

# GEOGRAPHY, APPLIED (BS)



This program was approved for students entering the university in the Summer 2021–Spring 2022 catalog year. For more information about catalog year, go to Catalog Year Information (<http://catalog.louisville.edu/undergraduate/university-wide-unit-specific-policies/catalog-year/>).

## Bachelor of Science in Applied Geography

Unit: College of Arts and Sciences (AS) (<http://www.louisville.edu/a-s/>)

Department: Geograph (<http://louisville.edu/geography/>)ic and Environmental Sciences

Academic Plan Code(s): See Track Requirements tab

## Program Information

Geographers investigate the character and possible associations between a subject and its environment. The Department of Geographic and Environmental Sciences educates students to view the world in a spatial and time-dependent context to determine relationships between people and their immediate and global environment.

The department offers Bachelor of Science degrees in four different concentrations:

- Environmental Analysis: designed for students who are interested in the environment and environmental sustainability.
- Geospatial Technologies: designed for students who are interested in developing geospatial technologies like GIS and remote sensing.
- Human and Cultural Dynamics: designed for students interested in the forces that shape human environments like population trends, sustainable development, ethnic and racial segregation, globalization and geopolitics.
- Meteorology: designed for students interested in operational meteorology and meets NOAA requirements to work for the National Weather Service.
- Urban Analysis: designed for students interested in the various processes that shape urban environments.

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

### Degree Summary

| Code | Title   | Hours |
|------|---|-------|
|      | General Education Requirements ( <a href="http://catalog.louisville.edu/undergraduate/general-education-requirements/">http://catalog.louisville.edu/undergraduate/general-education-requirements/</a> ) <sup>1</sup> | 31    |
|      | College/School Requirements   | 13-15 |

|   |            |
|---|------------|
| Program/Major Requirements <sup>1</sup> | 36         |
| Supporting Courses                      | 6-26       |
| Track Requirements                      | 15-27      |
| <b>Minimum Total Hours</b>              | <b>121</b> |

<sup>1</sup> Some credit hours from the General Education Requirements may be satisfied by courses defined by the program, in which case additional electives will be required to complete the minimum hours for the degree.

Specific coursework information can be found on the Degree Requirements tab.

## Departmental Admission Requirements

There are no specific admission requirements for this degree plan. The Application for Major form can be found on the Arts & Sciences Advising Center website (<http://louisville.edu/artsandsciences/advising/apply/>).

## General Education Requirements

| Code | Title   | Hours |
|------|---|-------|
|      | General Education Requirements ( <a href="http://catalog.louisville.edu/undergraduate/general-education-requirements/">http://catalog.louisville.edu/undergraduate/general-education-requirements/</a> ) <sup>1</sup> | 31    |

The following courses are required by the program and can satisfy the respective General Education Requirement:

|          |  |
|----------|--|
| GEOG 200 | Human Geography in a Changing World - D2, SB |
| GEOG 300 | Globalization and Diversity - SB, D2         |
| GEOS 200 | The Global Environment - S                   |

\* Meteorology track also requires GEOS 220/ PHYS 220, PHYS 295, PHYS 298 and MATH 205.

All degrees require the completion of the University-wide General Education Program (link provided above). Some General Education requirements may be met in the requirements for the major or supporting coursework, in which case additional electives may be required to complete the minimum hours for the degree.

## College/School Requirements

| Code                                    | Title  | Hours        |
|---|--|--------------|
| <b>Arts &amp; Sciences Requirements</b> |  |              |
| GEN 100                                 | Student Success Center First Year Experience                                       | 1            |
| or GEN 101                              | Arts & Sciences First Year Experience  |              |
|   | Foreign Language <sup>2</sup>  | 6-8          |
|   | Electives in Natural Sciences or Humanities at the 300 level or above <sup>3</sup> | 6            |
|   | WR—two approved courses at the 300 level or above <sup>4</sup>                     |              |
| <b>Minimum Total Hours</b>              |  | <b>13-15</b> |

## Program/Major Requirements

| Code   | Title  | Hours |
|--|--|-------|
| <b>Department of Geography and Geosciences</b> |  |       |
| GEOG 200                                       | Human Geography in a Changing World - D2, SB                           | 3     |
| GEOG 256                                       | Introduction to Quantitative Methods in Geography and Geosciences - QR | 3     |
| GEOG 300                                       | Globalization and Diversity - SB, D2                                   | 3     |

|  |   |           |
|--|---|-----------|
| GEOG 350   | Introduction to Mapping and Geospatial Technologies | 3         |
| GEOG 356   | Introduction to Spatial Statistics                  | 3         |
| GEOG 361   | Sustainable Human Environments - WR <sup>3</sup>    | 3         |
| GEOG 441   | Senior Thesis Proposal - WR <sup>3</sup>            | 3         |
| GEOG 442   | Senior Thesis - WR, CUE <sup>3</sup>                | 3         |
| GEOG 558   | Introduction to Geographic Information Systems      | 3         |
| GEOS 200   | The Global Environment - S                          | 3         |
| Electives in Geography or Geosciences at 300 level or above <sup>5</sup> |   | 6         |
| <b>Minimum Total Hours</b>   |   | <b>36</b> |

| Code   | Title | Hours        |
|--|-------|--------------|
| <b>Track Requirements (see Track Requirements tab)</b> |       | <b>15-27</b> |

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 |
|--|-------|-------|
| <b>Culminating Undergraduate Experience (Graduation requirement)</b> |       |       |

Requirement fulfilled by completing:

|          |                         |
|----------|-------------------------|
| GEOG 442 | Senior Thesis - WR, CUE |
|----------|-------------------------|

- Some credit hours from the General Education Requirements may be satisfied by courses defined by the program, in which case additional electives will be required to complete the minimum hours for the degree.
- Completion of the second semester of a single foreign language; hours will vary depending on the language taken
- Students in the Meteorology track satisfy this requirement by completing the track. Please consult the Track Requirements tab for more information.
- Fulfills WR requirement.
- Students in the Meteorology track satisfy this requirement by completing the track's supporting courses requirements. Please see the Track Requirements tab for more information.

## Track Requirements

### Track in Meteorology

Academic Plan Code(s): GEOGBS\_MET

| Code                    | Title   | Hours |
|-------------------------|---|-------|
| GEOS/PHYS 220           | Introduction to Weather and Climate - S                 | 3     |
| GEOS 305/<br>PHYS 360   | Introduction to Weather Analysis                        | 3     |
| GEOS 363                | Climate Science   | 3     |
| GEOS 366/<br>PHYS 465   | Dynamic Meteorology                                     | 3     |
| GEOS 370<br>or PHYS 361 | Thermodynamic Meteorology<br>Atmospheric Thermodynamics | 3     |
| GEOS 452/<br>PHYS 362   | Physical Meteorology                                    | 3     |
| GEOS 465/<br>PHYS 365   | Mesoscale Meteorology                                   | 3     |
| GEOS/PHYS 469           | Synoptic Meteorology                                    | 3     |

|          |                                |   |
|----------|--------------------------------|---|
| GEOG 355 | Introduction to Remote Sensing | 3 |
|----------|--------------------------------|---|

|                            |  |           |
|----------------------------|--|-----------|
| <b>Minimum Total Hours</b> |  | <b>27</b> |
|----------------------------|--|-----------|

| Code | Title | Hours |
|------|-------|-------|
|------|-------|-------|

#### Supporting Courses for Meteorology

|          |  |   |
|----------|--|---|
| PHYS 295 | Introductory Laboratories I - SL                 | 1 |
| PHYS 298 | Introductory Mechanics, Heat and Sound - S       | 4 |
| PHYS 299 | Introductory Electricity, Magnetism and Light    | 4 |
| PHYS 350 | Differential Equations for the Physical Sciences | 4 |
| MATH 205 | Calculus I - QR                                  | 4 |
| MATH 206 | Calculus II                                      | 4 |

|                                       |  |   |
|---------------------------------------|--|---|
| Select one course from the following: |  | 3 |
|---------------------------------------|--|---|

|          |   |
|----------|---|
| CSE 130  | Introduction to Programming Languages                         |
| GEOG 385 | Introduction to Programming for GIS and Spatial Data Analysis |
| GEOS 564 | Hydrology   |
| CHEM 341 | Organic Chemistry I   |
| CHEM 441 | Elements of Physical Chemistry                                |
| CHEM 465 | Physical Chemistry I  |

|                                   |      |
|-----------------------------------|------|
| Minimum Electives <sup>1, 2</sup> | 0-26 |
|-----------------------------------|------|

|                            |              |
|----------------------------|--------------|
| <b>Minimum Total Hours</b> | <b>24-50</b> |
|----------------------------|--------------|

<sup>1</sup> Students who satisfy General Education Requirements by courses defined by the program will require additional electives to complete the minimum hours for the degree.

<sup>2</sup> Some free electives at the 300+ level may be required to reach a minimum of 50 hours at the 300+ level.

### Track in Environmental Analysis

Academic Plan Code(s): GEOGBS\_ENV

| Code | Title | Hours |
|------|-------|-------|
|------|-------|-------|

#### Environmental Foundation

|          |   |   |
|----------|---|---|
| GEOG 340 | Environmental Conflict in the United States: Historical Foundations & Contemporary Problems - D1, SBH | 3 |
| GEOS 360 | Global Environmental Change   | 3 |

#### Environmental Specialization

|                                |  |   |
|--------------------------------|--|---|
| Select three of the following: |  | 9 |
|--------------------------------|--|---|

|          |  |
|----------|--|
| GEOS 301 | Geology for Scientists and Engineers         |
| GEOS 363 | Climate Science                              |
| GEOS 365 | Biogeography                                 |
| GEOS 367 | Geomorphology                                |
| GEOS 564 | Hydrology                                    |
| GEOS 565 | Natural Hazards                              |
| GEOS 570 | Water Resource Management                    |
| GEOS 571 | GIS and Water Resources                      |
| GEOG 355 | Introduction to Remote Sensing               |
| GEOG 540 | Geography and Human-Environment Interactions |

|                            |           |
|----------------------------|-----------|
| <b>Minimum Total Hours</b> | <b>15</b> |
|----------------------------|-----------|

| Code  | Title | Hours |
|---|-------|-------|
| <b>Supporting Courses for Environmental Analysis</b>                          |       |       |
| Electives in Social Sciences, other than Geography, at the 300 level or above |       | 6     |

### Track in Geospatial Technologies

Academic Plan Code(s): GEOGBS\_GST

| Code  | Title   | Hours     |
|---|---|-----------|
| <b>Geospatial Technologies Foundation</b>     |   |           |
| GEOG 355                                      | Introduction to Remote Sensing                                | 3         |
| GEOG 385                                      | Introduction to Programming for GIS and Spatial Data Analysis | 3         |
| <b>Geospatial Technologies Specialization</b> |   |           |
| Select three of the following:                |   | 9         |
| GEOG 522                                      | GIS and Public Health   |           |
| GEOG 530                                      | Transportation Geography                                      |           |
| GEOG 531                                      | GIS & Urban Demographic Analysis                              |           |
| GEOG 556                                      | Advanced Remote Sensing                                       |           |
| GEOG 559                                      | Advanced Geographic Information Systems                       |           |
| GEOG 583                                      | Spatial and Non-Spatial Database Management                   |           |
| GEOG 571                                      | GIS and Water Resources                                       |           |
| <b>Minimum Total Hours</b>                    |   | <b>15</b> |

| Code  | Title | Hours |
|---|-------|-------|
| <b>Supporting Courses for Geospatial Technologies</b>                         |       |       |
| Electives in Social Sciences, other than Geography, at the 300 level or above |       | 6     |

### Track in Human and Cultural Dynamics

Academic Plan Code(s): GEOGBS\_HCD

| Code  | Title  | Hours     |
|---|--|-----------|
| <b>Human and Cultural Dynamics Foundation</b>     |  |           |
| GEOG 320  | Geopolitics                                    | 3         |
| GEOG 331  | Population Geography                           | 3         |
| <b>Human and Cultural Dynamics Specialization</b> |  |           |
| Select three of the following:                    |  | 9         |
| GEOG 324  | Race and Place                                 |           |
| GEOG 500  | Globalization Seminar                          |           |
| GEOG 510  | Urbanism in the Global South: Cities and Space |           |
| GEOG 521  | Medical Geography                              |           |
| GEOG 524  | Food and Race                                  |           |
| GEOG 540  | Geography and Human-Environment Interactions   |           |
| <b>Minimum Total Hours</b>                        |  | <b>15</b> |

| Code  | Title | Hours |
|---|-------|-------|
| <b>Supporting Courses in Human and Cultural Dynamics</b>                      |       |       |
| Electives in Social Sciences, other than Geography, at the 300 level or above |       | 6     |

### Track in Urban Analysis

Academic Plan Code(s): GEOGBS\_URA

| Code                                 | Title  | Hours |
|--------------------------------------|--|-------|
| <b>Urban Analysis Foundation</b>     |  |       |
| GEOG 327                             | Economic Geography                             | 3     |
| GEOG 328                             | Urban Geography                                | 3     |
| <b>Urban Analysis Specialization</b> |  |       |
| Select three of the following:       |  | 9     |
| GEOG 331                             | Population Geography                           |       |
| GEOG 510                             | Urbanism in the Global South: Cities and Space |       |
| GEOG 529                             | Geography of Urban Issues                      |       |
| GEOG 530                             | Transportation Geography                       |       |
| GEOG 531                             | GIS & Urban Demographic Analysis               |       |
| GEOG 535                             | GIS and Retail Site Analysis                   |       |
| GEOG 536                             | Sustainable Transportation                     |       |

**Minimum Total Hours 15**

| Code  | Title | Hours |
|---|-------|-------|
| <b>Supporting Courses in Urban Analysis</b>                                   |       |       |
| Electives in Social Sciences, other than Geography, at the 300 level or above |       | 6     |

### Flight Plan

#### Track in Environmental Analysis

Academic Plan Code(s): GEOGBS\_ENV

| Course   | Title  | Hours        |
|--|--|--------------|
| <b>Year 1</b>  |  |              |
| <b>Fall</b>  |  |              |
| GEN 100<br>or GEN 101  | Student Success Center First Year Experience<br>or Arts & Sciences First Year Experience | 1            |
| ENGL 101   | Introduction to College Writing - WC   | 3            |
| Foreign Language 1   |  | 3-4          |
| General Education: Cardinal Core Social & Behavioral Sciences Historical Perspective - SBH |  | 3            |
| GEOS 200   | The Global Environment - S   | 3            |
| <b>Hours</b>   |  | <b>13-14</b> |
| <b>Spring</b>  |  |              |
| ENGL 102   | Intermediate College Writing - WC  | 3            |
| General Education: Cardinal Core Arts & Humanities   |  | 3            |
| General Education: Cardinal Core Quantitative Reasoning - QR                               |  |              |
| Foreign Language 2   |  | 3-4          |
| GEOG 200   | Human Geography in a Changing World - D2, SB   | 3            |
| General Elective   |  | 3            |
| <b>Hours</b>   |  | <b>15-16</b> |
| <b>Year 2</b>  |  |              |
| <b>Fall</b>  |  |              |
| General Education: Cardinal Core Oral Communication - OC                                   |  | 3            |
| GEOG 256   | Introduction to Quantitative Methods in Geography and Geosciences - QR                   | 3            |
| GEOG 300   | Globalization and Diversity - SB, D2   | 3            |
| GEOG 350   | Introduction to Mapping and Geospatial Technologies                                      | 3            |
| General Elective   |  | 3            |
| <b>Hours</b>   |  | <b>15</b>    |
| <b>Spring</b>  |  |              |
| General Education: Cardinal Core Arts & Humanities US Diversity - AHD1                     |  | 3            |

|              |   |           |
|--------------|---|-----------|
| GEOG 356     | Introduction to Spatial Statistics  | 3         |
| GEOG 558     | Introduction to Geographic Information Systems  | 3         |
| GEOG 340     | Environmental Conflict in the United States: Historical Foundations & Contemporary Problems - D1, SBH | 3         |
| GEOS 360     | Global Environmental Change   | 3         |
| <b>Hours</b> |   | <b>15</b> |

**Year 3**

|  |                                     |           |
|--|-------------------------------------|-----------|
| <b>Fall</b>  |                                     |           |
| GEOG 361   | Sustainable Human Environments - WR | 3         |
| General Education: Cardinal Core Natural Sciences with Lab - B |                                     | 4         |
| Humanities/Natural Science Elective (300 level or above)       |                                     | 3         |
| Social Science Elective (300 level or above)                   |                                     | 3         |
| Environmental Analysis Track Course                            |                                     | 3         |
| General Elective   |                                     | 2         |
| <b>Hours</b>   |                                     | <b>18</b> |

**Spring**

|   |  |           |
|---|--|-----------|
| Environmental Analysis Track Course                         |  | 3         |
| Environmental Analysis Track Course                         |  | 3         |
| Geography/Geosciences Elective (300 level or above)         |  | 3         |
| Humanities or Natural Science Elective (300 level or above) |  | 3         |
| General Elective  |  | 3         |
| <b>Hours</b>  |  | <b>15</b> |

**Year 4**

|   |                             |           |
|---|-----------------------------|-----------|
| <b>Fall</b>   |                             |           |
| Geography/Geosciences Elective (300 level or above) |                             | 3         |
| GEOG 441  | Senior Thesis Proposal - WR | 3         |
| General Elective                                    |                             | 3         |
| General Elective                                    |                             | 3         |
| General Elective                                    |                             | 3         |
| <b>Hours</b>  |                             | <b>15</b> |

**Spring**

|  |                         |           |
|--|-------------------------|-----------|
| Social Science Elective (300 level or above) |                         | 3         |
| GEOG 442                                     | Senior Thesis - WR, CUE | 3         |
| General Elective                             |                         | 3         |
| General Elective                             |                         | 3         |
| General Elective (if needed)                 |                         | 3         |
| <b>Hours</b>                                 |                         | <b>15</b> |

**Minimum Total Hours 121-123**

**Track in Geospatial Technologies**

Academic Plan Code(s): GEOGBS GST

| Course   | Title   | Hours        |
|--|---|--------------|
| <b>Year 1</b>  |   |              |
| <b>Fall</b>  |   |              |
| GEN 100 or GEN 101   | Student Success Center First Year Experience or Arts & Sciences First Year Experience | 1            |
| ENGL 101   | Introduction to College Writing - WC  | 3            |
| GEOS 200   | The Global Environment - S  | 3            |
| Foreign Language 1   |   | 3-4          |
| General Education: Cardinal Core Social & Behavioral Sciences Historical Perspective - SBH |   | 3            |
| <b>Hours</b>   |   | <b>13-14</b> |
| <b>Spring</b>  |   |              |
| ENGL 102   | Intermediate College Writing - WC   | 3            |
| General Education: Cardinal Core Arts & Humanities - AH                                    |   | 3            |
| General Education: Cardinal Core Quantitative Reasoning - QR                               |   | 3            |
| Foreign Language 2   |   | 3-4          |
| GEOG 200   | Human Geography in a Changing World - D2, SB  | 3            |
| <b>Hours</b>   |   | <b>15-16</b> |

**Year 2**

|  |  |           |
|--|--|-----------|
| <b>Fall</b>  |  |           |
| General Education: Cardinal Core Oral Communication - OC |  | 3         |
| GEOG 256   | Introduction to Quantitative Methods in Geography and Geosciences - QR | 3         |
| GEOG 300   | Globalization and Diversity - SB, D2                                   | 3         |
| GEOG 350   | Introduction to Mapping and Geospatial Technologies                    | 3         |
| GEOG 355   | Introduction to Remote Sensing   | 3         |
| <b>Hours</b>   |  | <b>15</b> |

**Spring**

|   |  |           |
|---|--|-----------|
| Humanities or Natural Science Elective (300 level or above) |  | 3         |
| GEOG 356  | Introduction to Spatial Statistics             | 3         |
| GEOG 558  | Introduction to Geographic Information Systems | 3         |
| General Elective  |  | 3         |
| <b>Hours</b>  |  | <b>12</b> |

**Year 3**

|  |                                     |           |
|--|-------------------------------------|-----------|
| <b>Fall</b>  |                                     |           |
| General Education: Cardinal Core Arts & Humanities US Diversity - AHD1 |                                     | 3         |
| General Education: Cardinal Core Natural Sciences with Lab - B         |                                     | 4         |
| GEOG 361   | Sustainable Human Environments - WR | 3         |
| Geospatial Technologies Track Course                                   |                                     | 3         |
| General Elective   |                                     | 3         |
| General Elective   |                                     | 1         |
| <b>Hours</b>   |                                     | <b>17</b> |

**Spring**

|   |   |           |
|---|---|-----------|
| Humanities or Natural Science Elective (300 level or above) |   | 3         |
| Geospatial Technologies Track Course                        |   | 3         |
| Geospatial Technologies Track Course                        |   | 3         |
| GEOG 385  | Introduction to Programming for GIS and Spatial Data Analysis | 3         |
| Geography/Geosciences Elective (300 level or above)         |   | 3         |
| <b>Hours</b>  |   | <b>15</b> |

**Year 4**

|   |                             |           |
|---|-----------------------------|-----------|
| <b>Fall</b>   |                             |           |
| GEOG 441  | Senior Thesis Proposal - WR | 3         |
| Geography/Geosciences Elective (300 level or above) |                             | 3         |
| Social Science Elective (300 level or above)        |                             | 3         |
| General Elective                                    |                             | 3         |
| General Elective                                    |                             | 3         |
| <b>Hours</b>  |                             | <b>15</b> |

**Spring**

|  |                         |                |
|--|-------------------------|----------------|
| GEOG 442                                     | Senior Thesis - WR, CUE | 3              |
| Social Science Elective (300 level or above) |                         | 3              |
| General Elective                             |                         | 3              |
| General Elective                             |                         | 3              |
| General Elective                             |                         | 4              |
| <b>Hours</b>                                 |                         | <b>16</b>      |
| <b>Minimum Total Hours</b>                   |                         | <b>118-120</b> |

**Track in Human and Cultural Dynamics**

Academic Plan Code(s): GEOGBS HCD

| Course   | Title   | Hours |
|--|---|-------|
| <b>Year 1</b>  |   |       |
| <b>Fall</b>  |   |       |
| GEN 100 or GEN 101   | Student Success Center First Year Experience or Arts & Sciences First Year Experience | 1     |
| ENGL 101   | Introduction to College Writing - WC  | 3     |
| General Education: Cardinal Core Social & Behavioral Sciences Historical Perspective - SBH |   | 3     |
| Foreign Language 1   |   | 3-4   |

|  |  |                |
|--|--|----------------|
| GEOS 200   | The Global Environment - S   | 3              |
| <b>Hours</b>   |  | <b>13-14</b>   |
| <b>Spring</b>  |  |                |
| ENGL 102   | Intermediate College Writing - WC                                      | 3              |
| General Education: Cardinal Core Arts & Humanities - AH                |  | 3              |
| General Education: Cardinal Core Quantitative Reasoning - QR           |  | 3              |
| Foreign Language 2   |  | 3-4            |
| GEOS 200   | Human Geography in a Changing World - D2, SB                           | 3              |
| <b>Hours</b>   |  | <b>15-16</b>   |
| <b>Year 2</b>  |  |                |
| <b>Fall</b>  |  |                |
| Humanities/Natural Science Elective (300 level or above)               |  | 3              |
| General Education: Cardinal Core Oral Communication - OC               |  | 3              |
| GEOS 256   | Introduction to Quantitative Methods in Geography and Geosciences - QR | 3              |
| GEOS 300   | Globalization and Diversity - SB, D2                                   | 3              |
| GEOS 350   | Introduction to Mapping and Geospatial Technologies                    | 3              |
| <b>Hours</b>   |  | <b>15</b>      |
| <b>Spring</b>  |  |                |
| GEOS 331   | Population Geography   | 3              |
| GEOS 356   | Introduction to Spatial Statistics                                     | 3              |
| GEOS 558   | Introduction to Geographic Information Systems                         | 3              |
| General Education: Cardinal Core Arts & Humanities US Diversity - AHD1 |  | 3              |
| General Elective   |  | 3              |
| <b>Hours</b>   |  | <b>15</b>      |
| <b>Year 3</b>  |  |                |
| <b>Fall</b>  |  |                |
| GEOS 320   | Geopolitics  | 3              |
| GEOS 361   | Sustainable Human Environments - WR                                    | 3              |
| General Education: Cardinal Core Natural Sciences with Lab - B         |  | 4              |
| Human & Cultural Dynamics Track Course                                 |  | 3              |
| Social Science Elective (300 level or above)                           |  | 3              |
| General Elective   |  | 1              |
| <b>Hours</b>   |  | <b>17</b>      |
| <b>Spring</b>  |  |                |
| Humanities/Natural Science Elective (300 level or above)               |  | 3              |
| Human & Cultural Dynamics Track Course                                 |  | 3              |
| General Elective   |  | 3              |
| Human & Cultural Dynamics Track Course                                 |  | 3              |
| Geography/Geosciences Elective (300 level or above)                    |  | 3              |
| <b>Hours</b>   |  | <b>15</b>      |
| <b>Year 4</b>  |  |                |
| <b>Fall</b>  |  |                |
| Social Science Elective (300 level or above)                           |  | 3              |
| GEOS 441   | Senior Thesis Proposal - WR  | 3              |
| Geography/Geosciences Elective (300 level or above)                    |  | 3              |
| General Elective   |  | 3              |
| General Elective   |  | 3              |
| <b>Hours</b>   |  | <b>15</b>      |
| <b>Spring</b>  |  |                |
| GEOS 442   | Senior Thesis - WR, CUE  | 3              |
| General Elective   |  | 3              |
| General Elective   |  | 3              |
| General Elective   |  | 3              |
| General Elective (if needed)   |  | 4              |
| <b>Hours</b>   |  | <b>16</b>      |
| <b>Minimum Total Hours</b>   |  | <b>121-123</b> |

## Track in Meteorology

Academic Plan Code(s): GEOGBS MET

| Course   | Title  | Hours        |
|--|--|--------------|
| <b>Year 1</b>  |  |              |
| <b>Fall</b>  |  |              |
| GEN 100<br>or GEN 101  | Student Success Center First Year Experience<br>or Arts & Sciences First Year Experience | 1            |
| GEOS 200   | The Global Environment - S   | 3            |
| ENGL 101   | Introduction to College Writing - WC   | 3            |
| GEOS 220<br>or PHYS 220  | Introduction to Weather and Climate - S<br>or Introduction to Weather and Climate - S    | 3            |
| MATH 205   | Calculus I - QR  | 4            |
| <b>Hours</b>   |  | <b>14</b>    |
| <b>Spring</b>  |  |              |
| ENGL 102   | Intermediate College Writing - WC  | 3            |
| GEOS 200   | Human Geography in a Changing World - D2, SB   | 3            |
| GEOS 363   | Climate Science  | 3            |
| MATH 206   | Calculus II  | 4            |
| General Education: Cardinal Core Arts & Humanities - AH                                    |  | 3            |
| <b>Hours</b>   |  | <b>16</b>    |
| <b>Year 2</b>  |  |              |
| <b>Fall</b>  |  |              |
| GEOS 256   | Introduction to Quantitative Methods in Geography and Geosciences - QR                   | 3            |
| Foreign Language   |  | 3-4          |
| GEOS 305   | Introduction to Weather Analysis   | 3            |
| PHYS 295   | Introductory Laboratories I - SL   | 1            |
| PHYS 298   | Introductory Mechanics, Heat and Sound - S   | 4            |
| <b>Hours</b>   |  | <b>14-15</b> |
| <b>Spring</b>  |  |              |
| GEOS 558   | Introduction to Geographic Information Systems   | 3            |
| GEOS 370   | Thermodynamic Meteorology  | 3            |
| PHYS 299   | Introductory Electricity, Magnetism and Light  | 4            |
| General Education: Cardinal Core Social & Behavioral Sciences Historical Perspective - SBH |  | 3            |
| Foreign Language   |  | 3-4          |
| <b>Hours</b>   |  | <b>16-17</b> |
| <b>Year 3</b>  |  |              |
| <b>Fall</b>  |  |              |
| GEOS 300   | Globalization and Diversity - SB, D2   | 3            |
| GEOS 350   | Introduction to Mapping and Geospatial Technologies                                      | 3            |
| GEOS 355   | Introduction to Remote Sensing   | 3            |
| GEOS 366   | Dynamic Meteorology  | 3            |
| General Education: Cardinal Core Oral Communication - OC                                   |  | 3            |
| <b>Hours</b>   |  | <b>15</b>    |
| <b>Spring</b>  |  |              |
| GEOS 356   | Introduction to Spatial Statistics   | 3            |
| GEOS 465   | Mesoscale Meteorology  | 3            |
| General Education: Cardinal Core Arts & Humanities US Diversity - AHD1                     |  | 3            |
| Humanities/Natural Science Elective (300 level or above)                                   |  | 3            |
| Social Science Elective, other than Geography (300 level or above) Course                  |  | 3            |
| <b>Hours</b>   |  | <b>15</b>    |
| <b>Year 4</b>  |  |              |
| <b>Fall</b>  |  |              |
| PHYS 350   | Differential Equations for the Physical Sciences   | 4            |
| GEOS 361   | Sustainable Human Environments - WR  | 3            |
| GEOS 441   | Senior Thesis Proposal - WR  | 3            |
| GEOS 452   | Physical Meteorology   | 3            |
| Social Science Elective, other than Geography (300 level or above)                         |  | 3            |
| <b>Hours</b>   |  | <b>16</b>    |
| <b>Spring</b>  |  |              |
| GEOS 442   | Senior Thesis - WR, CUE  | 3            |
| GEOS 469   | Synoptic Meteorology   | 3            |
| Humanities/Natural Science Elective (300 level or above)                                   |  | 3            |

|  |                |
|--|----------------|
| Humanities/Natural Science Elective (300 level or above) | 3              |
| General Elective   | 3              |
| <b>Hours</b>   | <b>15</b>      |
| <b>Minimum Total Hours</b>                               | <b>121-123</b> |

## Track in Urban Analysis

Academic Plan Code(s): GEOGBS URA

| Course   | Title  | Hours        |
|--|--|--------------|
| <b>Year 1</b>  |  |              |
| <b>Fall</b>  |  |              |
| GEN 100<br>or GEN 101  | Student Success Center First Year Experience<br>or Arts & Sciences First Year Experience | 1            |
| ENGL 101   | Introduction to College Writing - WC   | 3            |
| Foreign Language 1   |  | 3-4          |
| General Education: Cardinal Core Social & Behavioral Sciences Historical Perspective - SBH |  | 3            |
| GEOS 200   | The Global Environment - S   | 3            |
| <b>Hours</b>   |  | <b>13-14</b> |
| <b>Spring</b>  |  |              |
| ENGL 102   | Intermediate College Writing - WC  | 3            |
| General Education: Cardinal Core Arts & Humanities - AH                                    |  | 3            |
| General Education: Cardinal Core Quantitative Reasoning - QR                               |  | 3            |
| Foreign Language 2   |  | 3-4          |
| GEOG 200   | Human Geography in a Changing World - D2, SB   | 3            |
| <b>Hours</b>   |  | <b>15-16</b> |
| <b>Year 2</b>  |  |              |
| <b>Fall</b>  |  |              |
| General Education: Cardinal Core Oral Communication - OC                                   |  | 3            |
| GEOG 256   | Introduction to Quantitative Methods in Geography and Geosciences - QR                   | 3            |
| GEOG 300   | Globalization and Diversity - SB, D2   | 3            |
| GEOG 327   | Economic Geography   | 3            |
| GEOG 350   | Introduction to Mapping and Geospatial Technologies                                      | 3            |
| <b>Hours</b>   |  | <b>15</b>    |
| <b>Spring</b>  |  |              |
| General Education: Cardinal Core Arts & Humanities Global Diversity - AHD1                 |  | 3            |
| GEOG 356   | Introduction to Spatial Statistics   | 3            |
| GEOG 558   | Introduction to Geographic Information Systems   | 3            |
| Humanities or Natural Science Elective (300 level or above)                                |  | 3            |
| General Elective   |  | 3            |
| <b>Hours</b>   |  | <b>15</b>    |
| <b>Year 3</b>  |  |              |
| <b>Fall</b>  |  |              |
| General Education: Cardinal Core Natural Sciences with Lab - B                             |  | 4            |
| GEOG 361   | Sustainable Human Environments - WR  | 3            |
| GEOG 328   | Urban Geography  | 3            |
| Urban Analysis Track Course  |  | 3            |
| General Elective   |  | 1            |
| General Elective   |  | 3            |
| <b>Hours</b>   |  | <b>17</b>    |
| <b>Spring</b>  |  |              |
| Humanities or Natural Science Elective (300 level or above)                                |  | 3            |
| Urban Analysis Track Course  |  | 3            |
| Urban Analysis Track Course  |  | 3            |
| Geography/Geosciences Elective (300 level or above)  |  | 3            |
| General Elective   |  | 3            |
| <b>Hours</b>   |  | <b>15</b>    |
| <b>Year 4</b>  |  |              |
| <b>Fall</b>  |  |              |
| GEOG 441   | Senior Thesis Proposal - WR  | 3            |

|   |           |
|---|-----------|
| Geography/Geosciences Elective (300 level or above) | 3         |
| Social Science Elective (300 level or above)        | 3         |
| General Elective                                    | 3         |
| General Elective                                    | 3         |
| <b>Hours</b>  | <b>15</b> |

### Spring

|  |                         |                |
|--|-------------------------|----------------|
| GEOG 442                                     | Senior Thesis - WR, CUE | 3              |
| Social Science Elective (300 level or above) |                         | 3              |
| General Elective                             |                         | 3              |
| General Elective                             |                         | 3              |
| General Elective                             |                         | 4              |
| <b>Hours</b>                                 |                         | <b>16</b>      |
| <b>Minimum Total Hours</b>                   |                         | <b>121-123</b> |

### 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 Academic Progress tile.
3. Next, click on "View my Degree Audit" 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."

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.