The University of Louisville sits in the center of one of the densest populations of professional meteorologists in the world. The National Weather Service (NWS) Weather Forecast Office (WFO) in Louisville is just minutes away from campus, and affords students many volunteer internship and research opportunities. Louisville’s four major media outlets all take interns and actively collaborate with our program, and the United Parcel Service (UPS) has its global meteorology group based in Louisville, with a shadow program for students.

Completion of this degree requires work to be submitted for the department’s Learning Outcomes Measurement. For details, contact the department.

Program Information

Atmospheric Science is an ever-changing field that continues to grow in scope and knowledge.

There are several universities across the U.S. with undergraduate Atmospheric Science programs, but few with the Louisville area’s various and ever-changing climate patterns. Louisville has seen snow on the ground one day—and 70 degrees the next; hurricane force winds; ice storm damage; major tornado outbreaks...along with everything in between. The rich weather history of Louisville makes UofL a perfect place to study the atmosphere and its processes.

The application for major form can be found on the Arts & Sciences Advising Center website (https://louisville.edu/artsandsciences/advising/apply).

General Education Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEN 100</td>
<td>Student Success Center Orientation</td>
<td>1</td>
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<tr>
<td>or GEN 101</td>
<td>Arts and Sciences Orientation</td>
<td></td>
</tr>
<tr>
<td>Foreign Language</td>
<td>6-8</td>
<td></td>
</tr>
<tr>
<td>Electives in Humanities or Social Sciences at 300-level or above, in addition to Courses counted toward General Education</td>
<td>6</td>
<td></td>
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<tr>
<td>WR—two approved courses at the 300 level or above</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Minimum Total Hours</strong></td>
<td><strong>13-15</strong></td>
<td></td>
</tr>
</tbody>
</table>

Program/Major Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>PHYS 295</td>
<td>Introductory Laboratories I - SL</td>
<td>1</td>
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<tr>
<td>PHYS 296</td>
<td>Introductory Laboratories II - SL</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 298</td>
<td>Introductory Mechanics, Heat and Sound - S</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 299</td>
<td>Introductory Electricity, Magnetism and Light</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 300</td>
<td>Introductory Modern Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS/GEOS 220</td>
<td>Contemporary Issues in Meteorology - S</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 360</td>
<td>Introduction to Weather Analysis</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 361</td>
<td>Atmospheric Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 362</td>
<td>Physical Meteorology</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 365</td>
<td>Mesoscale Meteorology</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 465</td>
<td>Dynamic Meteorology I</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 466</td>
<td>Dynamic Meteorology II</td>
<td>3</td>
</tr>
<tr>
<td>GEG 355</td>
<td>Introduction to Remote Sensing</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 469</td>
<td>Synoptic Meteorology - CUE</td>
<td>3</td>
</tr>
</tbody>
</table>

Supporting Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 205</td>
<td>Calculus I - QR</td>
<td>4</td>
</tr>
<tr>
<td>MATH 206</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 301</td>
<td>Calculus III</td>
<td>4</td>
</tr>
</tbody>
</table>

Specific coursework information can be found on the Degree Requirements tab.
PHYS 350  Differential Equations for the Physical Sciences  4
A minimum of 9 hours from the following Related Electives:  9
CEE 470  Surface Water Hydrology
CHEM 341  Organic Chemistry I
CHEM 441  Elements of Physical Chemistry
GEOS 363  Climate Science
GEOS 564  Hydrology
MATH 560  Statistical Data Analysis - WR
MATH 560  Optics
PHYS 356  Optics Laboratory
PHYS 530  Thermal Physics
PHYS 541  Electromagnetic Fields
PHYS 545  Advanced Optics
PHYS 546  Advanced Optics Lab
Minimum Electives  3
Minimum Total Hours  75-77

Only 60 hours in the major department may be applied toward the Bachelor of Science degree.

At least 50 of the total minimum hours required must be at the 300 level or above.

Code  Title  Hours

Culminating Undergraduate Experience (Graduation requirement)
Requirement fulfilled by completing:

PHYS 469  Synoptic Meteorology - CUE

1  Completion of the second semester of a single foreign language; hours will vary depending on the language taken.
2  May be incorporated into other degree requirements.
3  Students who satisfy General Education Requirements by courses defined by the program will require additional electives to complete the minimum hours for the degree.

Degree Audit Report
Degree Audit reports illustrate how your completed courses fulfill the requirements of your academic plan. What-if reports allow you to compare the courses you have completed in your current academic plan to the courses required in another academic plan. Should you have questions about either report, please consult with your academic advisor.

To create either report:
1. Log into your ULink account.
2. Click on the Student Services tab.
3. Next, click on "View my Academic Advisement Report" to run a Degree Audit report in the Undergraduate Advising area.
4. To create a What-if report, click on "Create a What-if Advisement Report."

Flight Plan

Course  Title  Hours

Year 1
Fall
GEN 100  Student Success Center Orientation  1
or GEN 101  or Arts and Sciences Orientation
ENGL 101  Introduction to College Writing - WC  3
MATH 205  Calculus I - QR  4
Foreign Language 1  3-4
GEOS 220  or PHYS 220  Contemporary Issues in Meteorology - S  3

Hours  14-15

Spring
ENGL 102  Intermediate College Writing - WC  3
MATH 206  Calculus II  4
PHYS 298  Introductory Mechanics, Heat and Sound - S  4
PHYS 295  Introductory Laboratories I - SL  1
Foreign Language 2  3-4

Hours  15-16

Year 2
Fall
MATH 301  Calculus III  4
PHYS 299  Introductory Electricity, Magnetism and Light  4
PHYS 296  Introductory Laboratories II - SL  1
PHYS 360  Introduction to Weather Analysis  3
General Education: Cardinal Core Oral Communication - OC  3
General Elective  1

Hours  16

Spring
PHYS 361  Atmospheric Thermodynamics  3
General Education: Cardinal Core Arts & Humanities - AH  3
General Education: Cardinal Core Social & Behavioral Sciences US Diversity - SBD1  3
General Education: Cardinal Core Social & Behavioral Sciences Historical Perspective - SBH  3
Related Elective  3

Hours  15

Year 3
Fall
PHYS 362  Physical Meteorology  3
PHYS 350  Differential Equations for the Physical Sciences  4
PHYS 465  Dynamic Meteorology I  3
Related Elective  3
General Education: Cardinal Core Arts & Humanities Global Diversity - AH02  3

Hours  16

Spring
PHYS 365  Mesoscale Meteorology  3
PHYS 466  Dynamic Meteorology II  3
Related Elective  3
General Elective  3
General Elective  3

Hours  15

Year 4
Fall
GEOG 355  Introduction to Remote Sensing  3
PHYS 300  Introductory Modern Physics  3
Humanities or Social Science Elective (300 level or above)  3
WR Elective (300 level or above)  3
General Elective  3

Hours  15

Spring
PHYS 469  Synoptic Meteorology - CUE  3
Humanities or Social Science Elective (300 level or above)  3
WR Elective (300 level or above)  3
General Elective  3
General Elective  3

Hours  15

Minimum Total Hours  121-123
Click here to run a Degree Audit report, or create a What-if report. (https://ulink.louisville.edu)

**Flight Planner**

Based on your major, the Flight Planner tool may be available for you to create a personalized Flight Plan. The Flight Planner can be found in the ULink Student Center. Consult with your advisor for assistance with the Flight Planner.