

# GSST Program Model 2023-2024 SY

ENGINEERING STRAND		Prerequisites: Biology, Chemistry, and Math minimum of Precalculus		
Grade	Science	Research	Math	Credits
11	<b>College Physics I: Calculus-based</b>  2 HS Science  VPCC - PHY 241 4 credits	<b>Research Methodology &amp; Ethics</b>  1 HS Elective	<b>Calculus</b> 1 HS Math VPCC - MTH 263, 4 credits VPCC - MTH 264, 4 credits	4 HS credits VPCC 12 credits
			<b>Multivariable &amp; Linear Algebra</b> 1 HS Math VPCC - MTH 265, 4 credits VPCC - MTH 266, 3 credits	4 HS credits VPCC 11 credits
12	<b>College Physics III &amp; IV: Calculus-based</b>  2 HS Science  VPCC - PHY 243 3 credits	<b>Honors Research &amp; Mentorship</b>  2 HS Electives  VPCC - NAS 206, 3 credits	<b>Calculus</b> 1 HS Math VPCC - MTH 263, 4 credits VPCC - MTH 264, 4 credits	5 HS credits VPCC 14 credits
			<b>Differential Equations</b> 1 HS Math VPCC - MTH 267, 3 credits	5 HS credits VPCC 9 credits
			<b>Multivariable &amp; Linear Algebra</b> 1 HS Math VPCC - MTH 265, 4 credits VPCC - MTH 266, 3 credits	5 HS credits VPCC 13 credits

BIOLOGICAL SCIENCE STRAND		Prerequisites: Biology, Chemistry, and Math minimum of Algebra II / Trig		
Grade	Science	Research	Math	Credits
11	<b>College Physics 1: Calculus or Algebra-based</b>  2 HS Science  VPCC - PHY 241 4 credits	<b>Research Methodology &amp; Ethics</b>  1 HS Elective	<b>Precalculus</b> 1 HS Math VPCC - MTH 161, 3 credits VPCC - MTH 162, 3 credits	4 HS credits VPCC 10 credits
			<b>Calculus</b> 1 HS Math VPCC - MTH 263, 4 credits VPCC - MTH 264, 4 credits	4 HS credits VPCC 12 credits
			<b>Multivariable &amp; Linear Algebra</b> 1 HS Math VPCC - MTH 265, 4 credits VPCC - MTH 266, 3 credits	4 HS credits VPCC 11 credits
12	<b>Advanced Biological Analysis</b>  2 HS Science  VPCC - BIO 101 4 credits VPCC - BIO 102 4 credits	<b>Honors Research &amp; Mentorship</b>  2 HS Electives  VPCC - NAS 206 3 credits	<b>Calculus</b> 1 HS Math VPCC - MTH 263, 4 credits VPCC - MTH 264, 4 credits	5 HS credits VPCC 19 credits
			<b>Differential Equations</b> 1 HS Math VPCC - MTH 267, 3 credits	5 HS credits VPCC 14 credits
			<b>Multivariable &amp; Linear Algebra</b> 1 HS Math VPCC - MTH 265, 4 credits VPCC - MTH 266, 3 credits	5 HS credits VPCC 18 credits

COMPUTATIONAL SCIENCE STRAND		Prerequisites: Biology, Chemistry, and Math minimum of Algebra II / Trig		
Grade	Science	Research	Math	Credits
11	<b>Computational Physics:</b> Algebra-based physics  2 HS Science  VPCC - PHY 201, 4 credits VPCC - PHY 202, 4 credits	<b>Research Methodology &amp; Ethics</b>  1 HS Elective	<b>Precalculus</b> 1 HS Math VPCC - MTH 161, 3 credits VPCC - MTH 162, 3 credits	4 HS credits VPCC 14 credits
			<b>Calculus</b> 1 HS Math VPCC - MTH 263, 4 credits VPCC - MTH 264, 4 credits	4 HS credits VPCC 16 credits
			<b>Multivariable &amp; Linear Algebra</b> 1 HS Math VPCC - MTH 265, 4 credits VPCC - MTH 266, 3 credits	4 HS credits VPCC 15 credits
12	<b>Engineering Design, Innovation &amp; Entrepreneurship</b>  2 HS Science	<b>Honors Research &amp; Mentorship</b>  2 HS Electives  VPCC - NAS 206, 3 credits	<b>Calculus</b> 1 HS Math VPCC - MTH 263, 4 credits VPCC - MTH 264, 4 credits	5 HS credits VPCC 11 credits
			<b>Differential Equations</b> 1 HS Math VPCC - MTH 267, 3 credits	5 HS credits VPCC 6 credits
			<b>Multivariable &amp; Linear Algebra</b> 1 HS Math VPCC - MTH 265, 4 credits VPCC - MTH 266, 3 credits	5 HS credits VPCC 10 credits

#### IMPORTANT INFORMATION:

It is imperative that all students meet with their high school counselor to ensure that the requirements for the Advanced Diploma are met.

Dual enrollment credits and fees, determined by VCCS and VPCC, are not guaranteed and may change even during the school year.