

METEOROLOGY (BS)

Exploration and Discovery

Plymouth State University is the only institution in New Hampshire to offer a BS degree in Meteorology. The program offers students not only a solid curriculum in traditional areas of theoretical and applied meteorology but also an opportunity for independent research and for internships in operational meteorology. A program graduate will have received an education of sufficient depth and versatility either to pursue advanced graduate study in theoretical or experimental meteorology or to seek employment in the fields of operational and applied meteorology. As an alternative to the BS program, students may pursue an interdisciplinary major that incorporates atmospheric science with related fields such as earth science, mathematics, computer science, journalism, etc. At a minimum, entering students should have a mastery of high school precalculus. Meteorology majors should consider the following minors: Business Administration, Computer Science, General Mathematics, Professional Communication, or Technical Mathematics.

Degree Requirements

Course	Title	Credits
Major Requirements		
MT 1000	Intro to Weather Community	1
MT 2110	Introduction to Atmospheric Sciences	3
MT 2230	Introduction to Meteorological Analysis	1
MT 2800	Climatology (GACO)	3
MT 3230	Atmospheric Thermodynamics	3
MT 3300	Synoptic Meteorology I	4
MT 3710	Meteorological Instruments and Observations (WRCO)	4
MT 4280	Synoptic Meteorology II (TECO)	4
MT 4310	Dynamic Meteorology I	3
MT 4320	Dynamic Meteorology II	3
MT 4410	Atmospheric Physics	3
MT 4460	Climate Dynamics	3
MT 4480	Mesoscale Meteorology	3
CH 2335	General Chemistry I (QRCO)	4
CS 2400	Scientific Programming	3
MA 2550	Calculus I (QRCO)	4
MA 2560	Calculus II (QRCO)	4
MA 3500	Probability and Statistics for Scientists	3
MA 3510	Differential Equations	3
MA 3540	Calculus III	4
PH 2410 & PH 2430	University Physics I and University Physics Laboratory I	4
PH 2420 & PH 2440	University Physics II and University Physics Laboratory II	4
Oral Communication		
MT 4360 or MT 4330	Forecasting/Broadcast Practicum ¹ or Current Weather Seminar	1
Capstone Experience		
	Complete a minimum of five credits ²	5
General Education (https://coursecatalog.plymouth.edu/general-education)		

EN 1400	Composition	4
IS 1111	The First Year Seminar: Critical Thinking and the Nature of Inquiry	3
CTDI	Creative Thought Direction	3-4
PPDI	Past and Present Direction	3-4
SSDI	Self and Society Direction	3-4
Directions (choose from CTDI, PPDI, SSDI) ³		4-8
DICO	Diversity Connection	3-4
INCO	Integration Connection	3-4
WECO	Wellness Connection	3-4
Electives		8-10
Total Credits		120

- ¹ Students interested in broadcast meteorology should satisfy Oral Communication with Forecasting/Broadcast Practicum (MT 4360).
- ² Students design their capstone experiences with their academic advisors. Capstone experiences should contain a mix of coursework (4000 level) and experiential learning (internship, research, or practicum). See examples below.
- ³ Directions should total 16-17 credits because SIDI is waived for BS Meteorology.

Capstone Experience Examples

Course	Title	Credits
Student interested in broadcast meteorology:		
MT 4440	Climate Change (INCO)	3
MT 4262	Broadcast Meteorology	3
MT 4600	Internship	1
Student interested in graduate school:		
MT 4400	Numerical Weather Prediction (INCO,TECO)	3
MT 4500 & MT 4450 or MT 4450	Undergraduate Research and Advanced Synoptic Meteorology or Advanced Synoptic Meteorology	3-6
Student interested in forecasting:		
MT 4330	Current Weather Seminar	1
MT 4450	Advanced Synoptic Meteorology	3
MT 4600	Internship	1

Complementary Courses

Generally, students are encouraged to take electives from the following disciplines: Biology, Chemistry, Computer Science, Earth Science, Geography, Mathematics, Meteorology, and Physics. Specifically, students considering research and/or graduate school should take as many of the following electives as possible:

Course	Title	Credits
CH 3340	Quantitative Analysis	4
CH 3400	Instrumental Analysis (TECO)	4
CH 3410	Physical Chemistry: Thermodynamics and Kinetics (WRCO)	4
ES 2170	Introduction to Oceanography	3
MA 4430	Numerical Analysis (TECO)	3
MT 4150	Air Quality (INCO)	3
MT 4400	Numerical Weather Prediction (INCO,TECO)	3
MT 4420	Tropical Weather and Climate (INCO)	3

MT 4450	Advanced Synoptic Meteorology	3	MT 4280	Synoptic Meteorology II (TECO)	4
MT 4500	Undergraduate Research	1-4	MT 4310	Dynamic Meteorology I	3
MT 4560	Topics in Meteorology	1-4	MT 4320	Dynamic Meteorology II	3
PH 3130	Mechanics	4	MA 3510	Differential Equations	3

Students considering operational, forecast and/or broadcast meteorology should take as many of the following as possible:

Course	Title	Credits
CM 2400	Public Speaking	3
CM 2910	Human Communication and Conflict	3
MT 4150	Air Quality (INCO)	3
MT 4450	Advanced Synoptic Meteorology	3
MT 4600	Internship	1-4

Recommended Course Sequence

Check all course descriptions for prerequisites before planning course schedule. Course sequence is suggested but not required.

Course	Title	Credits
Year One		
EN 1400	Composition	4
IS 1111	The First Year Seminar: Critical Thinking and the Nature of Inquiry	3
MT 1000	Intro to Weather Community	1
MT 2110	Introduction to Atmospheric Sciences	3
MT 2230	Introduction to Meteorological Analysis	1
MT 2800	Climatology (GACO)	3
CH 2335	General Chemistry I (QRCO)	4
CS 2400	Scientific Programming	3
MA 2550	Calculus I (QRCO)	4
MA 2560	Calculus II (QRCO)	4
Credits		30

Year Two		
MT 3230	Atmospheric Thermodynamics	3
MT 3300	Synoptic Meteorology I	4
MA 3500	Probability and Statistics for Scientists	3
MA 3540	Calculus III	4
PH 2410 & PH 2430	University Physics I and University Physics Laboratory I	4
PH 2420 & PH 2440	University Physics II and University Physics Laboratory II	4
CTDI (https://coursecatalog.plymouth.edu/general-education/#CTDI)	Creative Thought Direction	3-4
WECO (https://coursecatalog.plymouth.edu/general-education/#WECO)	Wellness Connection	3-4
Elective		0-2
Credits		28-32

Year Three		
MT 3710	Meteorological Instruments and Observations (WRCO)	4

PPDI (https://coursecatalog.plymouth.edu/general-education/#PPDI)	Past and Present Direction	3-4
Directions (choose from CTDI, PPDI, SSDI) (https://coursecatalog.plymouth.edu/general-education/) ¹		4-8
DICO (https://coursecatalog.plymouth.edu/general-education/#DICO)	Diversity Connection	3-4
Elective		0-2
Credits		27-35

Year Four		
Oral Communication:		
MT 4330 or MT 4360	Current Weather Seminar or Forecasting/Broadcast Practicum	1
Complete a minimum of five credits from a Capstone Experience		5
MT 4410	Atmospheric Physics	3
MT 4460	Climate Dynamics	3
MT 4480	Mesoscale Meteorology	3
SSDI (https://coursecatalog.plymouth.edu/general-education/#SSDI)	Self and Society Direction	3-4
INCO (https://coursecatalog.plymouth.edu/general-education/#INCO)	Integration Connection	3-4
Electives		6-8
Credits		27-31
Total Credits		120

¹ Directions should total 16-17 credits because SIDI is waived for BS Meteorology.