

Program Model 2024-2025 SY

ENGINEERING STRAND		Prerequisites: Biology, Chemistry, and Math minimum of Precalculus			
Grade	Science	Research	Math	Credits	
11	University Physics I: Calculus-based 2 HS Science VPCC - PHY 241, 4 credits	Research Methodology & Ethics 1 HS Elective VPCC: MTH 245 3 credits	Calculus 1 HS Math VPCC - MTH 263 4 credits VPCC - MTH 264, 4 credits	4 HS credits VPCC 15 credits	
			Multivariable & Linear Algebra 1 HS Math VPCC - MTH 265, 4 credits VPCC - MTH 266, 3 credits	4 HS credits VPCC 14 credits	
12	University Physics II: Calculus-based 2 HS Science VPCC - PHY 242, 4 credits	Honors Research & Mentorship 2 HS Electives VPCC: NAS 206, 3 credits	Calculus 1 HS Math VPCC - MTH 263, 4 credits VPCC - MTH 264, 4 credits	5 HS credits VPCC 15 credits	
			Differential Equations 1 HS Math VPCC - MTH 267, 3 credits	5 HS credits VPCC 10 credits	
			Multivariable & Linear Algebra 1 HS Math VPCC - MTH 265, 4 credits VPCC - MTH 266, 3 credits	5 HS credits VPCC 14 credits	

BIOLOGICAL SCIENCE STRAND Prerequisites: Biology, Chemistry, and Math minimum of Algebra II / Tri					
Grade	Science	Research	Math	Credits	
11	University Physics 1: Calculus-based 2 HS Science VPCC: PHY 241, 4 credits OR General College Physics 1: Algebra-based 2 HS Science VPCC: PHY 201, 4 credits VPCC: PHY 202, 4 credits	Research Methodology & Ethics 1 HS Elective VPCC: MTH 245 3 credits	Precalculus 1 HS Math VPCC - MTH 161, 3 credits VPCC - MTH 162, 3 credits	4 HS credits VPCC 13 credits	
			Calculus 1 HS Math VPCC - MTH 263, 4 credits VPCC - MTH 264, 4 credits	4 HS credits VPCC 15 credits	
			Multivariable & Linear Algebra 1 HS Math VPCC - MTH 265, 4 credits VPCC - MTH 266, 3 credits	4 HS credits VPCC 14 credits	
12	Advanced Biological Analysis 2 HS Science VPCC: BIO 101, 4 credits VPCC: BIO 102, 4 credits	Honors Research & Mentorship 2 HS Electives VPCC: NAS 206, 3 credits	Calculus 1 HS Math VPCC - MTH 263, 4 credits VPCC - MTH 264, 4 credits	5 HS credits VPCC 19 credits	
			Differential Equations 1 HS Math VPCC - MTH 267, 3 credits	5 HS credits VPCC 14 credits	
			Multivariable & Linear Algebra 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	Computational Physics: Algebra-based physics 2 HS Science VPCC: PHY 201, 4 credits VPCC: PHY 202, 4 credits	Research Methodology & Ethics 1 HS Elective VPCC: MTH 245 3 credits	Precalculus 1 HS Math VPCC - MTH 161, 3 credits VPCC - MTH 162, 3 credits	4 HS credits VPCC 17 credits	
			Calculus 1 HS Math VPCC - MTH 263, 4 credits VPCC - MTH 264, 4 credits	4 HS credits VPCC 19 credits	
			Multivariable & Linear Algebra 1 HS Math VPCC - MTH 265, 4 credits VPCC - MTH 266, 3 credits	4 HS credits VPCC 18 credits	
12	Computational Computer Programming 2 HS Science VPCC: CSC 221, 222, 6 credits	Honors Research & Mentorship 2 HS Electives VPCC: NAS 206, 3 credits	Calculus 1 HS Math VPCC - MTH 263, 4 credits VPCC - MTH 264, 4 credits	5 HS credits VPCC 17 credits	
			Differential Equations 1 HS Math VPCC - MTH 267, 3 credits	5 HS credits VPCC 12 credits	
			Multivariable & Linear Algebra 1 HS Math VPCC - MTH 265, 4 credits VPCC - MTH 266, 3 credits	5 HS credits VPCC 16 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 throughout the school year.