

# BACHELOR OF ARTS IN PHYSICS

## Minimum requirements for the B.A. degree in Physics with a minor in mathematics

| COURSE  | TITLE   | S.H.           |
|---|---|----------------|
| <b>FIRST YEAR REQUIREMENT -STUDENT SUCCESS</b>  |   |                |
| YSU 1500  | Success Seminar   | 1-2            |
| or SS 1500  | Strong Start Success Seminar  |                |
| or HONR 1500  | Intro to Honors   |                |
| <b>General Education Requirements</b>   |   |                |
| ENGL 1550   | Writing 1   | 3-4            |
| or ENGL 1549  | Writing 1 with Support  |                |
| ENGL 1551   | Writing 2   | 3              |
| CMST 1545   | Communication Foundations   | 3              |
| Mathematics requirement (met with MATH in major)  |   |                |
| Arts and Humanities (6 s.h.)  |   | 6              |
| Natural Sciences (2 courses, 1 with lab) (6-7 s.h.)   |   |                |
| Requirement met through courses in the major  |   |                |
| Social Science (6 s.h.)   |   | 6              |
| Social and Personal Awareness (6 s.h.)  |   | 6              |
| <b>Major Requirements</b>   |   |                |
| Physics Courses:  |   |                |
| PHYS 2610 & 2610L   | General Physics 1 and General Physics Laboratory 1  | 5              |
| PHYS 2611 & 2611L   | General Physics 2 and General Physics laboratory 2  | 5              |
| PHYS 3703   | Classical Mechanics and Dynamics  | 4              |
| PHYS 3704 & 3704L   | Modern Physics and Modern Physics Laboratory  | 5              |
| PHYS 3705 & 3705L   | Thermodynamics and Classical Statistical Dynamics and Thermodynamics and Classical Statistical Mechanics Laboratory | 4              |
| PHYS 3741   | Electromagnetic Field Theory 1  | 3              |
| PHYS 4805   | Undergraduate Physics Research  | 3              |
| Physics upper division Elective   |   | 3              |
| Mathematics Courses:  |   |                |
| MATH 1571   | Calculus 1  | 4              |
| MATH 1572   | Calculus 2  | 4              |
| MATH 2673   | Calculus 3  | 4              |
| MATH 3705   | Differential Equations  | 3              |
| Minor Course:   |   |                |
| One additional 3 s.h. upper division elective in mathematics is required for the mathematics minor. |   | 3              |
| Other courses:  |   |                |
| FNLG 1550   | Elementary Foreign Language (or FNLG 1505)  | 4              |
| FNLG 2600   | Intermediate Foreign Language (or FNLG 1506)  | 4              |
| CHEM 1515 & 1515L   | General Chemistry 1 and General Chemistry 1 Laboratory  | 4              |
| CHEM 1516 & 1516L   | General Chemistry 2 and General Chemistry 2 Laboratory  | 4              |
| Electives:  |   |                |
| 21 additional hours of upper division electives and 5 hours of electives at any level are required  |   | 26             |
| <b>Total Semester Hours</b>   |   | <b>120-122</b> |

|  |   |              |
|--|---|--------------|
| <b>Year 1</b>                          |   |              |
| <b>Fall</b>                            |   |              |
| YSU 1500                               | Success Seminar   | 1            |
| PHYS 2610 & 2610L                      | General Physics 1 and General Physics Laboratory 1 (P, NS)  | 5            |
| ENGL 1550 or ENGL 1549                 | Writing 1 or Writing 1 with Support   | 3-4          |
| CHEM 1515 & 1515L                      | General Chemistry 1 and General Chemistry 1 Laboratory (NS)   | 4            |
| MATH 1571                              | Calculus 1 (P)  | 4            |
| <b>Semester Hours</b>                  |   | <b>17-18</b> |
| <b>Spring</b>                          |   |              |
| PHYS 2611 & 2611L                      | General Physics 2 and General Physics laboratory 2 (P, NS)  | 5            |
| CHEM 1516 & 1516L                      | General Chemistry 2 and General Chemistry 2 Laboratory (P, NS)  | 4            |
| MATH 1572                              | Calculus 2 (P)  | 4            |
| First-Year Experience Course           |   | 3            |
| <b>Semester Hours</b>                  |   | <b>16</b>    |
| <b>Year 2</b>                          |   |              |
| <b>Fall</b>                            |   |              |
| PHYS 3704 & 3704L                      | Modern Physics and Modern Physics Laboratory (P)  | 5            |
| MATH 2673                              | Calculus 3 (P)  | 4            |
| FNLG 1550                              | Elementary Foreign Language   | 4            |
| ENGL 1551                              | Writing 2   | 3            |
| <b>Semester Hours</b>                  |   | <b>16</b>    |
| <b>Spring</b>                          |   |              |
| PHYS 3705 & 3705L                      | Thermodynamics and Classical Statistical Dynamics and Thermodynamics and Classical Statistical Mechanics Laboratory (P) | 4            |
| MATH 3705                              | Differential Equations (P)  | 3            |
| FNLG 2600                              | Intermediate Foreign Language   | 4            |
| Arts & Humanities GER Domain           |   | 3            |
| <b>Semester Hours</b>                  |   | <b>14</b>    |
| <b>Year 3</b>                          |   |              |
| <b>Fall</b>                            |   |              |
| PHYS 3703                              | Classical Mechanics and Dynamics (P)  | 4            |
| PHYS 3741                              | Electromagnetic Field Theory 1 (P)  | 3            |
| Social Sciences GER Domain             |   | 3            |
| Upper Division Math (P)                |   | 3            |
| CMST 1545                              | Communication Foundations   | 3            |
| <b>Semester Hours</b>                  |   | <b>16</b>    |
| <b>Spring</b>                          |   |              |
| Arts & Humanities GER Domain           |   | 3            |
| Elective                               |   | 4            |
| Physics upper division Elective        |   | 3            |
| Social Sciences GER Domain             |   | 3            |
| <b>Semester Hours</b>                  |   | <b>13</b>    |
| <b>Year 4</b>                          |   |              |
| <b>Fall</b>                            |   |              |
| PHYS 4805                              | Undergraduate Physics Research (Capstone, P)  | 3            |
| Social & Personal Awareness GER Domain |   | 3            |
| Electives (Upper Division)             |   | 8            |
| <b>Semester Hours</b>                  |   | <b>14</b>    |

**Spring**

|  |                |
|--|----------------|
| Social & Personal Awareness GER Domain | 3              |
| Electives (Upper Division)             | 12             |
| <b>Semester Hours</b>                  | <b>15</b>      |
| <b>Total Semester Hours</b>            | <b>121-122</b> |