

# ENGINEERING PHYSICS (B.S.)

## Four Year Plan

**Disclaimer:** This *sample* Four Year Plan is provided as a guide for the recommended sequencing of courses. Vanguard University requires that students complete a minimum of 120 units of required course work as outlined on the Requirements tab in order to receive a Bachelor of Arts, Bachelor of Music, Bachelor of Science, or Bachelor of Science in Nursing degree. It is the student's responsibility to confirm with the department the course rotation before enrolling in courses. If applicable, please note the footnotes at the bottom of the page for additional information related to courses listed in a particular year and term. Questions, contact the Department of Chemical and Environmental Sciences.

**Study Abroad Participation:** Students interested in participating in the university's Study Abroad programs are encouraged to reach out to the Global Education and Outreach Office (studyabroad@vanguard.edu) for more information and collaboration in their academic course planning. Students using Education and Training Benefits through the U.S. Department of Veteran Affairs are encouraged to also reach out to the School Certifying Official (veteranscertifyingofficial@vanguard.edu) for more information regarding how benefits can be applied.

Course	Title	Units
<b>Year 1 Term 1</b>		
CORE-100C	Cornerstone	1
CHEM-120	General Chemistry I	3
CHEM-120L	General Chemistry I Lab	1
MATH-180C	Calculus 1	4
NT-101C	New Testament Survey	3
SOC-PLCR	Social Science Core Curriculum Reqmt	3
<b>Units</b>		<b>15</b>
<b>Year 1 Term 2</b>		
CHEM-121	General Chemistry II	3
CHEM-121L	General Chemistry II Lab	1
MATH-181C	Calculus II	4
CSCI-100C	Introduction to Computer Science	3
CSCI-100CL	Introduction to Computer Science Lab	1
MATH-285	Intro to Adv Mathematics	3
<b>Units</b>		<b>15</b>
<b>Year 2 Term 1</b>		
PSCI-223C	Mechanics of Solids and Fluids	3
PSCI-223CL	Mechanics of Solids and Fluids Lab	1
MATH-281	Multivariable Calculus	4
MATH-300	Linear Algebra	3
THEO-101C	Foundations of Christian Life	3
CHEM-252	Analytical Chemistry	3
CHEM-252L	Analytical Chem Techniques	1
<b>Units</b>		<b>18</b>

<b>Year 2 Term 2</b>		
PSCI-225	Electricity and Magnetism	3
PSCI-225L	Electricity and Magnetism Lab	1
MATH-265C	Intro to Statistical Methods	3
MATH-310	Differential Equations	3
OT-201C	Old Testament Survey	3
FINA-PLCR	Fine Arts Core Curriculum Requirement	3
<b>Units</b>		<b>16</b>

<b>Year 3 Term 1</b>		
CHEM-456	Physical Chemistry: Thermodynamics	2
PSCI-227	Waves, Optics and Modern Physics	3
CHEM-440	Instrumental Analysis	2
CHEM-440L	Instrumental Analysis Lab	2
MATH-390	Numerical Analysis	3
ENGL-120C	Persuasive Writing	3
<b>Units</b>		<b>15</b>

<b>Year 3 Term 2</b>		
CHEM-458	Physical Chemistry: Quantum Mechanics	2
CHEM-456L	Physical Chemistry Technique Lab	1-2
ENGR-310	Electronics I	4
ENGR-310L	Electronics I Lab	1
CHEM-PLUGR	Undergraduate Research or Internship	2
HIST-PLCR1	History Core Requirement (US History)	3
COMM-201C	Speech Composition and Presentation	3
<b>Units</b>		<b>16-17</b>

<b>Year 4 Term 1</b>		
THEO-300C	Developing a Christian World View	3
ENGR-400	Introduction to Materials Science Engr.	3
ENGR-400L	Intro/Materials Science Laboratory	1
KINE-145C	Lifetime Fitness/Wellness Lect	1
HIST-PLCR2	History Core Requirement (World Civ)	3
<b>Units</b>		<b>11</b>

<b>Year 4 Term 2</b>		
ENGR-320	Optics	4
ENGR-320L	Optics Laboratory	1
CHEM-499C	Chemistry Capstone Seminar	2
CHIS-400C	Christian Heritage	3
ENGL-230C	Literature and the Human Experience	3
KINE-146C	Lifetime Fitness/Well Activity	1
PSYC-103C	Introduction to Psychology	3
<b>Units</b>		<b>17</b>

**Total Units** **123-124**

