METEOROLOGY - BS

The Department of Atmospheric Sciences offers the Bachelor of Science degree in Meteorology. The undergraduate curriculum in meteorology emphasizes weather and weather forecasting, but also includes courses in climatology, atmospheric chemistry, cloud physics and remote sensing of the atmosphere with radar and satellites. As the curriculum makes clear, the study of these subjects relies on a foundation of physics, chemistry and mathematics. Meteorology also has connections to oceanography and other geosciences disciplines, which may be taken as elective courses.

Students who receive BS degrees in Meteorology often obtain employment with the National Weather Service, private meteorological consulting and weather forecasting companies, air quality consulting firms, airlines, TV stations, energy trading companies, universities, state governments, agricultural firms and computer-related industries. Some students choose to enter the military services as weather officers. Positions in teaching and research normally require a graduate degree.

Students interested in cooperative educational arrangements and internships should contact the department's academic advisor for information.

In the curriculum presented, students are advised to note the prerequisites for the courses in ATMO, which often depend on courses in mathematics, physics or chemistry.

Program Requirements

First Year

	Semester Credit Hours
ATMO 201 Weather and Climate ¹	3
CHEM 119 Fundamentals of Chemistry I	4
ENGL 104 Composition and Rhetoric	3
MATH 171 Calculus I ¹ or MATH 151 or Engineering Mathematics I	4
Semester Credit Hours	14
Spring	
ATMO 203 Weather Forecasting Laboratory ¹	1
CHEM 120 Fundamentals of Chemistry II	4
MATH 172 Calculus II ¹ or MATH 152 or Engineering Mathematics II	4
PHYS 206 Newtonian Mechanics for Engineering and Science	3
PHYS 226 Physics of Motion Laboratory for the Sciences	1
American history (http://catalog.tamu.edu/undergraduate/ general-information/university-core-curriculum/#american- history)	3
Semester Credit Hours	16
Second Year	
Fall	
ATMO 251 Weather Observation and Analysis ¹	3
ATMO 363 Introduction to Atmospheric Chemistry and Air Pollution	3

Select one of the foll ATMO 321 Cd Sc CSCE 110 Pr CSCE 206 St Government/politica undergraduate/gene curriculum/#governr ATMO 324 Pf MATH 308 Di PHYS 207 El ar PHYS 227 El th Government/politica undergraduate/gene curriculum/#governr General Elective ^{2,3} Se Third Year Fall ATMO 335 At ATMO 335 At ATMO 336 At STAT 211 Pr American history (ht general-information/ history) Atmospheric science Spring ATMO 435 Sy COMM 203 Pt or COMM 205 C	gineering Mathematics III ¹ owing: mputer Applications in the Atmospheric iences ogramming I ructured Programming in C science (http://catalog.tamu.edu/ ral-information/university-core- ment-political-science) mester Credit Hours ysical and Regional Climatology iferential Equations ¹ ectricity and Magnetism for Engineering d Science ectricity and Magnetism Laboratory for e Sciences sciences science (http://catalog.tamu.edu/ ral-information/university-core- ment-political-science) mester Credit Hours mester Credit Hours mospheric Thermodynamics ⁴ mospheric Dynamics ⁴ inciples of Statistics I p://catalog.tamu.edu/undergraduate/ university-core-curriculum/#american- s or technical elective ⁵ mester Credit Hours	3 3 3 3 15 3 3 3 1 1 3 3 3 16 3 4 3 3 16 3 16 3 16
ATMO 321 Ca Sa CSCE 110 Pr CSCE 206 St Government/politica undergraduate/gene curriculum/#governm ATMO 324 Pf MATH 308 Di PHYS 207 El MATH 308 Di PHYS 227 El Government/politica undergraduate/gene curriculum/#governm General Elective ^{2,3} Se Third Year Fall ATMO 335 At ATMO 335 At ATMO 336 At STAT 211 Pr American history (ht general-information/ history) Atmospheric science Spring ATMO 435 Sy COMM 203 Pt or COMM 205 Ca Language, philosoph undergraduate/gene curriculum/#language	mputer Applications in the Atmospheric iences ogramming I ructured Programming in C science (http://catalog.tamu.edu/ al-information/university-core- nent-political-science) mester Credit Hours ysical and Regional Climatology ferential Equations ¹ ectricity and Magnetism for Engineering d Science ectricity and Magnetism Laboratory for e Sciences science (http://catalog.tamu.edu/ al-information/university-core- nent-political-science) mester Credit Hours mospheric Thermodynamics ⁴ mospheric Dynamics ⁴ inciples of Statistics I p://catalog.tamu.edu/undergraduate/ university-core-curriculum/#american- s or technical elective ⁵	3 15 3 3 3 1 1 3 3 16 3 4 3 3 4 3 3 1 1
SocCSCE 110PrCSCE 206StGovernment/political undergraduate/gene curriculum/#governSpringATMO 324PfMATH 308DiPHYS 207ElarPHYS 227ElGovernment/political undergraduate/gene curriculum/#governGovernment/political undergraduate/gene curriculum/#governGovernment/political undergraduate/gene curriculum/#governATMO 335AttATMO 335AttATMO 335AttATMO 335AttSTAT 211PrAmerican history (ht general-information/ history)Atmospheric scienceSeSpringATMO 435SyCOMM 203 or COMM 205Pu orLanguage, philosoph undergraduate/gene curriculum/#languag Atmospheric science	iences ogramming I ructured Programming in C science (http://catalog.tamu.edu/ ral-information/university-core- nent-political-science) mester Credit Hours science Credit Hours actricity and Regional Climatology iferential Equations ¹ ectricity and Magnetism for Engineering d Science sciences science (http://catalog.tamu.edu/ ral-information/university-core- nent-political-science) mester Credit Hours mospheric Thermodynamics ⁴ mospheric Dynamics ⁴ inciples of Statistics I p://catalog.tamu.edu/undergraduate/ university-core-curriculum/#american- s or technical elective ⁵	15 3 3 3 1 1 3 3 16 3 4 3 3 4 3 3 1
CSCE 206 St Government/political undergraduate/gene curriculum/#governm Sering ATMO 324 PH MATH 308 Di PHYS 207 EH MATH 308 Di PHYS 227 EH Third Y227 EH Government/political undergraduate/gene curriculum/#governm General Elective ^{2,3} Se Third Year Fall ATMO 335 Att ATMO 335 Att ATMO 336 Att STAT 211 Pr American history (ht general-information/ history) Atmospheric science Spring ATMO 435 Sy COMM 203 Pu or COMM 205	ructured Programming in C science (http://catalog.tamu.edu/ ral-information/university-core- nent-political-science) mester Credit Hours ysical and Regional Climatology iferential Equations ¹ ectricity and Magnetism for Engineering d Science ectricity and Magnetism Laboratory for e Sciences science (http://catalog.tamu.edu/ ral-information/university-core- nent-political-science) mester Credit Hours mospheric Thermodynamics ⁴ mospheric Dynamics ⁴ inciples of Statistics I p://catalog.tamu.edu/undergraduate/ university-core-curriculum/#american- s or technical elective ⁵	15 3 3 3 1 1 3 3 16 3 4 3 3 4 3 3 1
Government/politica undergraduate/gene curriculum/#governm ATMO 324 PH MATH 308 Di PHYS 207 EH ar PHYS 227 EH Government/politica undergraduate/gene curriculum/#governm General Elective ^{2,3} Set Third Year Fall ATMO 335 At ATMO 335 At ATMO 336 At STAT 211 Pr American history (ht general-information/ history) Atmospheric science Spring ATMO 435 Sy COMM 203 Pt or COMM 205 Language, philosoph undergraduate/gene curriculum/#language	science (http://catalog.tamu.edu/ ral-information/university-core- ment-political-science) mester Credit Hours ysical and Regional Climatology iferential Equations ¹ ectricity and Magnetism for Engineering d Science ectricity and Magnetism Laboratory for e Sciences science (http://catalog.tamu.edu/ ral-information/university-core- ment-political-science) mester Credit Hours mospheric Thermodynamics ⁴ mospheric Dynamics ⁴ inciples of Statistics I p://catalog.tamu.edu/undergraduate/ university-core-curriculum/#american- s or technical elective ⁵	15 3 3 3 1 1 3 3 16 3 4 3 3 4 3 3 1
undergraduate/gene curriculum/#govern Spring ATMO 324 Pf MATH 308 Di PHYS 207 El ar PHYS 227 El th Government/politica undergraduate/gene curriculum/#govern General Elective ^{2,3} Se Third Year Fall ATMO 335 At ATMO 335 At ATMO 335 At ATMO 336 At STAT 211 Pr American history (ht general-information/ history) Atmospheric science Spring ATMO 435 Sy COMM 203 Pt or COMM 205 Language, philosoph undergraduate/gene curriculum/#languag Atmospheric science	ral-information/university-core- ment-political-science) mester Credit Hours vsical and Regional Climatology iferential Equations ¹ ectricity and Magnetism for Engineering d Science ectricity and Magnetism Laboratory for e Sciences science (http://catalog.tamu.edu/ ral-information/university-core- nent-political-science) mester Credit Hours mospheric Thermodynamics ⁴ mospheric Dynamics ⁴ inciples of Statistics I p://catalog.tamu.edu/undergraduate/ university-core-curriculum/#american- s or technical elective ⁵	15 3 3 3 1 1 3 3 16 3 4 3 3 4 3 3 1
Spring ATMO 324 PH MATH 308 Di PHYS 207 El ar PHYS 227 El th Government/politica undergraduate/gene curriculum/#governr General Elective ^{2,3} Se Third Year Fall ATMO 335 At ATMO 335 At ATMO 336 At STAT 211 Pr American history (ht general-information/ history) Atmospheric science Spring ATMO 435 Sy COMM 203 Pt or COMM 205 Language, philosoph undergraduate/gene curriculum/#languag Atmospheric science	mester Credit Hours ysical and Regional Climatology (ferential Equations ¹ ectricity and Magnetism for Engineering d Science ectricity and Magnetism Laboratory for e Sciences science (http://catalog.tamu.edu/ ral-information/university-core- nent-political-science) mester Credit Hours mospheric Thermodynamics ⁴ inciples of Statistics I p://catalog.tamu.edu/undergraduate/ university-core-curriculum/#american- s or technical elective ⁵	3 3 3 1 3 3 3 16 3 4 3 4 3 3 1
Spring ATMO 324 PH MATH 308 Di PHYS 207 El ar PHYS 227 El th Government/politica undergraduate/gene curriculum/#governr General Elective ^{2,3} Third Year Fall ATMO 335 At ATMO 335 At ATMO 336 At STAT 211 Pr American history (ht general-information/ history) Atmospheric science Spring ATMO 435 Sy COMM 203 Pu or COMM 205 Language, philosoph undergraduate/gene curriculum/#languag Atmospheric science	ysical and Regional Climatology iferential Equations ¹ ectricity and Magnetism for Engineering d Science ectricity and Magnetism Laboratory for e Sciences science (http://catalog.tamu.edu/ ral-information/university-core- nent-political-science) mester Credit Hours mospheric Thermodynamics ⁴ mospheric Dynamics ⁴ inciples of Statistics I p://catalog.tamu.edu/undergraduate/ university-core-curriculum/#american- s or technical elective ⁵	3 3 3 1 3 3 3 16 3 4 3 3 3 1 1
MATH 308 Di PHYS 207 El ar PHYS 227 El th Government/politica undergraduate/gene curriculum/#governr General Elective ^{2,3} Se Third Year Fall ATMO 335 At ATMO 335 At ATMO 336 At STAT 211 Pr American history (ht general-information/ history) Atmospheric science Spring ATMO 435 Sy COMM 203 Pt or COMM 205 Pt Language, philosoph undergraduate/gene curriculum/#languag	ferential Equations ¹ extricity and Magnetism for Engineering d Science extricity and Magnetism Laboratory for e Sciences science (http://catalog.tamu.edu/ ral-information/university-core- nent-political-science) mester Credit Hours mospheric Thermodynamics ⁴ mospheric Dynamics ⁴ inciples of Statistics I p://catalog.tamu.edu/undergraduate/ university-core-curriculum/#american- s or technical elective ⁵	3 3 1 3 3 3 16 3 4 3 3 1 1
PHYS 207 Ela ar PHYS 227 Ela th Government/politica undergraduate/gene curriculum/#govern General Elective ^{2,3} Se Third Year Fall ATMO 335 At ATMO 335 At ATMO 336 At STAT 211 Pr American history (ht general-information/ history) Atmospheric science Se Spring ATMO 435 Sy COMM 203 Pt or COMM 205 Language, philosoph undergraduate/gene curriculum/#languag Atmospheric science	ectricity and Magnetism for Engineering d Science ectricity and Magnetism Laboratory for e Sciences science (http://catalog.tamu.edu/ ral-information/university-core- nent-political-science) mester Credit Hours mospheric Thermodynamics ⁴ mospheric Dynamics ⁴ inciples of Statistics I p://catalog.tamu.edu/undergraduate/ university-core-curriculum/#american- s or technical elective ⁵	3 1 3 3 16 3 4 3 3 3 1 1
ar PHYS 227 El- th Government/politica undergraduate/gene curriculum/#governr General Elective ^{2,3} Set Third Year Fall ATMO 335 At ATMO 335 At ATMO 336 At STAT 211 Pr American history (ht general-information/ history) Atmospheric science Set Spring ATMO 435 Sy COMM 203 Pu or COMM 205 Pu undergraduate/gene curriculum/#languag	d Science ectricity and Magnetism Laboratory for e Sciences science (http://catalog.tamu.edu/ ral-information/university-core- nent-political-science) mester Credit Hours mospheric Thermodynamics ⁴ mospheric Dynamics ⁴ inciples of Statistics I p://catalog.tamu.edu/undergraduate/ university-core-curriculum/#american- s or technical elective ⁵	1 3 3 16 3 4 3 3 3 1
th Government/politica undergraduate/gene curriculum/#govern General Elective ^{2,3} Fall ATMO 335 At ATMO 335 At ATMO 336 At STAT 211 Pr American history (ht general-information/ history) Atmospheric science Spring ATMO 435 Sy COMM 203 Pt or COMM 205 Language, philosoph undergraduate/gene curriculum/#languag Atmospheric science	e Sciences science (http://catalog.tamu.edu/ ral-information/university-core- nent-political-science) mester Credit Hours mospheric Thermodynamics ⁴ mospheric Dynamics ⁴ inciples of Statistics I p://catalog.tamu.edu/undergraduate/ university-core-curriculum/#american- s or technical elective ⁵	3 3 16 3 4 3 3 1
undergraduate/gene curriculum/#govern General Elective ^{2,3} Fail ATMO 335 Att ATMO 335 Att ATMO 336 Att STAT 211 Pr American history (ht general-information/ history) Atmospheric science Spring ATMO 435 Sy COMM 203 Pt or COMM 205 Language, philosoph undergraduate/gene curriculum/#languag Atmospheric science	ral-information/university-core- nent-political-science) mester Credit Hours mospheric Thermodynamics ⁴ mospheric Dynamics ⁴ inciples of Statistics I p://catalog.tamu.edu/undergraduate/ university-core-curriculum/#american- s or technical elective ⁵	3 16 3 4 3 3 1
Set Third Year Fall ATMO 335 At ATMO 336 At STAT 211 Pr American history (ht general-information/ history) Atmospheric science Set Spring ATMO 435 Sy COMM 203 Pu or COMM 205 Language, philosoph undergraduate/gene curriculum/#language Atmospheric science	mospheric Thermodynamics ⁴ mospheric Dynamics ⁴ inciples of Statistics I p://catalog.tamu.edu/undergraduate/ university-core-curriculum/#american- s or technical elective ⁵	16 3 4 3 3 1
Third Year Fall ATMO 335 At ATMO 336 At STAT 211 Pr American history (ht general-information/ history) Atmospheric science Spring ATMO 435 Sy COMM 203 Pr or COMM 205 Pr undergraduate/gene curriculum/#languag	mospheric Thermodynamics ⁴ mospheric Dynamics ⁴ inciples of Statistics I p://catalog.tamu.edu/undergraduate/ university-core-curriculum/#american- s or technical elective ⁵	3 4 3 3 1
Fall ATMO 335 At ATMO 336 At STAT 211 Pr American history (ht general-information/ history) Atmospheric science Spring ATMO 435 Sy COMM 203 Pt or COMM 205 Pt Language, philosoph undergraduate/gene curriculum/#languag Atmospheric science	mospheric Dynamics ⁴ inciples of Statistics I p://catalog.tamu.edu/undergraduate/ university-core-curriculum/#american- s or technical elective ⁵	4 3 3 1
ATMO 335 At ATMO 336 At STAT 211 Pr American history (ht general-information/ history) Atmospheric science Spring ATMO 435 Sy COMM 203 Pt or COMM 205 Language, philosoph undergraduate/gene curriculum/#languag	mospheric Dynamics ⁴ inciples of Statistics I p://catalog.tamu.edu/undergraduate/ university-core-curriculum/#american- s or technical elective ⁵	4 3 3 1
ATMO 336 At STAT 211 Pr American history (ht general-information/ history) Atmospheric science Spring ATMO 435 Sy COMM 203 Pu or COMM 205 Language, philosoph undergraduate/gene curriculum/#languag	mospheric Dynamics ⁴ inciples of Statistics I p://catalog.tamu.edu/undergraduate/ university-core-curriculum/#american- s or technical elective ⁵	4 3 3 1
STAT 211 Pr American history (ht general-information/ history) Atmospheric science Spring ATMO 435 Sy COMM 203 Pu or COMM 205 Pu undergraduate/gene curriculum/#languag	nciples of Statistics I p://catalog.tamu.edu/undergraduate/ university-core-curriculum/#american- s or technical elective ⁵	3 3 1
American history (ht general-information/ history) Atmospheric science Sec Spring ATMO 435 Sy COMM 203 Pt or COMM 205 Language, philosoph undergraduate/gene curriculum/#language	p://catalog.tamu.edu/undergraduate/ university-core-curriculum/#american- s or technical elective ⁵	3
general-information/ history) Atmospheric science Sering ATMO 435 Sy COMM 203 Pu or COMM 205 Language, philosoph undergraduate/gene curriculum/#languag Atmospheric science	university-core-curriculum/#american- s or technical elective ⁵	1
Spring ATMO 435 Sy COMM 203 Pu or COMM 205 Language, philosoph undergraduate/gene curriculum/#languag Atmospheric science		
Spring ATMO 435 Sy COMM 203 Pu or COMM 205 Common Language, philosoph undergraduate/gene curriculum/#language Atmospheric science	mester Credit Hours	1.4
ATMO 435 Sy COMM 203 Pu or COMM 205 Language, philosoph undergraduate/gene curriculum/#languag Atmospheric science		14
COMM 203 Pu or COMM 205 Language, philosoph undergraduate/gene curriculum/#languag Atmospheric science		
or COMM 205 Language, philosoph undergraduate/gene curriculum/#languag Atmospheric science	noptic-Dynamic Meteorology	3
Language, philosoph undergraduate/gene curriculum/#languag Atmospheric science	blic Speaking	3
undergraduate/gene curriculum/#languag Atmospheric science	or Communication for Technical Professions	
	y and culture (http://catalog.tamu.edu/ ral-information/university-core- e-philosophy-culture)	3
Se	s or technical elective ⁵	6
	mester Credit Hours	15
Fourth Year Fall		
ATMO 441 Sa or ATMO 443	tellite Meteorology and Remote Sensing or Radar Meteorology	3
ATMO 446 Ph	ysical Meteorology	3
	l science (http://catalog.tamu.edu/ ral-information/university-core-	3
Atmospheric science	ehavioral-sciences)	
General elective ^{2,3}	-	3
Se	ehavioral-sciences)	3 3

Spring

	120		
	Semester Credit Hours	15	
General elective	3		
Atmospheric sc	6		
Creative arts (http://catalog.tamu.edu/undergraduate/ general-information/university-core-curriculum/#creative- arts)			
ATMO 456	Practical Weather Forecasting	3	

¹ A grade of C or better is required.

- ² General electives may not include ENGL 103; KINE 198-199 (http://catalog.tamu.edu/undergraduate/course-descriptions/ kine/); MATH 102, MATH 141-142 (http://catalog.tamu.edu/ undergraduate/course-descriptions/math/), MATH 150-152 (http:// catalog.tamu.edu/undergraduate/course-descriptions/math/), MATH 171-172 (http://catalog.tamu.edu/undergraduate/course-descriptions/ math/), MATH 221, MATH 251, MATH 253; PHYS 101, PHYS 201-202 (http://catalog.tamu.edu/undergraduate/course-descriptions/ phys/), PHYS 218-219 (http://catalog.tamu.edu/undergraduate/ course-descriptions/phys/); AERS 100-499 (http://catalog.tamu.edu/ undergraduate/course-descriptions/aers/); MLSC 100-499 (http:// catalog.tamu.edu/undergraduate/course-descriptions/ltp:// catalog.tamu.edu/undergraduate/course-descriptions/ NVSC 100-499 (http://catalog.tamu.edu/undergraduate/coursedescriptions/nvsc/); SOMS 100-499 (http://catalog.tamu.edu/ undergraduate/course-descriptions/aers/).
- ³ MLSC, NVSC and AERS courses can be used as general electives if a minor is completed in Military Science. See an academic advisor for more information.
- ⁴ All students enter as Lower Level Meterology (METL) until completion of ATMO 335 and ATMO 336 and the associated prerequisite courses. Once students have completed these courses, their major will be changed to Upper Level Meterology (METR), and they will be eligible to take upper-level electives. This change should occur following the fall semester of the junior year.
- ⁵ Select in consultation with faculty academic advisor. Select from ATMO 300-499 (http://catalog.tamu.edu/undergraduate/coursedescriptions/atmo/) (except ATMO 321); BESC 403; BIOL 111; CHEM 227, CHEM 237; ECCB 308, ECCB 309; GEOG 400-499 (http:// catalog.tamu.edu/undergraduate/course-descriptions/geog/); GEOS 400-499 (http://catalog.tamu.edu/undergraduate/course-descriptions/ geos/); MATH 311, MATH 400-499 (http://catalog.tamu.edu/ undergraduate/course-descriptions/math/); OCNG 400-499 (http:// catalog.tamu.edu/undergraduate/course-descriptions/ocng/); SCSC 301. Up to 3 hours may be ATMO 484 (Broadcast Internship) and up to 6 hours may be ATMO 484 (NWS Internship). Only 6 hours of 484, 485, and 491 courses may apply towards this requirement.