



Highlands P-TECH Engineering Crosswalk (Standard) 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 5: Calculus Ready | Completion of Calculus I |
| | | Year 5: Associate of Science (A.S.) | Pre-Engineering Emphasis |
| IMPORTANT NOTES | <p>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 11th Grade/Year 3 (earlier to take ENGR 1201/1304). 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>TSIA2 Math College Level = 950+ / TSIA2 ELAR College Level = 945+ and 5+ Essay <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> | | |

| 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 or English I HON | 1.0 | | | | |
| | | Algebra 1 or Algebra 2 HON | 1.0 | | | | |
| | | Environmental Systems or 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 or English II HON | 1.0 | | | | |
| | | Algebra 2 HON and/or Geometry HON* | 1.0 | | | | |
| | | Biology or Chemistry or Chemistry DE OnRamps | 1.0 | | | | |
| | | World History or World History AP | 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 (Spring) | 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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| | 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 | | English III or English III AP Language | 1.0 | | | | |
| | | Geometry HON or Algebra DE On Ramps | 1.0 | | | | |
| | | Chemistry or Chemistry DE On Ramps or Other Science | 1.0 | | | | |
| | | US History or US History AP | 1.0 | | | | |
| | | AVID III | 1.0 | | | | |
| | | Robotics 2 – Drone Program Part 1 | 1.0 | | | | |
| | | Academic Mentoring or Elective | 1.0 | | | | |
| | | Engineering Design & Problem Solving DC or Engineering Design & Problem Solving (HS only) | 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 | | 5.0 | |
| Year 4/ Grade 12 | | English IV DC | 1.0 | ENGL 1301 | Composition I (Fall) | 3 | COLLEGE LEVEL ENGLISH |
| | | | | ENGL 1302 | Composition 2 (Spring) | 3 | ENGL 1301 |
| | | Independent Study in Math DC | 1.0 | MATH 1414 | College Algebra (Fall) | 4 | COLLEGE LEVEL MATH |
| | | Pre-Calculus DC | 1.0 | MATH 2412 | Pre-Calculus (Spring) | 4 | MATH 1414 |
| | | AP or DE On Ramps Science | 1.0 | | | | |
| | | Government and Economics | 1.0 | | | | |
| | | AVID IV | 1.0 | | | | |
| | | Engineering Design and Presentation II DC | 1.0 | ENGR 2304 | Computer Programming for Engineers (Fall) | 3 | MATH 0410 (Diagnostic 5+) COLLEGE LEVEL ENGLISH |
| | | | | | | | |
| Total Year 4 High School Credits | | | 8.0 | Total Year 4 College Credit Hours | | 17.0 | |
| Total High School Credits | | | 32.0 | Total College Credit Hours | | 25.0 | |
| High School Graduation Ceremony | | | | Industry-Based Certification: Autodesk AutoCAD & Inventor 17 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 | | | |

