Earth System Sciences, B.S. - Atmospheric Science/Meteorology Concentration

Earth System Science, Atmospheric Science/Meteorology Concentration, BS Requirements:

- All students are encouraged to see an advisor after completion of 24 credits.

- Earth System Science, concentration in Atmospheric Science/Meteorology, BS degree requires 128 credit hours.

- 39 of 128 credit hours must be taken at 300 level or higher (39 credits includes courses taken at the 300+ level in major, minor (if chosen), Pre professional area and electives).

- 12 credit hours of 300 level and above must be taken in the major or 6 credit hours in the major and 6 credit hours in the minor (if chosen).

- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.

- Unless otherwise noted a C- or better is required for all College of Science prerequisite courses.

- No more than 64 credit hours from a two-year college can be applied toward a UAH degree.

- For graduation application instructions, see here (http://catalog.uah.edu/undergrad/policies-procedures/application-graduation/).

Degree Requirements

Charger Foundations Requirements

*Please see Area V for CoS requirements that can also be used to fulfill Charger Foundations Requirements.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EH 101</td>
<td>COLLEGE WRITING I</td>
</tr>
<tr>
<td>or EH 101S</td>
<td>COLLEGE WRITING I W/STUDIO</td>
</tr>
<tr>
<td>EH 102</td>
<td>COLLEGE WRITING II</td>
</tr>
<tr>
<td>EH 103</td>
<td>ACCELERATED COLLEGE WRITING</td>
</tr>
<tr>
<td>EH 105</td>
<td>HONORS ENGLISH SEMINAR</td>
</tr>
</tbody>
</table>

Area I: Freshman Composition

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARH 100</td>
<td>ARH SURV:ANCIENT-MEDIEVAL</td>
</tr>
<tr>
<td>ARH 101</td>
<td>ARH SURV:RENAISSANCE-MODERN</td>
</tr>
<tr>
<td>ARH 103</td>
<td>ARH SUR:NON-WESTERN TRADITIONS</td>
</tr>
<tr>
<td>ARS 160</td>
<td>DRAWING: FOUNDATIONS</td>
</tr>
<tr>
<td>TH 122</td>
<td>THEATRE APPRECIATION</td>
</tr>
<tr>
<td>TH 123</td>
<td>INTRO TO FILM STUDIES</td>
</tr>
<tr>
<td>MU 100</td>
<td>INTRO TO MUSIC LITERATURE</td>
</tr>
</tbody>
</table>

Area II: Humanities and Fine Arts*

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EH 207</td>
<td>READINGS LITERATURE/CULTURE I</td>
</tr>
<tr>
<td>EH 208</td>
<td>READINGS LITERATURE/CULTURE 2</td>
</tr>
<tr>
<td>EH 209</td>
<td>HONORS SEM READINGS LIT/CUL I</td>
</tr>
<tr>
<td>EH 210</td>
<td>HONORS SEM READINGS LIT/CUL 2</td>
</tr>
<tr>
<td>EH 242</td>
<td>MYTHOLOGY</td>
</tr>
</tbody>
</table>

Literature

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CM 113</td>
<td>Intro to Rhetorical Communication</td>
</tr>
<tr>
<td>WLC 101S</td>
<td>INTRO FOREIGN LANG I: SPANISH</td>
</tr>
<tr>
<td>or WLC 101A</td>
<td>INTRO FOREIGN LANG I: ARABIC</td>
</tr>
<tr>
<td>or WLC 101F</td>
<td>INTRO FOREIGN LANG I: FRENCH</td>
</tr>
<tr>
<td>or WLC 101G</td>
<td>INTRO FOREIGN LANG I: GERMAN</td>
</tr>
<tr>
<td>or WLC 101J</td>
<td>INTRO FOREIGN LANG I: JAPANESE</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
</tr>
<tr>
<td>-------------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td>WLC 101R</td>
<td>INTRO FOREIGN LANG I: RUSSIAN</td>
</tr>
<tr>
<td>WLC 102S</td>
<td>INTRO FOREIGN LANG II: SPANISH</td>
</tr>
<tr>
<td>or WLC 102A</td>
<td>INTRO FOREIGN LANG II: ARABIC</td>
</tr>
<tr>
<td>or WLC 102F</td>
<td>INTRO FOREIGN LANG II: FRENCH</td>
</tr>
<tr>
<td>or WLC 102G</td>
<td>INTRO FOREIGN LANG II: GERMAN</td>
</tr>
<tr>
<td>or WLC 102J</td>
<td>INTRO FOREIGN LANG II: JAPANESE</td>
</tr>
<tr>
<td>or WLC 102R</td>
<td>INTRO FOREIGN LANG II: RUSSIAN</td>
</tr>
<tr>
<td>WLC 201S</td>
<td>INTERM FOREIGN LANG: SPANISH</td>
</tr>
<tr>
<td>or WLC 201A</td>
<td>INTERM FOREIGN LANG I: ARABIC</td>
</tr>
<tr>
<td>or WLC 201F</td>
<td>INTERM FOREIGN LANG: FRENCH</td>
</tr>
<tr>
<td>or WLC 201G</td>
<td>INTERM FOREIGN LANG: GERMAN</td>
</tr>
<tr>
<td>or WLC 201J</td>
<td>INTERM FOREIGN LANG: JAPANESE</td>
</tr>
<tr>
<td>or WLC 201R</td>
<td>INTERM FOREIGN LANG: RUSSIAN</td>
</tr>
<tr>
<td>WLC 202S</td>
<td>INTERM FOREIGN LANG II: SPANISH</td>
</tr>
<tr>
<td>or WLC 202A</td>
<td>INTERM FOREIGN LANG II: ARABIC</td>
</tr>
<tr>
<td>or WLC 202F</td>
<td>INTERM FOREIGN LANG II: FRENCH</td>
</tr>
<tr>
<td>or WLC 202G</td>
<td>INTERM FOREIGN LANG II: GERMAN</td>
</tr>
<tr>
<td>or WLC 202J</td>
<td>INTERM FORGN LANG II: JAPANESE</td>
</tr>
<tr>
<td>or WLC 202R</td>
<td>INTERM FOREIGN LANG II: RUSSIAN</td>
</tr>
<tr>
<td>WLC 204</td>
<td>INTERNATIONAL CINEMA</td>
</tr>
<tr>
<td>PHL 101</td>
<td>INTRODUCTION TO PHILOSOPHY</td>
</tr>
<tr>
<td>PHL 102</td>
<td>INTRO TO ETHICS</td>
</tr>
<tr>
<td>PHL 103</td>
<td>INTRODUCTION TO LOGIC</td>
</tr>
<tr>
<td>PHL 150</td>
<td>TECH, SCIENCE &amp; HUMAN VALUES</td>
</tr>
<tr>
<td>WGS 200</td>
<td>INTRO WOMENS &amp; GENDER STUDIES</td>
</tr>
<tr>
<td>AMS 229</td>
<td>ANCIENT &amp; MEDIEVAL WORLDS</td>
</tr>
<tr>
<td>ARH 100</td>
<td>ARH SURV: ANCIENT-MEDIEVAL</td>
</tr>
<tr>
<td>ARH 101</td>
<td>ARH SURV: RENAISSANCE-MODERN</td>
</tr>
<tr>
<td>ARH 103</td>
<td>ARH SURV: NON-WESTERN TRADITIONS</td>
</tr>
<tr>
<td>ARS 160</td>
<td>DRAWING: FOUNDATIONS</td>
</tr>
<tr>
<td>Th 122</td>
<td>THEATRE APPRECIATION</td>
</tr>
<tr>
<td>Th 123</td>
<td>INTRO TO FILM STUDIES</td>
</tr>
<tr>
<td>MU 100</td>
<td>INTRO TO MUSIC LITERATURE</td>
</tr>
<tr>
<td>Area III: Mathematics and Sciences</td>
<td>11-12</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3-4</td>
</tr>
<tr>
<td>MA 105</td>
<td>NATURE OF MATHEMATICS</td>
</tr>
<tr>
<td>MA 107</td>
<td>ALGEBRA WITH APPLICATIONS</td>
</tr>
<tr>
<td>MA 110</td>
<td>FINITE MATHEMATICS</td>
</tr>
<tr>
<td>MA 112</td>
<td>PRECALCULUS ALGEBRA</td>
</tr>
<tr>
<td>MA 113</td>
<td>PRECALCULUS TRIGONOMETRY</td>
</tr>
<tr>
<td>MA 115</td>
<td>PRECALCULUS ALGEBRA &amp; TRIG</td>
</tr>
<tr>
<td>MA 120</td>
<td>MATH PROFESSIONAL APPLICATIONS</td>
</tr>
<tr>
<td>MA 171</td>
<td>CALCULUS A</td>
</tr>
<tr>
<td>Natural Sciences (Lab)</td>
<td>8</td>
</tr>
<tr>
<td>AST 100</td>
<td>SURVEY OF ASTRONOMY</td>
</tr>
<tr>
<td>AST 106</td>
<td>EXPLORING THE COSMOS I</td>
</tr>
<tr>
<td>AST 107</td>
<td>EXPLORING THE COSMOS II</td>
</tr>
<tr>
<td>BYS 109</td>
<td>FUNDAMENTALS OF BIOLOGY</td>
</tr>
<tr>
<td>BYS 119</td>
<td>PRINCIPLES OF BIOLOGY</td>
</tr>
<tr>
<td>BYS 120</td>
<td>ORGANISMAL BIOLOGY</td>
</tr>
<tr>
<td>BYS 215</td>
<td>HUMAN ANATOMY &amp; PHYSIOLOGY I</td>
</tr>
</tbody>
</table>
CH 101 & CH 105
INTRO TO CHEMISTRY
and INTRO CHEMISTRY LAB

CH 121 & CH 125
GENERAL CHEMISTRY I
and GENERAL CHEMISTRY LAB I

CH 123 & CH 126
GENERAL CHEMISTRY II
and GENERAL CHEMISTRY LAB II

CH 151 & CH 105
GENERAL, ORGANIC, BIOCHEMISTRY
and INTRO CHEMISTRY LAB

ESS 103
ENVIRONMENTAL EARTH SCIENCE

ESS 111
WEATHER, CLIMATE & GLOBAL CHNG

PH 100
CONCEPTUAL PHYSICS

PH 101
GENERAL PHYSICS I

PH 102
GENERAL PHYSICS II

PH 111 & PH 114
GEN PHYSICS W/CALCULUS I
and GENERAL PHYSICS LAB I

PH 112 & PH 115
GEN PHYSICS W/CALC II
and GENERAL PHYSICS LAB II

PH 113 & PH 116
GEN PHYSICS W/CALC III
and GENERAL PHYSICS LAB III

Area IV: History and Social and Behavioral Sciences*

History

3-6

HY 103
WORLD HISTORY TO 1500

HY 104
WORLD HISTORY SINCE 1500

HY 221
UNITED STATES TO 1877

HY 222
UNITED STATES SINCE 1877

Social and Behavioral Sciences

6-9

ECN 142
PRINC OF MACROECONOMICS

ECN 143
PRINC OF MICROECONOMICS

GS 200
GLOBAL SYSTEMS AND CULTURES

ESS 105
WORLD REGIONAL GEOGRAPHY

ESS 110
PRINCIPLES OF HUMAN GEOGRAPHY

PSC 101
INTRO TO AMERICAN GOVERNMENT

PSC 102
INTRO TO COMPARATIVE POLITICS

PSC 260
INTRODUCTION TO INTERNATIONAL RELATIONS

PY 101
GENERAL PSYCHOLOGY I

PY 201
LIFE-SPAN DEVELOPMENT

SOC 100
INTRO TO SOCIOLOGY

SOC 102
ANALYSIS OF SOCIAL PROBLEMS

SOC 103
INTRO TO CRIMINOLOGY

SOC 105
INTRO CULTURAL ANTHROPOLOGY

* Take either 1 EH (Area II) + 2 HY (Area IV) OR 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.

Area V: Pre Professional Requirements

Code  Title

Communications

CM 113  Intro to Rhetorical Communication

Mathematics

MA 171  CALCULUS A

MA 172  CALCULUS B

MA 201  CALCULUS C

Courses in this area may also be used to fulfill Charger Foundations requirements
Earth System Sciences, B.S. - Atmospheric Science/Meteorology Concentration

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA 238</td>
<td>APPL DIFFERENTIAL EQUATIONS</td>
<td>5</td>
</tr>
<tr>
<td>MA 385</td>
<td>INTRO TO PROBABILITY &amp; STATIST</td>
<td>5</td>
</tr>
<tr>
<td><strong>Chemistry</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CH 121</td>
<td>GENERAL CHEMISTRY I</td>
<td></td>
</tr>
<tr>
<td>&amp; CH 125</td>
<td>and GENERAL CHEMISTRY LAB I</td>
<td>5</td>
</tr>
<tr>
<td><strong>Physics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PH 111</td>
<td>GEN PHYSICS W/CALCULUS I</td>
<td></td>
</tr>
<tr>
<td>&amp; PH 114</td>
<td>and GENERAL PHYSICS LAB I</td>
<td>5</td>
</tr>
<tr>
<td>PH 112</td>
<td>GEN PHYSICS W/CALC II</td>
<td></td>
</tr>
<tr>
<td>&amp; PH 115</td>
<td>and GENERAL PHYSICS LAB II</td>
<td>5</td>
</tr>
<tr>
<td><strong>Computer Science choose one:</strong></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>CS 102</td>
<td>INTRO TO C PROGRAMMING</td>
<td></td>
</tr>
<tr>
<td>or CS 103</td>
<td>INTRO PROGRAMMING USING JAVA</td>
<td></td>
</tr>
<tr>
<td>or CS 104</td>
<td>INTRO TO CS USING PYTHON</td>
<td></td>
</tr>
<tr>
<td>*CS 104 strongly recommended</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Technical Writing</strong></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>EH 301</td>
<td>TECHNICAL WRITING</td>
<td></td>
</tr>
</tbody>
</table>

Major Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESS 103</td>
<td>ENVIRONMENTAL EARTH SCIENCE</td>
<td></td>
</tr>
<tr>
<td>&amp; 103L</td>
<td>and LABORATORY</td>
<td></td>
</tr>
<tr>
<td>ESS 111</td>
<td>WEATHER, CLIMATE &amp; GLOBAL CHNG</td>
<td></td>
</tr>
<tr>
<td>&amp; 111L</td>
<td>and LABORATORY</td>
<td></td>
</tr>
<tr>
<td>ESS 209</td>
<td>DATA ANALYSIS TOOLS</td>
<td></td>
</tr>
<tr>
<td>ESS 301</td>
<td>INTRO TO EARTH &amp; ATMOSPHC PHYS</td>
<td>5</td>
</tr>
<tr>
<td>ESS 303</td>
<td>CLASSI &amp; PHYSICAL CAUSES CLIM</td>
<td>5</td>
</tr>
<tr>
<td>ESS 370</td>
<td>INTRODUCTION TO REMOTE SENSING</td>
<td>5</td>
</tr>
<tr>
<td>ESS 498</td>
<td>RESEARCH &amp; PROF DEV CAPSTONE</td>
<td></td>
</tr>
</tbody>
</table>

Atmospheric Science Concentration Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESS 212</td>
<td>SEVERE WEATHER ANALYSIS</td>
<td></td>
</tr>
<tr>
<td>&amp; 212L</td>
<td>and LABORATORY</td>
<td></td>
</tr>
<tr>
<td>ESS 305</td>
<td>HYDROLOGY</td>
<td>5</td>
</tr>
<tr>
<td>ESS 321</td>
<td>POLLUTION PROBLEMS</td>
<td></td>
</tr>
<tr>
<td>ESS 341</td>
<td>THERMODYNAMIC METEOROLOGY</td>
<td></td>
</tr>
<tr>
<td>ESS 351</td>
<td>DYNAMIC METEOROLOGY</td>
<td></td>
</tr>
<tr>
<td>ESS 409</td>
<td>SCI PROGRMNG FOR EARTH &amp; ATMOS</td>
<td>5</td>
</tr>
<tr>
<td>or ESS 408</td>
<td>PYTHON FOR GIS</td>
<td></td>
</tr>
</tbody>
</table>

Atmospheric Science Concentration elective courses: Choose at least 11 credit hours

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESS 313</td>
<td>GEOGRAPHIC INFORMATION SYSTEMS (GEOGRAPHIC INFORMATION SYSTEMS)</td>
<td>7</td>
</tr>
<tr>
<td>ESS 352</td>
<td>SYNOPTIC METEOROLOGY</td>
<td>6</td>
</tr>
<tr>
<td>ESS 408</td>
<td>PYTHON FOR GIS</td>
<td>7</td>
</tr>
<tr>
<td>ESS 410</td>
<td>OPERATIONAL WEATHER FORECASTG</td>
<td>6</td>
</tr>
<tr>
<td>ESS 414</td>
<td>GEOSPATIAL APPLICATIONS</td>
<td>7</td>
</tr>
<tr>
<td>ESS 420</td>
<td>INTRO ATMOSP CHEM &amp; AIR POLLU</td>
<td></td>
</tr>
<tr>
<td>ESS 441</td>
<td>ATMOSP THERMODY &amp; CLOUD PHYSIC</td>
<td>5</td>
</tr>
<tr>
<td>ESS 451</td>
<td>ATMOSPHERIC FLUID DYNAMICS I</td>
<td></td>
</tr>
<tr>
<td>ESS 454</td>
<td>FORECASTING MESOSCALE PROC</td>
<td>6</td>
</tr>
<tr>
<td>ESS 461</td>
<td>ATMOSPHERIC RADIATION</td>
<td></td>
</tr>
</tbody>
</table>
ESS 471  RADAR METEOROLOGY
ESS 472  SATELLITE METEOROLOGY
ESS 495  DIRECTED STUDY  
ESS 497  UNDERGRADUATE INTERNSHIP
ESS 499  UNDERGRADUATE RESEARCH  

Elective Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Elective Courses</td>
<td>9-11</td>
</tr>
<tr>
<td></td>
<td>Additional Elective courses 100+ level to reach 128 credit hours. Electives can be taken from any department and do not have to be taken in your major or minor. No more than 4 credits of 100 level HPE courses can count toward degree requirements.</td>
<td></td>
</tr>
</tbody>
</table>

Overall Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All College of Science degrees must have at least 128 credits.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>At least 39 of the 128 credits must be at the 300+ level. These may be taken in any area including electives.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total Semester Hours</td>
<td>128</td>
</tr>
</tbody>
</table>

1. Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. Acceptable Literature sequences must include one early literature (EH 207 or EH 242 or EH 209) and one later literature (EH 208 or EH 210). Acceptable history sequences are (HY 103 + HY 104), or (HY 221 + HY 222) 
2. Based on Math placement, (http://www.uah.edu/science/departments/math/undergraduate-students/placement/) prerequisite MA 112 and/or MA 113 Mathematics courses may be required. 
3. No more than 6 credit hours can be taken in a single discipline. 
4. For choices see the World Languages and Cultures (http://catalog.uah.edu/undergrad/colleges-departments/arts-humanities-social-sciences/foreign-languages-literatures/#coursertext) department. 
5. PH 111 + PH 114, PH 112 + PH 115, MA 238, MA 385, CH 121+ CH 125, ESS 301, ESS 303, ESS 305, ESS 351, ESS 370, ESS 409, ESS 441, ESS 471. These courses partially satisfy the National Weather Service GS-1340 Federal Civil Service Requirements. 
6. ESS 410, ESS 352, ESS 454. Choose at least two of these elective courses to complete the National Weather Service GS-1340 Federal Civil Service Requirements. 
7. ESS 313, ESS 408 and ESS 414. Student may choose 2 of these 3 GIS tools courses to count in the 'choose 5 electives' section. 
8. ESS 495 or ESS 497 or ESS 499. Students may choose one of these courses to count as an Atmospheric Science/Meteorology concentration elective. 

Sample four year plan for Earth System Science, Atmospheric Science/Meteorology Concentration, BS degree: 
Note: This is only an example and variations are possible. 

Year 1 

<table>
<thead>
<tr>
<th>Fall</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>FYE 101S</td>
<td>1</td>
</tr>
<tr>
<td>ESS 103</td>
<td>4</td>
</tr>
<tr>
<td>&amp; 103L</td>
<td></td>
</tr>
<tr>
<td>ESS 111</td>
<td>4</td>
</tr>
<tr>
<td>&amp; 111L</td>
<td></td>
</tr>
<tr>
<td>MA 171</td>
<td>4</td>
</tr>
<tr>
<td>EH 101</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Term Semester Hours:</td>
</tr>
</tbody>
</table>

Spring 

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESS 212</td>
<td>4</td>
</tr>
<tr>
<td>&amp; 212L</td>
<td></td>
</tr>
<tr>
<td>MA 172</td>
<td>4</td>
</tr>
</tbody>
</table>
Ph 111  GEN PHYSICS W/CALCULUS I  4  
& Ph 114  and GENERAL PHYSICS LAB I  
Ph 102  COLLEGE WRITING II  3  
Elective  1  

Electives can be taken from any department and do not have to be taken in your major or minor. No more than 4 credit hours of 100 level HPE courses can count toward degree requirements.

<table>
<thead>
<tr>
<th>Term</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>

**Year 2**

**Fall**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESS 209</td>
<td>DATA ANALYSIS TOOLS</td>
<td>2</td>
</tr>
<tr>
<td>ESS 301</td>
<td>INTRO TO EARTH ATMOSPHERIC PHYS</td>
<td>3</td>
</tr>
<tr>
<td>CS 102</td>
<td>INTRO TO C PROGRAMMING</td>
<td>3</td>
</tr>
<tr>
<td>or CS 103</td>
<td>or INTRO PROGRAMMING USING JAVA</td>
<td></td>
</tr>
<tr>
<td>or CS 104</td>
<td>or INTRO TO CS USING PYTHON</td>
<td></td>
</tr>
</tbody>
</table>

*CS 104 strongly recommended*

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA 201</td>
<td>CALCULUS C</td>
<td>4</td>
</tr>
<tr>
<td>PH 112</td>
<td>GEN PHYSICS W/CALC II</td>
<td>4</td>
</tr>
<tr>
<td>&amp; PH 115</td>
<td>and GENERAL PHYSICS LAB II</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Term</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>

**Spring**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESS 105</td>
<td>WORLD REGIONAL GEOGRAPHY</td>
<td>3</td>
</tr>
<tr>
<td>ESS 303</td>
<td>CLASS PHYSICAL CAUSES CLIM</td>
<td>3</td>
</tr>
<tr>
<td>MA 238</td>
<td>APPL DIFFERENTIAL EQUATIONS</td>
<td>3</td>
</tr>
<tr>
<td>CH 121</td>
<td>GENERAL CHEMISTRY I</td>
<td>4</td>
</tr>
<tr>
<td>&amp; CH 125</td>
<td>and GENERAL CHEMISTRY LAB I</td>
<td></td>
</tr>
<tr>
<td>Fine Art</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

See Requirements tab for approved list.

<table>
<thead>
<tr>
<th>Term</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>

**Year 3**

**Fall**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESS 110</td>
<td>PRINCIPLES OF HUMAN GEOGRAPHY</td>
<td>3</td>
</tr>
<tr>
<td>ESS 321</td>
<td>POLLUTION PROBLEMS</td>
<td>3</td>
</tr>
<tr>
<td>ESS 341</td>
<td>THERMODYNAMIC METEOROLOGY</td>
<td>3</td>
</tr>
<tr>
<td>ESS 351</td>
<td>DYNAMIC METEOROLOGY</td>
<td>3</td>
</tr>
<tr>
<td>MA 385</td>
<td>INTRO TO PROBABILITY STATIST</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

Electives can be taken from any department and do not have to be taken in your major or minor. No more than 4 credit hours of 100 level HPE courses can count toward degree requirements.

<table>
<thead>
<tr>
<th>Term</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>

**Spring**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESS 305</td>
<td>HYDROLOGY</td>
<td>3</td>
</tr>
<tr>
<td>ESS 352</td>
<td>SYNOPTIC METEOROLOGY</td>
<td>3</td>
</tr>
<tr>
<td>ESS 370</td>
<td>INTRODUCTION TO REMOTE SENSING</td>
<td>3</td>
</tr>
<tr>
<td>ESS 498</td>
<td>RESEARCH PROF DEV</td>
<td>1</td>
</tr>
<tr>
<td>History</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

See Requirements tab for approved list.
### Year 4

#### Fall

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESS 409</td>
<td>SCI PROGRMNG FOR EARTH ATMOS</td>
<td>3</td>
</tr>
<tr>
<td>or ESS 408</td>
<td>or PYTHON FOR GIS</td>
<td></td>
</tr>
<tr>
<td>ESS 410</td>
<td>OPERATIONAL WEATHER FORECAST'G</td>
<td>3</td>
</tr>
<tr>
<td>EH 301</td>
<td>TECHNICAL WRITING</td>
<td>3</td>
</tr>
<tr>
<td>CM 113</td>
<td>Intro to Rhetorical Communication</td>
<td>3</td>
</tr>
<tr>
<td>2nd History or 3rd Social and Behavioral Science</td>
<td>See Requirements tab for approved list.</td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>Electives can be taken from any department and do not have to be taken in your major or minor. No more than 4 credit hours of 100 level HPE courses can count toward degree requirements.</td>
<td>1</td>
</tr>
</tbody>
</table>

**Term Semester Hours:** 16

#### Spring

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESS 454</td>
<td>FORECASTING MESOSCALE PROC</td>
<td>3</td>
</tr>
<tr>
<td>ESS 471</td>
<td>RADAR METEOROLOGY</td>
<td>3</td>
</tr>
<tr>
<td>Humanities, 2nd Fine Art or 2nd Literature</td>
<td>See Requirements tab for approved list.</td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>Electives can be taken from any department and do not have to be taken in your major or minor. No more than 4 credit hours of 100 level HPE courses can count toward degree requirements.</td>
<td>3, 3, 1</td>
</tr>
</tbody>
</table>

**Term Semester Hours:** 16

**Total Semester Hours:** 128