1014 is taken)

For more information about the BS in meteorology and meteorology careers contact:
Maureen Deisinger, academic adviser at 231-6886 (mdeising@vt.edu)

Other resources for information include Bill Carstensen, department head at 231-7557 (carstens@vt.edu), David Carroll at 231-5841 (carrolld@vt.edu), and Drew Ellis at 231-8049 (awellis@vt.edu)

NOTE: MTRG students planning to double major in Geography, must complete at least 12 hours of GEOG coursework that is not used to complete their MTRG major. In addition, students must complete two distinct 3 credit field experiences for a total of 15 non-duplicative credits.