

College of Natural Resources and Environment
Department of Geography
Bachelor of Science (B.S.) in Meteorology (MTRG)
Major: Meteorology
(For students graduating in calendar year 2020)

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) (Pre: 2084) _____
GEOG 4354: Introduction to Remote Sensing (3) _____
GEOG 4554: Remote Sensing of the Atmosphere (1) _____

Human Systems: 3 credit hours required

- _____
- PSCI 1004: Nations and Nationalities (3)
GEOG 1115: Seeking Sustainability I (3)
GEOG 2004: Water, Environment, and Society (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 4134: Water, Hazards, and Development (3)
GEOG 4204: Geography of Resources (3)

Meteorology: 25 credit hours required

- GEOG 1504: Survey of Meteorology (1) _____
GEOG 1514: Introduction to Meteorology (3) _____
GEOG 2505: Weather Analysis I (3) _____
GEOG 2506: Weather Analysis II (3) _____
GEOG 3504: Severe Weather (3) (Pre: 2505) _____
GEOG 3515: Dynamic Meteorology (3), (Pre: 2506, MATH 2214, (PHYS 2206/2216 OR PHYS 2306) _____
GEOG 3516: Dynamic Meteorology (3) (Pre: 3515) _____
GEOG 4504: Synoptic Meteorology (3) (Pre: 3504) _____
GEOG 4524: Physical Meteorology (3) (Pre: 3515) _____

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 4584: Operational Meteorology (3) _____
MTRG 4994: Undergrad Research (3) _____

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

Free Electives (9 hours)

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*

Note: This physical sciences area requirement can also be met by completion of a second major or minor in: Astronomy, Chemistry, Computer Science, Geosciences, Geographic Information Science, Math, or Physics.

1. _____
2. _____
3. _____

***Recommended for graduate school preparation**

- CHEM 1015: Introduction to Chemistry (3)
CHEM 1016: Introduction to Chemistry (3)
CHEM 1035: General Chemistry (3)
CHEM 1036: General Chemistry (3)
CS 1014: Computational Thinking (3)
CS 1044: Introduction to Programming in C (3)
CS 1064: Introduction to Python (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 1225)
MATH 2204: Multivariable Calculus (3) (Pre: MATH 1226)

***Recommended for all other students**

- 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 Intro CHEM, BIOL, or GEOS)
CSES 3634: Physics of Pollution (3) (Pre: 3114, PHYS 2205, Math 2024)
FREC 3104: Watershed Hydrology (3) (Pre: MATH 1226)
FREC 3604: Climate Science (3) (Pre: MATH 1226)
FREC 4374: Forested Wetlands (3) (Pre: CSES 3114 or 3134)
GEOG 3274: Geography of Arctic and Subarctic Envir (3)
GEOG 3304: Geomorphology (3) (Pre: 1104 or GEOS 1004)
GEOG 3404: Mountain Geography (3) (Pre: GEOG 1104)
GEOG 4044: Biogeography (3) (Pre: GEOG 1104)
GEOS 1034: Earth's Natural Hazards (3)
GEOS 2014: Mission to the Planets (3)
GEOS 3014: Environmental Geosciences (3) (Pre: GEOS 1004 or 1024 or 2104)
GEOS 3034: Oceanography (3) (Pre: MATH 1226)
GEOS 4804: Groundwater Hydrology (3) (Pre: MATH 1226, PHYS 2205 or 2305, MATH 1226, GEOS 1014)
STAT 3616: Biological Statistics (3) (Pre: STAT 3615)

Curriculum for Liberal Education (CLE) Requirements (38 hours)

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

Area 1: Writing and Discourse (6 credit hours)

ENGL 1105 (3) _____ OR COMM 1015 (3) _____
ENGL 1106 (3) _____ COMM 1016 (3) _____
or ENGL 1204H(3) _____

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

Approved CLE courses _____

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

Meteorology major covers this area with completion of GEOG 1004 and 1014

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

PHYS 2205/2215: General Physics (4) (Pre: MATH 1025) _____
PHYS 2206/2216: General Physics (4) (Pre: 2205) _____
OR
PHYS 2305: Foundations of Physics (4) (Pre: MATH 1226) _____
PHYS 2306: Foundations of Physics (4) (Pre: PHYS 2305) _____

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

MATH 1225: Calculus of a single variable (4) _____ MATH 1226: Calculus of a single variable (4) _____

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

Approved CLE course _____

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

Meteorology major covers this area with completion of GEOG 1014

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:

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

There are no hidden prerequisites on this check sheet

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

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