## BS, Physics, Automation & Instrumentation



BS\_270F College of Arts and Sciences Department of Physics & Astronomy 2024-2025

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Shaded areas of guide require special attention.

|                          | Credit | Min.              | Included        | Important Notes        |
|--------------------------|--------|-------------------|-----------------|------------------------|
| Course Subject and Title | Hours  | Grade<br>Required | in Major<br>GPA | POS = Program of Study |

|   |     | Semeste | er One: [1  | 4-15 Credit Hours]  |
|---|-----|---------|-------------|---|
| RC 1000                                     | 3   |         |             | May take in fall or spring semester of first year   |
| Liberal Studies Experience Course 1         | 3   |         |             | HS or LS or FA or SS Designation  |
| PHY 1123/1113 or<br>1170/1160 (Recommended) | 4-5 | C-      | Х           | Also counts in <b>Gen Ed Science Inquiry</b> requirement (For PHY 1123/1113, CO: MAT 1020 or MAT 1025 or the equivalent. For PHY 1170/1160, CO: MAT 1110)   |
| MAT 1110                                    | 4   | C-      | х           | Also meets <b>Gen Ed Quantitative Literacy</b> requirement ( <i>PRE: MAT 1025 or equivalent test score</i> ). If PHY 1123/1113 is chosen above and MAT 1020 or 1025 is chosen here, you will need to consult with your advisor regarding adjustment of your Math requirements for your degree plan. |
|   |     | Semeste | er Two: [1  | 4-15 Credit Hours]  |
| UCO 1200                                    | 3   |         |             | May take in fall or spring semester of first year   |
| PHY 1124/1114 or<br>1180/1161 (Recommended) | 4-5 | C-      | Х           | Also counts in <b>Gen Ed Science Inquiry</b> requirement  |
| MAT 1120                                    | 4   | C-      | Х           |   |
| Integrative Learning Experience<br>Course 1 | 3   |         |             | HS or LS or FA or SS Designation  |
|   |     | Semest  | ter Three:  | [16 Credit Hours]   |
| RC 2001                                     | 3   |         |             | May take in fall or spring of sophomore year  |
| Gen Ed Wellness Literacy                    | 1   |         |             |   |
| PHY 2010                                    | 4   | C-      | Х           |   |
| PHY 2110                                    | 3   | С       | Х           | Min. grade C required for some upper level PHY courses  |
| MAT 2130                                    | 4   |         | Х           |   |
| PHY 2005                                    | 1   |         | Х           |   |
|   |     | Semes   | ter Four:   | [17 Credit Hours]   |
| PHY 2020                                    | 4   | С       | Х           | Min. grade C required for some upper level PHY courses  |
| PHY 2700                                    | 4   |         | Х           |   |
| PHY Electives Course 1                      | 3-4 |         | х           | Physics area on POS; A total of 9 hours required for students who took PHY 1170/1160 & 1180/1161 sequence; (A total of 11 hours required for students who took PHY 1123/1113 & 1124/1114 sequence.)   |
| Liberal Studies Experience Course 2         | 3   |         |             | HS or LS or FA or SS Designation  |
| Free Elective                               | 3   |         |             |   |
|   |     | Semeste | er Five: [1 | 5-16 Credit Hours]  |
| PHY Electives Course 2                      | 3-4 |         | Х           | <b>Physics</b> area on POS; A total of 9 hours required for students who took PHY 1170/1160 & 1180/1161 sequence; (A total of 11 hours required for students who took PHY 1123/1113 & 1124/1114 sequence)   |

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Department of Physics & Astronomy
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| Shaded areas of guide require special       |                 | -                         |                             | · •   |
|---|-----------------|---------------------------|-----------------------------|---|
| Course Subject and Title                    | Credit<br>Hours | Min.<br>Grade<br>Required | Included<br>in Major<br>GPA | Important Notes<br>POS = Program of Study   |
|   |                 |                           |                             |   |
| CS 2435                                     | 4               |                           | x                           |   |
| Gen Ed Wellness Literacy                    | 1               |                           |                             |   |
| Integrative Learning Experience<br>Course 2 | 3               |                           |                             | HS or LS or FA or SS Designation  |
| Liberal Studies Experience Course 3         | 3               |                           |                             |   |
|   |                 | Semest                    | er Six: [15                 | -16 Credit Hours]   |
| PHY 3310                                    | 3               |                           | Х                           | [WID] (Spring Only)   |
| Emphasis Area Course 1                      | 3               |                           | х                           | See <b>Emphasis Area</b> section on POS for more information;<br>Courses options are MAT 2240, PHY 3030, PHY 4020, PHY 4845<br>or PHY 4860 (Total of 9 hours required).                             |
| Liberal Studies Experience Course 4         | 3               |                           |                             |   |
| Free Elective                               | 3               |                           |                             |   |
| Free Elective                               | 3               |                           |                             |   |
|   |                 | Semest                    | er Seven:                   | [16 Credit Hours]   |
| PHY 4330                                    | 4               |                           | Х                           |   |
| PHY 4730                                    | 4               |                           | Х                           | (Fall Only)   |
| PHY Electives Course 3                      | 3               |                           | Х                           | Physics area on POS; A total of 9 hours required for students who took PHY 1170/1160 & 1180/1161 sequence; (A total of 11 hours required for students who took PHY 1123/1113 & 1124/1114 sequence.) |
| Emphasis Area Course 2                      | 3               |                           | х                           | See <b>Emphasis Area</b> section on POS for more information;<br>Courses options are MAT 2240, PHY 3030, PHY 4020, PHY 4845<br>or PHY 4860 (Total of 9 hours required).                             |
| Integrative Learning Experience<br>Course 3 | 3               |                           |                             |   |
|   |                 | Semeste                   | er Eight: [8                | 3-13 Credit Hours]  |
| PHY 4210                                    | 4               |                           | Х                           | CAPSTONE  |
| Emphasis Area Course 3                      | 3               |                           | х                           | See <b>Emphasis Area</b> section on POS for more information;<br>Courses options are MAT 2240, PHY 3030, PHY 4020, PHY 4845<br>or PHY 4860 (Total of 9 hours required).                             |
| Free Elective                               | 1-6*            |                           |                             | *Take enough hours to meet the minimum 120 required to graduate   |

| General Requirements Summary |    |                     |           |             |  |  |
|------------------------------|----|---------------------|-----------|-------------|--|--|
| Minimum Gen Ed.              |    | Minimum             |           |             |  |  |
| Total Hours Hours            |    | Writing             | Major GPA | Overall GPA |  |  |
| 120                          | 44 | RC 1000 and RC 2001 | 2.0       | 2.0         |  |  |

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| Course Subject and Title | Hours  | Grade<br>Required | in Major<br>GPA | POS = Program of Study |

# All PHY & AST courses and all courses in Major Requirements area on Program of Study count in the major GPA.

| General Education Program Model - 44 Semester Hours Total |       |  |  |  |
|---|-------|--|--|--|
| Program Categories  | Hours | Important Notes – Be sure to check for Gen Ed courses required in your major |  |  |
| First Year Seminar  | 3     | Can be taken first or second semester of freshman year                       |  |  |
| Wellness Literacy   | 2     |  |  |  |
| Quantitative Literacy                                     | 4     |  |  |  |
| First Year Writing  | 3     | Can be taken first or second semester of freshman year                       |  |  |
| Sophomore Writing   | 3     |  |  |  |
| Integrative Learning Experience                           | 9     | Must choose a minimum of two disciplines                                     |  |  |
| Liberal Studies Experience                                | 12    | Must choose a minimum of three disciplines                                   |  |  |
| Science Inquiry   | 8     |  |  |  |

You must also meet the Fine Arts, Literary Studies, Historical Studies, and the Social Science Designations. Those may be met within the Integrative Learning Experience and the Liberal Studies Experience.

#### **Additional Notes:**

- Please consult with your advisor to ensure you will complete the appropriate number of free electives as needed to reach the 120 total hours required for your degree.
- Residency Requirements:
  - o 30 hours must be from Appalachian State University
  - o 18 hours in the major must be from Appalachian State University
  - o 9 hours in the minor must be from Appalachian State University