

# ENGINEERING PHYSICS, BS

Code	Title	Credits
<b>Physics</b>		<b>32</b>
PHYS-103 & PHYL-103	GENERAL PHYSICS I and GENERAL PHYSICS I LAB	
PHYS-104 & PHYL-104	GENERAL PHYSICS II and GENERAL PHYSICS LAB II	
PHYS-201	THEORETICAL MECHANICS	
PHYS-203	MODERN PHYSICS	
PHYS-301	ELECTRICITY & MAGNETISM I	
PHYS-302	ELECTRICITY & MAGNETISM II	
PHYS-304	THERMODYNAMICS	
PHYS-309	EXPERIMENTAL PHYSICS I	
PHYS Elective <sup>1</sup>		
PHYS-451	APPLIED PROB.COMPUTATIONAL PHY	
PHYS-490	SENIOR COMPREHENSIVES	
<b>Mathematics</b>		<b>18</b>
MATH-151	CALCULUS I	
MATH-152	CALCULUS II	
MATH-251	CALCULUS III	
MATH-252	ORDINARY DIFFERENTIAL EQUATIONS	
Mathematics Elective <sup>3</sup>		
<b>Engineering Physics</b>		<b>9</b>
ENGR-220	INTRODUCTION TO MATLAB	
ENGR-252	ENGINEERING MECHANICS	
ENGR-262	ELECTRONICS	
<b>Chemistry</b>		<b>8</b>
CHEM-101 & CHML-101	GENERAL CHEMISTRY I and GEN CHEM I LAB	
CHEM-102 & CHML-102	GENERAL CHEMISTRY II and GEN CHEM II LAB	
<b>Foreign Language 202<sup>4</sup></b>		<b>3</b>
General Education Requirements ( <a href="https://catalog.sbu.edu/undergraduate/degree-requirements/">https://catalog.sbu.edu/undergraduate/degree-requirements/</a> ) <sup>2</sup>		<b>37</b>
<b>General Electives</b>		<b>13</b>
<b>Total Credits</b>		<b>120</b>

<sup>1</sup> The Physics Elective is to be chosen from: PHYS-312, PHYS-404, PHYS-406, PHYS-408, PHYS-409, PHYS-410, PHYS-451, or PHYS-452.

<sup>2</sup> The Writing Intensive, Diversity Coded, and Quantitative Literacy course requirements may be met by any major, general education, or elective courses designated as such.

<sup>3</sup> The Mathematics Elective is to be chosen from the following: MATH-207, MATH-208, MATH-241, MATH-322, MATH-323, MATH-341, MATH-342, MATH-345, MATH-351, MATH-352, MATH-413, MATH-431, or MATH-453.

<sup>4</sup> The foreign language must be at the level of 202 or higher. Students not prepared to begin at this level will need to take additional courses in language.

## Department Comprehensive Requirement (PHYS-490)

The comprehensive requirement for physics is satisfied by

- service as a teaching aide in one introductory physics lab section and
- passing an oral exam given at the end of a student's last semester of study.

First Year			
Fall	Credits	Spring	Credits
SBU-101		2 MATH-152	4
ENG-101		3 ENG-102	3
MATH-151		4 PHYL-104	1
PHYS-103		3 PHYS-104	3
PHYL-103		1 ENGR-220	3
SBU-102		1	
			<b>14</b>

Second Year			
Fall	Credits	Spring	Credits
MATH-251		4 PHYS-203	3
CHEM-101 & CHML-101		4 Foreign Language 202 <sup>1</sup>	3
Foreign Language 201 <sup>1</sup> /General Elective		3 CHEM-102 & CHML-102	4
PHYS-201		3 FS/THEO-101	3
General Education Requirement		3 General Education Requirement	3
			<b>17</b>

Third Year			
Fall	Credits	Spring	Credits
PHYS-301		3 PHYS-302	3
PHYS-304		3 PHYS-309	3
ENGR-252		3 ENGR-262	3
General Education Requirement		3 General Education Requirement	3
MATH-252		3 Math Elective <sup>2</sup>	3
			<b>15</b>

Fourth Year			
Fall	Credits	Spring	Credits
PHYS-451		3 Physics Elective <sup>3</sup>	3
General Electives		6 General Electives	8
General Education Requirement		6 General Education Requirement	3
		PHYS-490	0
			<b>15</b>

**Total Credits 120**

<sup>1</sup> The foreign language must be at the level of 202 or higher. Students not prepared to begin at this level will need to take additional courses in language.

<sup>2</sup> The Mathematics Elective is to be chosen from the following: MATH-207, MATH-208, MATH-241, MATH-322, MATH-323, MATH-341, MATH-342, MATH-345, MATH-351, MATH-352, MATH-413, MATH-431, or MATH-453.

<sup>3</sup> The Physics Elective is to be chosen from: PHYS-312, PHYS-404, PHYS-406, PHYS-408, PHYS-409, PHYS-410, PHYS-451, or PHYS-452.