

$F = G \frac{m_1 m_2}{d^2}$

Focus Academies & Career Technical Education (CTE)

$F - E + V = 2$

$\frac{\partial^2 u}{\partial t^2} = c^2 \frac{\partial^2 u}{\partial x^2}$

$E = mc^2$

$\frac{df}{dt} = \lim_{h \rightarrow 0} \frac{f(t+h) - f(t)}{h}$

$ds \geq 0$

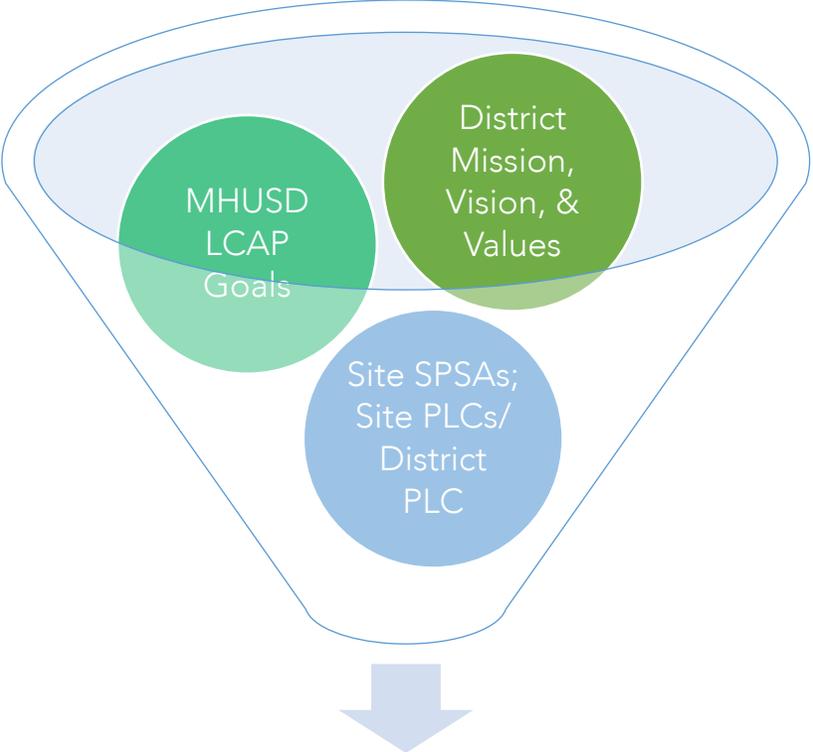
$\frac{1}{x^2} = x^{-2}$

$\frac{d}{dx} x^{-2} = -2x^{-3} = -\frac{2}{x^3}$

May 17, 2022

Morgan Hill Unified School District

MHUSD Coherence and Alignment



Direct impact to MHUSD Classrooms & Departments and Each & Every Student



Preschool / TK / Kindergarten

Elementary School

Middle School

High School

College/ Career





Focus Academies

TK-5



El Toro Health Science Academy

Established 2017

- Health Science labs weekly!
- Collaboration across grade levels!
- Fitness activities!
- PBL units w/ TWIG
- After school opportunities!
- Art integration

State winning 25lbs Cabbage!



Exploring to find the Gingerbread man, Run, run, run as fast as you can!



DrumFit in the lab!



Creating Zen gardens!

Paradise Valley Engineering Academy



4th grade Tech Challenge winners 2022!
Outstanding Engineering Design Process!



3rd: Marble mazes



Kinder project solving
how to catch a
gingerbread man and
build a strong structure

- Design Thinking
- Lower Grades intertwine engineering design into Math and ELA
- 3rd starts to introduce coding and building items that solve problems
- 4th and 5th work on larger projects over time that allow for more adjustments



Beginning stage of
finding how things work
together



Jackson Academy of Math & Music (JAMM)

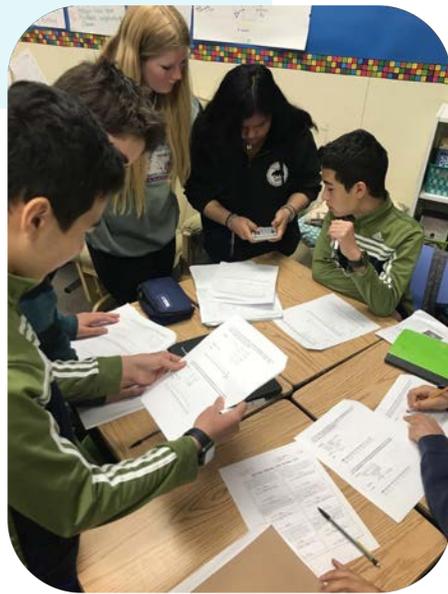


Mathematics

- ❑ Workshop Model
- ❑ Student collaboration on complex tasks
- ❑ Develop a true number sense of mathematics
- ❑ Growth Mindset- "All students can feel and be successful in mathematics"

Music

- ❑ All students K-8 in music
- ❑ Choral
- ❑ Instrumental Band with a variety of instruments
- ❑ Music Theory & Appreciation
- ❑ Multiple Performances





San Martin Gwinn

Environmental Science Academy

Established: 2014

- Garden/Farm lessons K-8 during the school day
- After school garden/farm club and community weekend events
- Art and SEL integration





SMG Vision for the Future

Dual Language Academy:

Home of the DIME Program

- Benefits of a 90/10 program:
 - Students' self-efficacy in Spanish is higher
 - Higher levels of reading proficiency in Spanish
- Full DIME participation
- On track to have three kinder classrooms
- Dual Language TK classroom beginning in 22-23 school year



PA Walsh STEAM Academy

STEAM is an educational approach to learning that uses Science, Technology, Engineering, the Arts and Mathematics as access points for guiding student inquiry, dialogue, and critical thinking.

2014-2018: Where did we start?

- ❖ Technology
- ❖ Partnership with Disney Animation
- ❖ Full Time TOSA

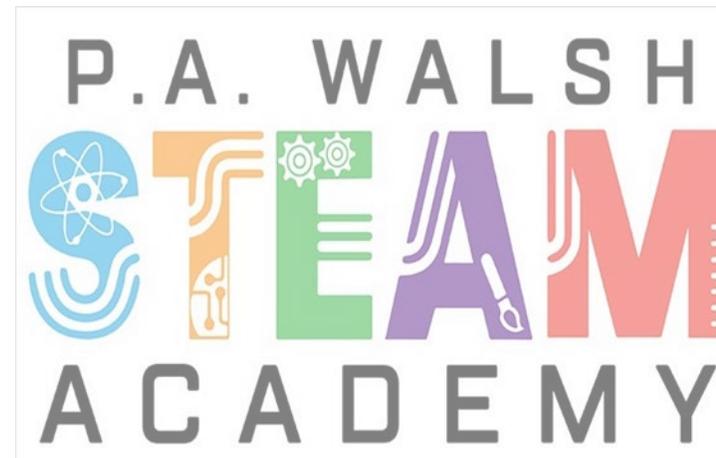
2019-2022: Where are we now?

- ❖ Intention Planning Time for Unit planning with STEAM
- ❖ Part-time TOSA

2022: What are our next steps?

- ❖ Full time TOSA
 - Goals and outcomes
- ❖ Dual Language Integration
 - Plans and projections

Year of Implementation: 2014-2015



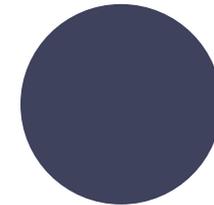
A perspective view of a bright, modern school hallway. The walls are a light beige color. On both sides, there are rows of orange lockers with silver handles. The ceiling is a white grid with recessed rectangular light fixtures. A large analog clock is mounted on the left wall. In the distance, a white sign with the word 'INFORMATION' is visible above a doorway. The floor is a light-colored, polished tile that reflects the overhead lights.

***An Idea for a
K-12 Pathway!***

- Internationally recognized programme with over 5000 IB World Schools worldwide
- IB Mission Statement:
 - “The International Baccalaureate aims to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect.
 - To this end the organization works with schools, governments and international organizations to develop challenging programmes of international education and rigorous assessment.
 - These programmes encourage students across the world to become active, compassionate and lifelong learners who understand that other people, with their differences, can also be right.”



The International Baccalaureate (IB) Programme



IB Learner Profile: Inquirers, Knowledgeable, Thinkers, Communicators, Principled, Open Minded, Caring, Risk Takers, Balanced, Reflective



IB learner profile

The aim of all IB programmes is to develop internationally minded people who, recognizing their common humanity and shared guardianship of the planet, help to create a better and more peaceful world.

As IB learners we strive to be:

- INQUIRERS**
We nurture our curiosity, developing skills for inquiry and research. We know how to learn independently and with others. We learn with enthusiasm and sustain our love of learning throughout life.
- KNOWLEDGEABLE**
We develop and use conceptual understanding, exploring knowledge across a range of disciplines. We engage with issues and ideas that have local and global significance.
- THINKERS**
We use critical and creative thinking skills to analyse and take responsible action on complex problems. We exercise initiative in making reasoned, ethical decisions.
- COMMUNICATORS**
We express ourselves confidently and creatively in more than one language and in many ways. We collaborate effectively, listening carefully to the perspectives of other individuals and groups.
- PRINCIPLED**
We act with integrity and honesty, with a strong sense of fairness and justice, and with respect for the dignity and rights of people everywhere. We take responsibility for our actions and their consequences.

- OPEN-MINDED**
We critically appreciate our own cultures and personal histories, as well as the values and traditions of others. We seek and evaluate a range of points of view, and we are willing to grow from the experience.
- CARING**
We show empathy, compassion and respect. We have a commitment to service, and we act to make a positive difference in the lives of others and in the world around us.
- RISK-TAKERS**
We approach uncertainty with forethought and determination; we work independently and cooperatively to explore new ideas and innovative strategies. We are resourceful and resilient in the face of challenges and change.
- BALANCED**
We understand the importance of balancing different aspects of our lives—intellectual, physical, and emotional—to achieve well-being for ourselves and others. We recognize our interdependence with other people and with the world in which we live.
- REFLECTIVE**
We thoughtfully consider the world and our own ideas and experience. We work to understand our strengths and weaknesses in order to support our learning and personal development.

The IB learner profile represents 10 attributes valued by IB World Schools. We believe these attributes, and others like them, can help individuals and groups become responsible members of local, national and global communities.

*Video: What is an IB
Education?*

The IB Continuum

Primary Years Programme (PYP)	Middle Years Programme (MYP)	Diploma Programme (DP)	Career-Related Programme
<p>The PYP marks the start of a lifelong journey. It develops caring and culturally aware children aged 3 – 12 to become active participants in their own learning.</p>	<p>Building a solid academic foundation, the MYP develops students' confidence in managing their own learning and making connections between their learning in the classroom and the real world.</p>	<p>A future-ready program that builds students' inquiring mindset, fosters their desire to learn, and prepares them to excel at their careers and lead meaningful lives.</p>	<p>A unique program for students in their final school years. It equips them with future-ready skills and prepares them to follow their career pathways—combining academic subjects with their own professional interests.</p>

Career Technical Education (CTE)

WHAT IS CAREER AND TECHNICAL EDUCATION?



92% of high school students and 69% of college and adult students are engaged in CTE, learning skills in the classroom and on the job.¹

CTE PREPARES THE WORKFORCE ACROSS A WIDE RANGE OF INDUSTRIES AND OCCUPATIONS.



Agriculture, Food & Natural Resources



Architecture & Construction



Arts, AV Technology & Communications



Business Management & Administration



Education & Training



Finance



Government & Public Administration



Health Science



Hospitality & Tourism



Human Services



Law, Public Safety, Corrections & Security



Manufacturing



Marketing



Science, Technology, Engineering & Mathematics (STEM)



Transportation, Distribution & Logistics

CTE is delivered at comprehensive and CTE-dedicated high schools, magnet schools, area technical centers, community and technical colleges and some four-year universities.

CTE students earn industry certifications and licenses, postsecondary certificates, associate degrees, bachelor's degrees and higher.

CTE is good for students, good for businesses and good for communities.

CTE high school students are college and career ready – 94% graduate high school and most enroll directly in college.²

CTE associate degrees can pay \$10,000 more per year than associate degrees in other fields – and can even pay more than bachelor's degrees – while limiting student debt.³

CTE is the answer to the nation's projected deficit of 6.5 million skilled workers, including infrastructure, health care and manufacturing workforce shortages.⁴

LEARN MORE ABOUT CTE AT ACTEONLINE.ORG

¹ U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics (NCES), High School Longitudinal Study of 2009 (HSLS-09), Base-year, 2013 Update, and High School Transcript File; U.S. Department of Education, National Center for Education Statistics, 2015–16 National Postsecondary Student Aid Study (NPSAS-16).

² Perkins Collaborative Resource Network, Perkins Data Explorer, customized Consolidated Annual Report data; U.S. Department of Education, Office of Elementary and Secondary Education, Consolidated State Performance Report, 2010-11 through 2017-18; U.S. Department of Education, NCES, HSLS-09, Base-year, 2013 Update, High School Transcript, and Second Follow-Up.

³ Georgetown University Center on Education and the Workforce (2020). The overlooked value of certificates and associate's degrees: What students need to know before they go to college. Schneider, M. (2013). Higher education pays. College Board, Annual Survey of Colleges. NCES, IPEDS Fall 2020 Enrollment data and IPEDS 2020 Institutional Characteristics data.

⁴ Construction Industry Resources as cited in Ng, M. (2021). Skilled workers are scarce, posing a challenge for Biden's infrastructure plan. New York Times; Korn Ferry (2018). Future of work: The global talent crunch; Stead, R., Carrasco, M., Kulu, P., Nouri, N., Piddis, M., & George, R. (2021). The future of jobs in the era of AI. Wellman, P., Reyes, V., Ashton, H., & Moudray, C. (2021). Creating pathways for tomorrow's workforce today.

FEBRUARY 2022

Career and Technical Education (CTE)

“CTE is for all students, and covers 15 industry sectors, covering 58 career pathways. The work is integrated with academics in a rigorous and relevant curriculum... students develop career-relevant, real-world 21st Century skills.”

- CTE General Public Fact Sheet - General Information (CA Dept of Education)

MHUSD CTE Pathways 21-22

AGRICULTURE & NATURAL RESOURCES		
Agricultural Business - Live Oak & Sobrato		
Introductory	Concentrator	Capstone
N/A	Art & History of Floral Design	Ag Sales & Service
AGRICULTURE & NATURAL RESOURCES		
Agricultural Mechanics - Sobrato		
Introductory	Concentrator	Capstone
N/A	Agricultural Mechanics	Agricultural Welding
AGRICULTURE & NATURAL RESOURCES		
Agriscience - Live Oak & Sobrato		
Introductory	Concentrator	Capstone
Ag Biology	Soil Chemistry	Vet Science
AGRICULTURE & NATURAL RESOURCES		
Plant & Soil Science - Live Oak & Sobrato		
Introductory	Concentrator	Capstone
Ag Biology	Soil Chemistry	Horticulture
ARTS, MEDIA, & ENTERTAINMENT		
Design, Visual, & Media Arts - Live Oak		
Introductory	Concentrator	Capstone
N/A	Intro to Graphic Design	Intro to Journalism and Tech Writing
ARTS, MEDIA, & ENTERTAINMENT		
Design, Visual, & Media Arts - Sobrato		
Introductory	Concentrator	Capstone
N/A	Studio Art	Advanced Studio Art
N/A	Ceramics	Advanced Ceramics
N/A	Advanced Photography	Graphic Design
ARTS, MEDIA, & ENTERTAINMENT		
Performing Arts - Sobrato		
Introductory	Concentrator	Capstone
N/A	Drama	Advanced Drama

ARTS, MEDIA, & ENTERTAINMENT		
Production & Managerial Arts - Live Oak		
Introductory	Concentrator	Capstone
N/A	Advanced Multimedia	Audio Video Production
ARTS, MEDIA, & ENTERTAINMENT		
Production & Managerial Arts - Sobrato		
Introductory	Concentrator	Capstone
N/A	Stagecraft 1	Stagecraft 2
BUILDING & CONSTRUCTION TRADES		
Cabinetry, Millwork, & Woodworking - LO		
Introductory	Concentrator	Capstone
N/A	Woodworking	Woodworking 2
BUILDING & CONSTRUCTION TRADES		
Residential & Commercial Construction - LO		
Introductory	Concentrator	Capstone
N/A	Construction Technology	Construction Technology 2
HEALTH SCIENCE & MEDICAL TECH		
Patient Care - Sobrato		
Introductory	Concentrator	Capstone
N/A	Sports Medicine	Exercise Science
HOSPITALITY, TOURISM, & RECREATION		
Food Service & Hospitality - Live Oak		
Introductory	Concentrator	Capstone
N/A	Advanced Foods	Culinary
INFORMATION & COMMUNICATION TECH		
Software & Systems Development - Sobrato		
Introductory	Concentrator	Capstone
N/A	AP Computer Science P	AP Computer Science A

For more information about MHUSD's Career Technical Education Classes:
<https://bit.ly/mhUSDCTE>

CTE in MHUSD

- Six Industry Sectors:
 - Agriculture & Natural Resources
 - Arts, Media, & Entertainment
 - Building & Construction Trades
 - Health Science & Medical Technology
 - Hospitality, Tourism, & Recreation
 - Information & Communication Technology
- 16 Pathways within these Sectors
- Total Enrollment: 1902*

*This number reflects the total enrollment in each CTE course. There may be duplicates if students are enrolled in more than one course.

Agriculture & Natural Resources

Current Enrollment: 526 students

Agricultural Business

- Live Oak and Sobrato: Ag Bio, Soil Chem, and Ag Sales and Service or Art and History of Floral Design

Agricultural Mechanics

- Sobrato: Ag Mechanics and Welding

Animal Science

- Live Oak and Sobrato: Ag Bio, Soil Chem, and Vet Science

Plant and Soil Science

- Live Oak and Sobrato: Ag Bio, Soil Chem, and Horticulture





MORGAN HILL
FFA CHAPTER
PRESENTS



WHY SHOULD YOU BE IN AG EDUCATION?

Competitions Include:
Public Speaking, Career
Development Events (CDE),
and much more!

You get to be in FFA and
get the opportunity to
compete in various
competitions, attend
Leadership Conferences,
and more!

Become a Leader!



Raise an Animal!

Earn Scholarships!

Get ready for a Career!

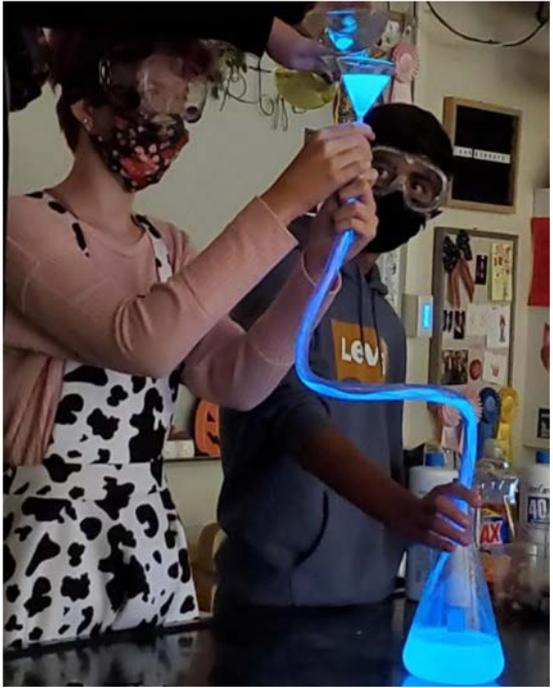
Learning to do, Doing to Learn,
Earning to live, Living to Serve

What is FFA?



FFA is an intracurricular student organization for those interested in agriculture and leadership. It is one of the three components of agricultural education.





Arts, Media, & Entertainment

Current Enrollment: 811 Students

Performing Arts

- Sobrato: Drama and Advanced Drama

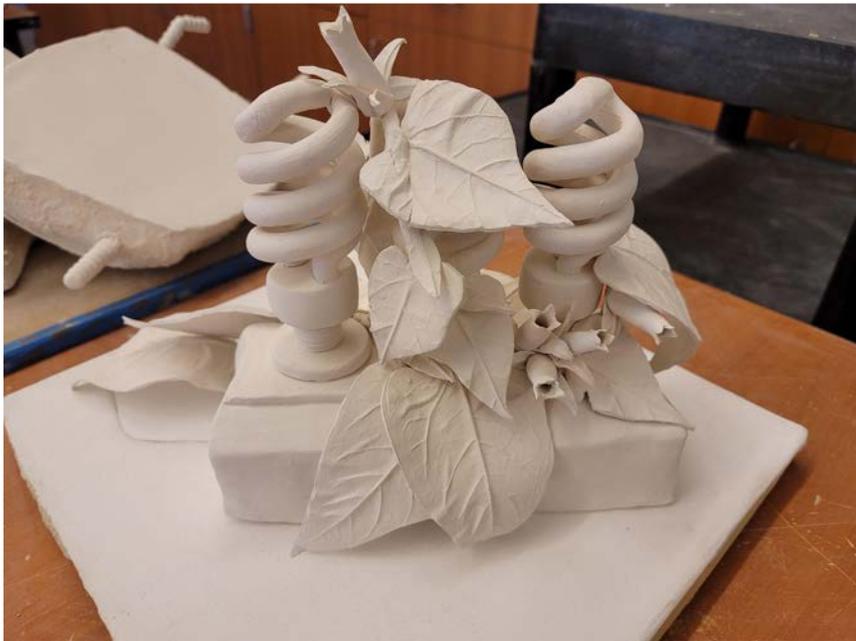
Production and Managerial Arts

- Live Oak: Advanced Multimedia and Audio Video Production
- Sobrato: Introduction to Stagecraft and Stagecraft 2

Design, Visual and Media Arts

- Live Oak: Intro to Graphic Design and Intro to Journalism and Tech Writing
- Sobrato: Ceramics and Advanced Ceramics,
- Studio Art and Advanced Studio Art, Advanced Photography and Graphic Design





Building & Construction Trades

Current Enrollment: 139 students

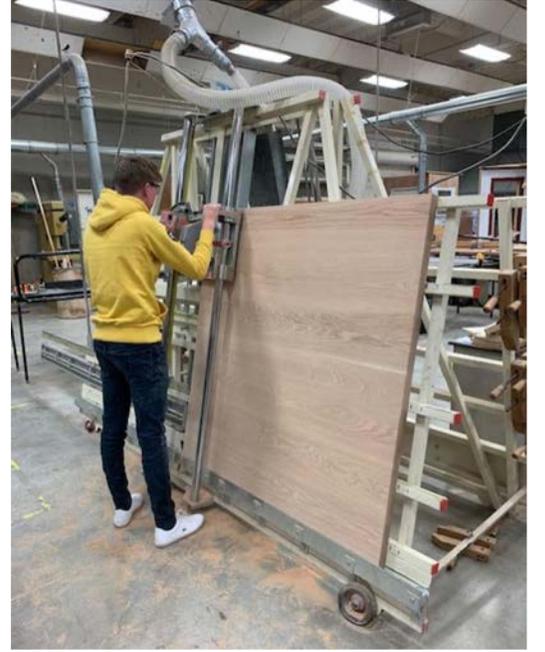
Cabinetry, Millwork & Woodworking

- Live Oak: Woodworking 1 and Woodworking 2

Residential and Commercial Construction

- Live Oak: Construction Technology and Construction Technology 2





Health Science & Medical Technology

Current Enrollment: 122 students

Patient Care

- Sobrato: Sports Medicine and Exercise Science





SPORTS MEDICINE

WHAT
Career Technical Ed

This program is designed to provide students with an overview in the field of Sports Medicine. The course is specifically geared for students who have a special interest in athletics, and/or who may be interested in pursuing a career in medicine, athletic training, physical therapy, EMT, or other health related fields. A comprehensive range of topics are explored including basic anatomy and physiology, emergency procedures, prevention and care of athletic injuries, protective taping and wrapping techniques, and therapeutic methods of injury care and rehabilitation. All students have the opportunity to become certified in American Red Cross First aid/CPR/AED use.

WHEN
Elective option for grades 9 - 12

ALL ARE WELCOME

ARE YOU INTERESTED IN:
Sports Medicine
Exercise Principles
Nutrition
Injury Prevention
Providing care to athletes
Volunteering at athletic events

FOR MORE INFO:
Dr. Christine Taylor
taylorc@mhusd.org





EXERCISE SCIENCE

WHAT
Career Technical Ed

This course provides students with the opportunity to explore their interests in the field of health science and medicine, specifically focused towards careers in personal training, strength and conditioning, and sport coaching. This course is designed to familiarize the student with the basics of personal training, specifically the demonstration and execution of exercise technique. Topics that will be explored include systematic strength training, plyometric (explosion) training, speed & agility training, physiology of exercise, and other training methods. This course is designed to prepare students to take the NSCA - Certified Personal Trainer Exam upon completion, at the age of 18.

WHEN
Elective option for grades 11 - 12

ALL ARE WELCOME

ARE YOU INTERESTED IN:
Athletics
Exercise Principles
Nutrition
Strength Training
Sport Coaching
Injury Prevention
Training athletes

FOR MORE INFO:
Dr. Christine Taylor
taylorc@mhusd.org





Hospitality, Tourism, & Recreation

Current Enrollment: 169 students

Food Service and Hospitality

- Live Oak: Advanced Foods and Culinary



Information & Communication Technology

Current Enrollment: 135 students

Software and Systems Development

- Sobrato: Computer Science and AP Computer Science

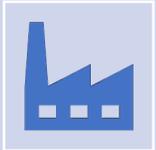


Manufacturing Day



Partnership between

Morgan Hill Chamber of Commerce
City of Morgan Hill
Morgan Hill Unified School District



Showcases manufacturing careers throughout Morgan Hill



Students attend one or more company tours throughout MH to see manufacturing across several industries



Next Steps: Looking Ahead

CTE in our Middle Schools

Bring CTE to our middle schools

Potential opportunities include

- Offer intro pathway courses in middle school vs CTE courses on a wheel
- Purposefully connect our existing high school pathways with new middle school options
- Focus on high demand industry sectors as we build connections

Central High School

Currently offer 1 CTE course (no pathway)

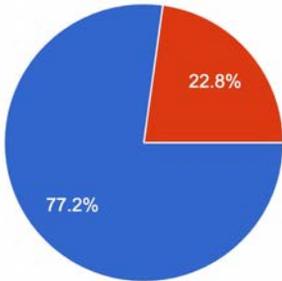
Exploring the possibilities:

- Building an arts (hands-on) CTE pathway at Central
- Opportunities for students to take CTE courses at Sobrato
- CTE Dual/Concurrent Enrollment options (Gavilán College)
- Establish robust connection with Silicon Valley CTE (SVCTE)

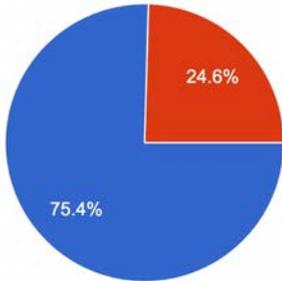
Surveyed Central HS Students

Central High School: A Sampling of Survey Results

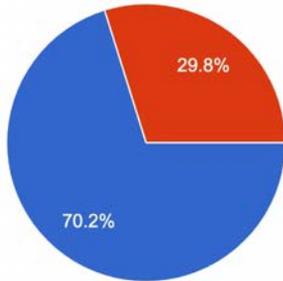
BUS 1: Fundamentals of Business
57 responses



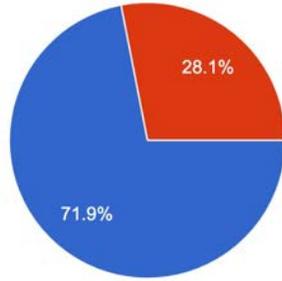
Art 8A - Intro to Photography
57 responses



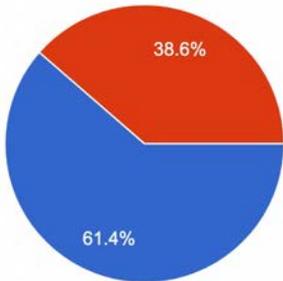
Art 7A - Beginning Ceramics
57 responses



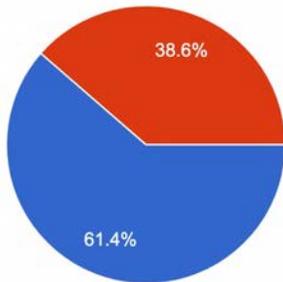
GUID 6 - Life Skills Higher Education
57 responses



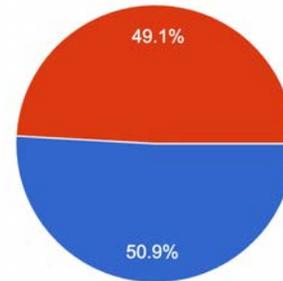
CD 40 - Child Development
57 responses



AJ 10 - Intro to Administration of Justice
57 responses



HVAC 201 - Basic Electrical Theory
57 responses



Yes

No



Supporting & Strengthening our CTE Pathways

- Purposeful and meaningful professional development
 - Externships for CTE teachers
- Vertical and horizontal Pathway alignment across the district
- Articulated college courses in every CTE pathway
- CTE Dual/Concurrent Enrollment options via Gavilán College

Supporting & Strengthening our CTE Pathways



CONNECTIONS TO HIGH PRIORITY
INDUSTRY SECTIONS



ESTABLISH INTERNSHIP
OPPORTUNITIES FOR CTE
STUDENTS



ESTABLISH WORK BASED LEARNING
OPPORTUNITIES FOR CTE
STUDENTS



*Thank you!
Questions?*