

PHYSICS

Department Office: 225 Leifson Physics, 784-6792

Bachelor of Science Atmospheric Sciences Major

The bachelor of science degree provides a foundation at the undergraduate level for study and career opportunities in the atmospheric sciences including atmospheric physics, atmospheric chemistry and meteorology. Students wishing to pursue graduate level programs should choose course electives in consultation with the undergraduate and graduate program advisors.

	Credits
I. University Core Curriculum Requirements	39-42
English (3-6 credits)	
ENG 101--Composition I.....	3
ENG 102--Composition II.....	3
Note: Students who place into ENG 102 are not required to complete ENG 101.	
Mathematics (4 credits)	
MATH 181 Calculus I.....	4
Natural Sciences (8 credits)	
PHYS 180 Physics for Scientists and Engineers I.....	3
PHYS 180L Physics for Scientists and Engineers Laboratory I.....	1
PHYS 181 Physics for Scientists and Engineers II.....	3
PHYS 181L Physics for Scientists and Engineers Laboratory II.....	1
Social Sciences (3 credits)	
Refer to the "Social Sciences section of the Core Curriculum chapter in this catalog.....	3
Fine Arts (3 credits)	
Refer to the "Fine Arts" section of the Core Curriculum chapter in this catalog.....	3
Core Humanities (9 credits)	
CH 201 Ancient and Medieval Cultures.....	3
CH 202 The Modern World.....	3
CH 203 American Experience and Constitutional Change.....	3
Capstone Courses (6 credits)	
ATMS 497 Senior Thesis	3
Additional Capstone Course outside the major; refer to the "Capstone" section of the Core Curriculum chapter in this catalog	3
Diversity (3 credits)	
Refer to the "Diversity" section of the Core Curriculum chapter in this catalog.....	3
II. ADDITIONAL REQUIREMENTS	0

III. MAJOR REQUIREMENTS 64

A. Required Courses (29 credits)	
ATMS 117 Meteorology.....	3
ATMS 360 Atmospheric Instrumentation.....	3
ATMS 410 Airflow and Weather Dynamics.....	3
ATMS 411 Introduction to Atmospheric Physics.....	3
ATMS 412 Introduction to Air Pollution.....	3
ATMS 413 Introduction to Synoptic Meteorology.....	3
ATMS 414 Physical Climatology OR GEOG 421 Climatology.....	3
PHYS 182 Physics for Scientists and Engineers III.....	3
PHYS 182L Physics for Scientists and Engineers Laboratory III.....	1
PHYS 301 Mathematical Methods for Physics.....	3
PHYS 323 Intermediate Physics Lab with Shop Experience.....	1

B. Required Related Courses (25 credits)	
CHEM 201 General Chemistry for Scientists and Engineers I.....	4
CHEM 202 General Chemistry for Scientists and Engineers II.....	4
CS 135 Computer Science I.....	3
MATH 182 Calculus II.....	4
MATH 283 Calculus III.....	4
MATH 285 Differential Equations.....	3
STAT 352 Probability and Statistics.....	3

C. Elective Related Courses (10 credits).....	10
Students will consult with the undergraduate advisor to select upper-division courses in related fields such as Chemistry, Computer Sciences, Engineering, Geography, Geology, etc.	

IV. MINOR REQUIREMENTS 0

V. ELECTIVES 22-25

VI. TOTAL CREDITS	128
Forty or more credits must be in upper division courses (numbered 300 and above).	

VII. RECOMMENDED SCHEDULE

First Year -- Fall Semester	
CHEM 201 General Chemistry for Scientists and Engineers I.....	4
CS 135 Computer Science I.....	3
ENG 101 Composition I.....	3
MATH 181 Calculus I.....	4
Electives.....	3

First Year -- Spring Semester	
ATMS 117 Meteorology.....	3
CHEM 202 General Chemistry for Scientists and Engineers II.....	4
ENG 102 Composition II.....	3
MATH 182 Calculus II.....	4
PHYS 180 Physics for Scientists and Engineers I.....	3
PHYS 180L Physics for Scientists and Engineers Laboratory I.....	1

Second Year -- Fall Semester

CH 201 Ancient and Medieval Cultures..... 3
MATH 283 Calculus III..... 4
PHYS 181 Physics for Scientists and Engineers II..... 3
PHYS 181L Physics for Scientists and Engineers
Laboratory II..... 1
Electives..... 6

Second Year -- Spring Semester

ATMS 414 Physical Climatology..... 3
CH 202 The Modern World..... 3
MATH 285 Differential Equations..... 3
PHYS 182 Physics for Scientists and Engineers III..... 3
PHYS 182L Physics for Scientists and Engineers
Laboratory III..... 1
Core Curriculum fine arts course..... 3

Third Year -- Fall Semester

ATMS 410 Airflow and Weather Dynamics..... 3
ATMS 411 Introduction to Atmospheric Physics..... 3
Core curriculum social sciences course..... 3
Electives..... 6

Third Year -- Spring Semester

ATMS 360 Atmospheric Instrumentation..... 3
ATMS 413 Introduction to Synoptic Meteorology..... 3
CH 203 American Experience and Constitutional
Change..... 3
Electives..... 6

Fourth Year -- Fall Semester

ATMS 412 Introduction to Air Pollution..... 3
ATMS 497 Senior Thesis..... 3
PHYS 301 Mathematical Methods for Physics..... 3
Electives..... 6

Fourth Year -- Spring Semester

PHYS 323 Intermediate Physics Lab with Shop
Experience..... 1
STAT 352 Probability and Statistics..... 3
Core curriculum capstone elective course..... 3
Core curriculum diversity course..... 3
Electives..... 5

Minor in Atmospheric Sciences

Students majoring in another field may earn a Minor in Atmospheric Sciences by successfully completing the following courses:

ATMS 117 Meteorology..... 3
PHYS 182 Physics for Scientists and Engineers III..... 3
PHYS 182L Physics for Scientists and Engineers
Laboratory III..... 1
ATMS 360 Atmospheric Instrumentation..... 3
ATMS 411 Introduction to Atmospheric Physics..... 3
6 additional credits other ATMS 400-level courses of
your choice 3