## Plan Requirements

### RG 6220  
**EARTH SYSTEM SCIENCE AND ENGINEERING MAJOR REQUIREMENTS**  
Effective FA05/1560 (09/06/2005)

<table>
<thead>
<tr>
<th>RQ 4708</th>
<th>Program Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>LN 0010</td>
<td>AOSS 320, 321, 323, 370, 380, 410 (C- or higher)</td>
</tr>
<tr>
<td>LN 0020</td>
<td>AOSS 350 or MECHENG 235 or CHE 330</td>
</tr>
<tr>
<td>LN 0030</td>
<td>Less than Minimum Grade (make no exceptions here)</td>
</tr>
</tbody>
</table>

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<tr>
<th>RQ 4708</th>
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<tbody>
<tr>
<td>LN 0010</td>
<td>AOSS 320, 321, 323, 350, 380, 401, 410, 475 (C- or higher)</td>
</tr>
<tr>
<td>LN 0020</td>
<td>Less than Minimum Grade (make no exceptions here)</td>
</tr>
</tbody>
</table>

### RG 9134  
**ESSE RESIDENCY, GPA REQUIREMENTS**  
Effective FA05/1560 (09/06/2005)

<table>
<thead>
<tr>
<th>RQ 5758</th>
<th>ESSE Residency and GPA requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>LN 0010</td>
<td>Minimum 30 units of technical courses at the 300 level or higher</td>
</tr>
<tr>
<td>LN 0020</td>
<td>Major GPA. See your departmental advisor for the correct calculation if NFC and REP codes appear on your transcript and your major GPA is less than 2.00.</td>
</tr>
<tr>
<td>LN 0030</td>
<td>General Electives</td>
</tr>
<tr>
<td>LN 0040</td>
<td>Not Used for Graduation Requirement, Withdrawals, Failures, Incompletes, Not for Credit, Less Than Minimum Grades</td>
</tr>
</tbody>
</table>
### CLIMATE IMPACT CONCENTRATION REQUIREMENTS

**Effective FA09/1760 (09/08/2009)**

#### RQ 6676 Climate Impact Sets - Complete 2 sets (4 courses)

**Effective FA09/1760 (09/08/2009)**

| LN 0010 | AOSS 414 and AOSS 422 |
| LN 0020 | AOSS 463 and AOSS 479 |
| LN 0030 | ENVIRON 408 and CMPLXSYS 250 |
| LN 0040 | CEE 230 and CEE 260 |
| LN 0050 | NAVARCH 420 and NAVARCH 455 |
| LN 0060 | NRE 541 and NRE 531 |
| LN 0070 | NRE 558 and NRE 559 |
| LN 0080 | EEB 320 and EEB 380 |
| LN 0090 | EARTH 284 and EARTH 325 |
| LN 0100 | ENVIRON 367 and NRE 550 |
| LN 0110 | ENVIRON 312 and 521 |

#### RQ 6675 CIE Concentration Courses, Experiential course, Technical Electives

**Effective FA09/1760 (09/08/2009)**

| LN 0010 | AOSS 480 & ENGR 450 |
| LN 0020 | Experiential Course - Choose one from AOSS 462, 475, or 588 |
| LN 0050 | CIE Technical Electives - 9 units |

#### RQ 6677 ESSE Residency, Total Units and GPA requirements

**Effective FA09/1760 (09/08/2009)**

| LN 0010 | 30 units 300 or higher technical courses taken at UM-AA while enrolled in CoE |
| LN 0015 | Minimum 25 units required in the Major subplan. (Excludes Technical Electives) |
| LN 0020 | Major GPA. See your departmental advisor for the correct calculation if NFC and REP codes appear on your transcript and your major GPA is less than 2.00. |
| LN 0030 | General Electives |
| LN 0040 | Not Used for Graduation Requirement, Withdrawals, Failures, Incompletes, Not for Credit, Less Than Minimum Grades |
Plan Requirements

Campus:  UMich  RG = Requirement Group
Career:  UENG  RQ = Requirement
Program:  LN = Line
Plan:  2610BSE
Sub-Plan:  CLIMPHY

RG 6221  CLIMATE PHYSICS CONCENTRATION REQUIREMENTS
Effective FA09/1760 (09/08/2009)

RQ 4709  Concentration - CLIMPHY
Effective FA09/1760 (09/08/2009)
LN 0010  AOSS 411 and 467
LN 0020  Experiential course: AOSS 441, 462, 475, ENGR 450, GEOSCI 341, 344 (1 course required)
LN 0025  Component courses: AOSS 401, 422, 451, 475, (GEOSCI 446 or GEOSCI 452),
(AOSS 420 or 476 or GEOSCI 421) (3 courses required)
LN 0026  GEOSCI 446, 452 limit (make no exceptions here)
LN 0027  AOSS 476, 420, GEOSCI 421 limit (make no exceptions here)
LN 0040  Excess Concentration courses (make no exceptions here)

RQ 5760  Technical Electives – CLIMPHY
Effective FA09/1760 (09/08/2009)
LN 0010  Concentration Courses
LN 0050  One Technical Electives: AOSS 414, 420, 422, 440, 442, 450, 451, 462, 463, 479, 480,
498, 499, 605, ENGR 450, GEOSCI 325, 341, 344, 420, 421, 422, 442, 446, MATH
425, 450, STATS 350, 412
LN 0060  Less than Minimum Grade: Technical Electives (make no exceptions here)

RG 6221  CLIMATE PHYSICS CONCENTRATION REQUIREMENTS
Effective FA05/1560 (09/06/2005)

RQ 4709  Concentration - CLIMPHY
Effective FA05/1560 (09/06/2005)
LN 0010  AOSS 411, 467, and 470
LN 0020  One course from STATS 350, 412, or MATH 425
LN 0030  Less than Minimum Grade: Concentration Courses (make no exceptions here)
LN 0040  Excess STATS/MATH courses (make no exceptions here)
LN 0050  Technical Electives: AOSS 442, 463, 479, 498, 499, 605, ENGR 450, GEOSCI 325, 420,
422, 442, MATH 425, 450, NRE 441, STATS 350, 412
LN 0060  Less than Minimum Grade: Technical Electives (make no exceptions here)
LN 0070  Excess Technical Electives courses (make no exceptions here)

RG 6224  EARTH SYSTEM SCIENCE & ENG RESIDENCY, GPA REQUIREMENTS
Effective FA05/1560 (09/06/2005)

RQ 4713  ESSE Residency and GPA requirements
Effective FA09/1760 (09/08/2009)
LN 0010  Minimum 30 units of technical courses at the 300 level or higher
LN 0020  Major GPA. See your departmental advisor for the correct calculation if NFC and REP
codes appear on your transcript and your major GPA is less than 2.00.
LN 0030  General Electives
LN 0040  Not Used for Graduation Requirement, Withdrawals, Failures, Incompletes, Not for
Credit, Less Than Minimum Grades

LN 0070  Excess Technical Electives courses (make no exceptions here)
Effective FA05/1560 (09/06/2005)

LN 0010  Minimum 30 units of technical courses at the 300 level or higher
LN 0020  Major GPA. See your departmental advisor for the correct calculation if NFC and REP codes appear on your transcript and your major GPA is less than 2.00.
LN 0030  General Electives
LN 0040  Not Used for Graduation Requirement, Withdrawals, Failures, Incompletes, Not for Credit, Less Than Minimum Grades
RG 6300     METEOROLOGY CONCENTRATION REQUIREMENTS
Effective FA05/1560 (09/06/2005)

RQ 4903     Concentration - METEOROLOGY
Effective FA09/1760 (09/08/2009)
LN 0010  AOSS 401, 411, 414, 422, 440, 462
LN 0030  Less than Minimum Grade: Concentration Courses (make no exceptions here)
LN 0050  Technical Electives: AOSS 420, 441, 442, 450, 463, 467, 470 (prior to Fall 2009), 479, 498, 499, 605, ENGR 450, MATH 425, 450, STATS 350, 412, NRE 441, GEOSCI 325, 341, 420, 421, 422, 442
LN 0060  Less than Minimum Grade: Technical Electives (make no exceptions here)
LN 0070  Excess Technical Electives courses (make no exceptions here)

Effective FA05/1560 (09/06/2005)
LN 0010  AOSS 414, 440, 451, 462
LN 0020  One course from STATS 350, 412, or MATH 425
LN 0030  Less than Minimum Grade: Concentration Courses (make no exceptions here)
LN 0040  Excess STATS/MATH courses (make no exceptions here)
LN 0050  Technical Electives: AOSS 411, 442, 450, 463, 467, 470, 479, 498, 499, 605, ENGR 450, MATH 425, 450, STATS 350, 412, NRE 441
LN 0060  Less than Minimum Grade: Technical Electives (make no exceptions here)
LN 0070  Excess Technical Electives courses (make no exceptions here)

RG 6299     EARTH SYSTEM SCIENCE & ENG RESIDENCY, GPA REQUIREMENTS
Effective FA05/1560 (09/06/2005)

RQ 4904     ESSE Residency and GPA requirements
Effective FA09/1760 (09/08/2009)
LN 0010  Minimum 30 units of technical courses at the 300 level or higher
LN 0020  Major GPA. See your departmental advisor for the correct calculation if NFC and REP codes appear on your transcript and your major GPA is less than 2.00.
LN 0030  General Electives
LN 0040  Not Used for Graduation Requirement, Withdrawals, Failures, Incompletes, Not for Credit, Less Than Minimum Grades

Effective FA05/1560 (09/06/2005)
LN 0010  Minimum 30 units of technical courses at the 300 level or higher
LN 0020  Major GPA. See your departmental advisor for the correct calculation if NFC and REP codes appear on your transcript and your major GPA is less than 2.00.
LN 0030  General Electives
LN 0040  Not Used for Graduation Requirement, Withdrawals, Failures, Incompletes, Not for Credit, Less Than Minimum Grades
EARTH SYS SC & ENG BSE
Plan Requirements

Campus: UMICH    RG = Requirement Group
Career: UENG    RQ = Requirement
Program: LN = Line
Plan: 2610BSE
Sub-Plan: SPWEA

RG 6310  SPACE WEATHER CONCENTRATION REQUIREMENTS
Effective FA09/1760 (09/08/2009)

RQ 4912  Concentration – SPACE WEATHER
Effective FA09/1760 (09/08/2009)
LN 0010  AOSS 477, PHYSICS 405
LN 0020  Less than Minimum Grade: Concentration Courses
LN 0040  Experiential course: AOSS 462 or ENGR 450 (1 course required)
LN 0045  Component courses: AEROSP 305, AOSS 401, (AOSS 462 or ENGR 450), AOSS 475, EECS 314, MATH 450, NERS 471 (3 courses required)
LN 0050  Less than Minimum Grade: Experiential and Component courses
LN 0060  Excess Component courses (make no exceptions here)

RQ 5762  Concentration Courses + Technical Electives - SPWEA: (34 units are required)
Effective FA09/1760 (09/08/2009)
LN 0010  Concentration Courses
LN 0050  Technical Electives: AEROSP 325, 421, AOSS 462, 495, EECS 320, 430, NERS 471, PHYSICS 451, 452, STATS 315, 412, STATS/MATH 425
LN 0060  Less than Minimum Grade: Technical Electives (make no exceptions here)
LN 0070  Excess Technical Electives courses (make no exceptions here)

RG 6310  SPACE WEATHER CONCENTRATION REQUIREMENTS
Effective FA05/1560 (09/06/2005)

RQ 4912  Concentration – SPACE WEATHER
Effective FA05/1560 (09/06/2005)
LN 0010  AOSS 450, 464, 470, ENGR 450
LN 0020  MATH 450
LN 0030  Less than Minimum Grade: Concentration Courses make no exceptions here
LN 0040  Technical Electives: AOSS 467, 479, 498, 499, 605, ENGR 450, GEOSCI 420, 422, 442, NERS 471, NRE 441, PHYSICS 406, 451, 452
LN 0050  Less than Minimum Grade: Technical Electives (make no exceptions here)
LN 0060  Excess Technical Electives courses (make no exceptions here)