

## Pathway - Physics

Specializations in Astronomy, Biomedical Physics, and Photonics and Laser Physics

### Southwestern Illinois College Associate in Science Degree

#### Fall Year 1

SWIC Course	Hours
ENG 101 Rhetoric and Composition	3
MATH 203 Analytic Geometry & Calculus I	5
CHEM 105 General Chemistry	5
IAI FA <sup>1</sup> IAI Fine Arts	3
<b>Total</b>	<b>16</b>

#### Spring Year 1

SWIC Course	Hours
ENG 102 Rhetoric and Composition II	3
MATH 204 Analytic Geometry & Calculus II	5
PHYS 204 Physics- Mechanics	4
SOC 230 Race and Ethnicity in the U.S.	3
<b>Total</b>	<b>15</b>

#### Fall Year 2

SWIC Course	Hours
PHYS 205 Physics - Heat, Electricity & Mag.	4
COMM 151 Fundamentals of Public Speaking	3
MATH 205 Analytic Geometry & Calculus III	4
HES Human Well Being	2
IAI BS <sup>1</sup> IAI Behavioral Science	3
<b>Total</b>	<b>16</b>

#### Spring Year 2

SWIC Course	Hours
MATH 292 Linear Algebra	3
PHYS 206 Physics - Light & Modern Physics	4
MATH 290 Differential Equations	3
IAI HUM <sup>1</sup> IAI Humanities	3
IAI LS IAI Life Science w/Lab	4
<b>Total</b>	<b>17</b>

**Associate in Science Degree Total 64**

<sup>1</sup>Students need to complete one course in Human Relations and one in Non-Western Culture for AS degree.

<sup>2</sup>Courses are offered on even/odd years, so sequence may flip.

### Southern Illinois University Edwardsville Bachelor of Science Degree

#### Fall Year 3

SIUE Course	Hours
PHYS 120 Frontiers in Physics	3
PHYS 304 Intro to Quantum Physics	5
PHYS 321 Intro to Classical Mechanics	3
PHYS 240/410 Intro Biomedical Physics/Optics	3
<b>Total</b>	<b>14</b>

#### Spring Year 3

SIUE Course	Hours
PHYS 323 <sup>2</sup> Statistical Methods	4
PHYS 406 <sup>2</sup> Electromagnetic Fields & Waves	4
PHYS 251 Waves	4
PHYS 376 Career Prep in Physics	1
ENG 334 Scientific Writing	3
<b>Total</b>	<b>16</b>

#### Fall Year 4

SIUE Course	Hours
CS 145 Introduction to Computing	3
PHYS 416 Principles of Quantum Mechanics	4
PHYS 499A Senior Assignment: Part I	3
IS 364 The Atomic Era	3
ELE XXX Elective	3
<b>Total</b>	<b>16</b>

#### Spring Year 4

SIUE Course	Hours
PHYS 314 <sup>2</sup> Modern Data Acquisition	3
PHYS 318 <sup>2</sup> Theory & App of Electronic Measure	3
PHYS XXX Physics Elective	3
PHYS XXX Physics Elective	3
PHYS 499B Senior Assignment: Part II	2
<b>Total</b>	<b>14</b>

**Bachelor of Science Degree Total 124**

\*Students must complete 50% or more of degree requirements at SIUE.

\*A course that satisfies both the ERGU and EREG requirement will only be counted as one and not both.