



Highlands P-TECH Engineering Crosswalk (Advanced) 2024-2025



Program of Study	IHE Partner	Expected Program Student Outcomes	
Engineering	Alamo College District: St. Philip's College	Year 4: Industry-Based Certification	Autodesk Inventor and AutoCAD
		Year 4: Calculus Ready	Completion of Calculus 1
		Year 5: Associate of Science (A.S.)	Pre-Engineering Emphasis
IMPORTANT NOTES	<p style="background-color: yellow;">To follow this Engineering Program of Study, students must be TSIA College Ready in both English and Math. The deadline for passing TSIA2 is March of 10th Grade/Year 2. Students are not guaranteed access to college courses if they do not meet the TSIA2 deadlines the semester BEFORE enrollment in the course.</p> <p><i>Advanced Courses including Advanced Placement (AP), Dual Enrollment On Ramps (DE), and Dual Credit (DC) require study hours outside of the school day. Students should be prepared to study every night after school as well as some weekends depending on their advanced course load.</i></p> <p style="text-align: center;">TSIA2 Math College Level = 950+ / TSIA2 ELAR College Level = 945+ and 5+ Essay</p>		

Year / Grade Level	High School Course			Post-Secondary Course			
	PEIMS Course #	High School Course Name	High School Credits	Texas Common Course Numbering System Number	College Course Name	College Credit Hours	TSI & Pre-requisite requirements
Year 0 / Grade 8		Required Summer Bridge					
	Total Year 0 High School Credits		0.0	Total Year 0 College Credit Hours		0.0	
Year 1 / Grade 9		English I HON	1.0				
		Algebra 1 or Algebra 2 HON	1.0				
		Biology HON	1.0				
		World Geography or Human Geography AP	1.0				
		LOTE- Spanish I/II	1.0				
		AVID I	1.0				
		PE or Phys Ed Elective	1.0				
		P-TECH Robotics 1	1.0				
	Total Year 1 High School Credits		8.0	Total Year 1 College Credit Hours		0.0	
Year 2 / Grade 10	<p>*It is highly recommended that all P-TECH student complete Algebra I, Algebra II, and Geometry by the end of 10th grade. Students can take two math classes in 10th grade if they did not take Algebra I in middle school. SAISD Flex HS is also available for online evening classes to complete credits for HS graduation requirements.</p>						
		English II HON	1.0				
		Algebra 2 HON and/or Geometry HON*	1.0				
		Chemistry DE On Ramps	1.0				
		World History or AP World History	1.0				
		LOTE- Spanish I/II or PE/Elective	1.0				
		Art or Music Appreciation DC	1.0	ARTS 1301/1306	Art or Music Appreciation	3	None
		AVID II	1.0				
		Engineering Design and Presentation I	1.0				
	Total Year 2 High School Credits		8.0	Total Year 2 College Credit Hours		3.0	



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Year / Grade Level	High School Course				Post-Secondary Course		
	PEIMS Course #	High School Course Name	High School Credits	Texas Common Course Numbering System Number	College Course Name	College Credit Hours	TSI & Pre-requisite requirements
Year 3/ Grade 11		<i>English III DC</i>	1.0	ENGL 1301	Composition I (Fall)	3	COLLEGE LEVEL ENGLISH
				ENGL 1302	Composition 2 (Spring)	3	ENGL 1301
		<i>Independent Study in Math DC</i>	1.0	MATH 1414	College Algebra (Fall)	4	COLLEGE LEVEL MATH
		<i>Pre-Calculus DC</i>	1.0	MATH 2412	Pre-Calculus (Spring)	4	MATH 1414
		<i>Physics DE On Ramps</i>	1.0				
		<i>US History DC</i>	1.0	HIST 1301	US History I (Fall)	3	COLLEGE LEVEL ENGLISH
				HIST 1302	US History II (Spring)	3	HIST 1301
		AVID III	1.0				
	Academic Mentoring <i>*local credit*</i>	1.0					
		<i>Engineering Design & Problem Solving DC</i>	1.0	ENGR 1201	Intro to Engineering (Fall)	2	MATH 0410 (Diagnostic 5+)
				ENGR 1304	Engineering Graphics (Spring)	3	MATH 0410 (Diagnostic 5+) COLLEGE LEVEL ENGLISH
Total Year 3 High School Credits			8.0	Total Year 3 College Credit Hours		25.0	
Year 4/ Grade 12		English IV or <i>English IV AP Literature</i>	1.0				
		<i>Calculus DC</i>	1.0	MATH 2413	Calculus (Fall)	4	MATH 1414
		<i>Specialized Topics in Science I DC</i>	1.0	CHEM 1411	General Chemistry I (Fall)	4	MATH 1414
		<i>Specialized Topics in Science II DC</i>	1.0	PHYS 2425	University Physics I (Spring)	4	MATH 2413
		Government and Economics	1.0				
		AVID IV	1.0				
		<i>Engineering Design and Presentation II DC</i>	1.0	ENGR 2304	Computer Programming for Engineers (Fall)	3	MATH 0410 (Diagnostic 5+) COLLEGE LEVEL ENGLISH
		Engineering Design and Presentation II	1.0				
Total Year 4 High School Credits			8.0	Total Year 4 College Credit Hours		15.0	
Total High School Credits			32.0	Total College Credit Hours		43.0	
High School Graduation Ceremony				Industry-Based Certification: Autodesk AutoCAD & Inventor 35 College Core Credits Transferrable to Texas Public Universities			

Year / Grade Level	High School Course				Post-Secondary Course			
	PEIMS Course #	High School Course Name	High School Credits	Texas Common Course Numbering System Number	College Course Name	College Credit Hours	TSI & Pre-requisite requirements	
Year 5/ Grade 13	No high school credit awarded during Year 5. Student reports to college campus only. Student must utilize Financial Aid process – FAFSA and Alamo Promise.				Additional Engineering Courses Core Subject Courses for Transfer to University or Associate Degree			
Visit the St. Philip's College Associate of Science website for additional information on degrees and certificates. http://tinyurl.com/3dwh2urf						Total Year 4 College Credit Hours	TBD	
						Total College Credit Hours	TBD	
				Associate of Science Degree				