

2017

Excellence in Action Award

Harmony Magnet Academy

Academy of Engineering

Science, Technology, Engineering & Mathematics Career Cluster

OVERVIEW

The Academy of Engineering, housed in Harmony Magnet Academy, in Strathmore, California offers its predominantly low-income and minority students pathways to postsecondary education and successful careers in engineering. The Academy provides a safe and supportive environment, an actively involved community-based advisory board and an academically rigorous core curriculum with real-world learning experiences. Recognizing the unique and varied needs of each student, the program’s mission is to help all students achieve their highest potential.

The Porterville Unified School District (PUSD) has 10 “Open Choice” Pathways on its five high school campuses, including the Academy of Engineering. The Academy of Engineering contains “A-G” approved courses required for college acceptance and is composed of all eight Project Lead the Way engineering courses. Additionally, students can participate in dual enrollment opportunities and thirteen Advanced Placement courses.

EXTENSIVE WORK-FOCUSED LEARNING OPPORTUNITIES

Over the course of the program of study, all students participate in a continuum of work-based learning opportunities to put what they are learning into practice and build connections with employers in their communities. In the ninth grade, students begin with diagnostic testing to explore and find the pathway that is right for them. The program includes career awareness and focuses on employability skills like bringing professionalism to group activities, communicating within a group dynamic and building presentation skills. Student portfolios in the first year focus on taking a personal inventory of skills and knowledge and performing a self-assessment. These real-world skills are critical to success in the workplace.

During sophomore year, students begin focus on self-promotion through resume writing and participation in a job shadowing program. They perform college and career research to begin

Secondary Students (329 students)	Percentage
Male	74%
Female	26%
Low-Income	61%
Minority	75%
Postsecondary Students (155 students)	Percentage
Male	72%
Female	38%
Low-Income	61%
Minority	73%

thinking about the path they wish to follow.

By their junior year, students continue to build on their skills by completing mock interviews, undergoing job training, conducting an advanced student presentation with a panel critique, and a guided portfolio building process that helps students begin their college applications. Seniors participate in internships to put all the skills and knowledge they have gleaned over the previous three years into practice. For their capstone course, they must give a senior defense presentation, modeled upon a thesis defense, and present a graduate profile assessment portfolio, demonstrating their understanding and mastery.

Students are also required to register with National Academy Foundation (NAF) and NAFTrack, which connects students to employers within the NAF network. Students leave the program not only college eligible, but also with the engineering and real-world skills needed to compete in their career field of choice.

Harmony Magnet Academy



PATHWAY TO POSTSECONDARY

In 2014, the local junior college, Porterville College (PC), revamped their articulation policy and dual enrollment procedures and, in 2016, started an engineering program. Harmony now holds monthly meetings with PC officials designed to expand opportunities and provide support in financial aid, assessment exams, interventions and career pathways.

Students take a college class on the Harmony campus at the end of each school day and the school offers opportunities for articulation through senior's capstone course intended to ask college-level critical thinking and execution. Students must recognize a problem, research potential solutions, develop a plan to address the problem using the engineering design process, and build a product to solve the problem.

PARTNERSHIPS THAT MATTER

Harmony is part of a broad-based coalition that includes the City of Porterville and Chamber of Commerce business partners, Tulare County Office for Vocational Education, the Tulare County Workforce Investment Board, the Tulare County Innovate/Linked Learning Consortium, Community Services Employment Training and the P8 advisory board, which is composed of PUSD advisory board chairs from the 12 different pathways designed to influence pathway development and sustainability at the PUSD Governing Board of Education level. Through the contributions of each individual coalition member, the Academy of Engineering offers students the highest caliber curriculum, work-based learning experiences and industry standard benchmarking for project design.

"Seeing our students grow and mature – taking that next step in life – brings us great pride. You see a real transformation in these students from freshman to senior year."
– Erik Santos, Academy of Engineering, Harmony Magnet Academy

RECOGNITION HIGHLIGHTS PROGRAM SUCCESS

The Academy of Engineering at Harmony has "recently celebrated four years distinguished status – NAF's highest level of achievement, based on NAF's annual assessment," according to NAF president, JD Hoye. "The Academy of Engineering was also the recipient of the 2016 Sanford I. Weill Academy of Excellence Award... Harmony Magnet Academy has displayed remarkable initiative and ingenuity in providing students with opportunities to apply their classroom learning to real-world settings."

Success by the Numbers



100%

Participated in Work-based Learning



100%

Graduated High School



95%

Enrolled in Postsecondary Education



100%

Earned an Industry-recognized Credential



64%

Earned Postsecondary Credit