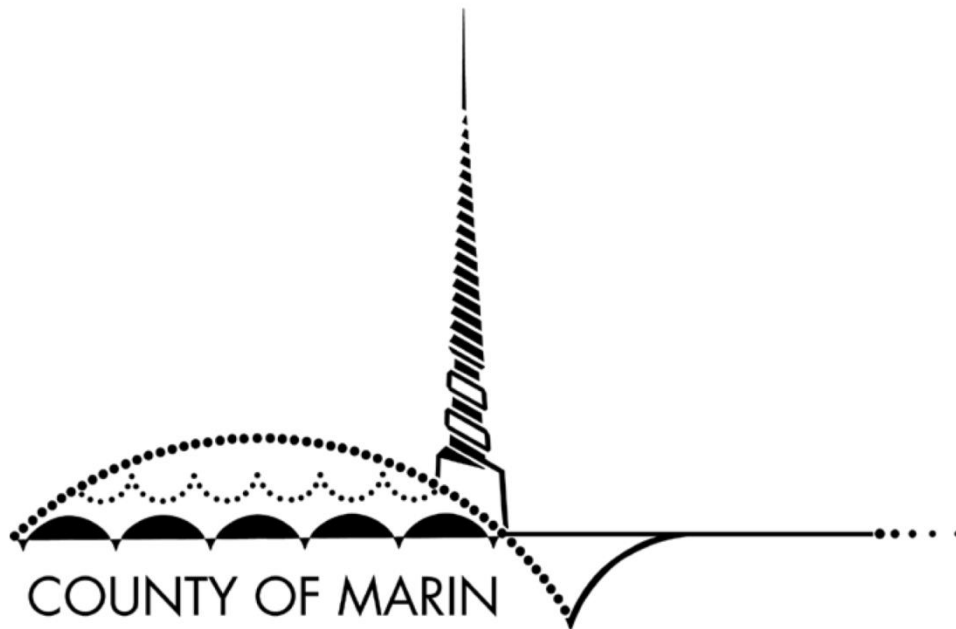


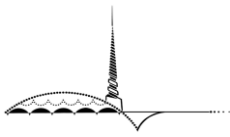
2018–2019 MARIN COUNTY CIVIL GRAND JURY

The Status of Career Technical Education in Marin County

Report Date: June 20, 2019

Public Release Date: June 27, 2019





The Status of Career Technical Education in Marin County

SUMMARY

In affluent Marin County there is an expectation on the part of parents that their children will attend and graduate from college. Schools have mirrored the expectations of parents and have stressed the importance of higher education for all students. This focus does not serve the interests of a substantial number of students who will complete their formal education with graduation from high school or who will not ultimately attain a college degree. The Marin County Civil Grand Jury understands that schools in the county have a two-fold mission: prepare students to succeed in post-secondary education (two- and four-year college degrees or formal certificate programs) or train them to go directly into the workforce.

Vocational training, now included in what is called Career Technical Education (CTE), is not promoted sufficiently to accommodate those students who could benefit from such programs. Although the educational establishment in Marin County has increased opportunities for this group, the workforce bound group may be unaware of the programs that exist. More can be done.

Currently, school counselors often focus on college choices and admissions. Our students would be better served if some of this valuable time was used in guiding students towards CTE offerings when appropriate. Similarly, career programs now center on vocations requiring extensive education — doctors, lawyers, engineers. Much more focus could be placed on CTE pathways — medical assisting, plumbing, auto repair.

Marin does not have sufficient facilities in place to train the numbers of students who are in the workforce bound group. To establish these programs is admittedly daunting, but it can be done. Such a program has existed for over a century at Silicon Valley Career Training Education, a high school focused on CTE located in San Jose. A similar campus in Marin could reach a broad range of students.

BACKGROUND

Traditionally, the purpose of secondary education has been to prepare those entering adulthood to proceed into the workforce or to continue on to colleges and universities. It has long been the desire of most Marin County parents to see their children leave high school bound for college. In response to this, most secondary education in this county has aimed at preparing children to successfully navigate this path.

Despite the desires of many of the parents, a substantial number of students, beyond those with special needs or severe disciplinary problems, do not leave high school and go on to achieve a degree or certificate in post-secondary education within six years of graduation. Vocational training, now called Career Technical Education (CTE), can be the pathway for many of these students. A Marin County Civil Grand Jury report on this subject was published in 2007.¹ The current Grand Jury attempted to ascertain how things have changed for these students since 2007.

APPROACH

The Grand Jury has obtained information presented through interviews, written questions and data available to the public. Interviews included county and school leaders, personnel directly working with the students in CTE, those working in post-secondary CTE programs, and potential employers looking for skilled workers. Websites are referenced with footnotes and include the Marin Promise Partnership, labor union agreements, as well as those of the MCOE, Silicon Valley Career Technical Education and College of Marin.

¹ [“CAREER TECHNICAL EDUCATION: MARIN'S BEST-KEPT SECRET.”](#) *Marin County Civil Grand Jury*. 26 Jun. 2007.

DISCUSSION

The Mission of High School

In general, the mission statements of Marin’s high school and of the districts of which they are a part offer lofty phrases to express the need to instill a thirst for knowledge (See Appendix A). Words or phrases that appear in the descriptions include: creative, self-motivated, passionate, dignity, worth of each individual, embrace their own learning, think critically, experience, and success. These are all virtues that are associated with those who are capable of becoming successful in society.

Many members of our society lack some qualities from the list above and still lead productive and happy lives. One particular mission statement utilizes fewer of these words, yet, has a message that includes the student who will enter the workforce after achieving a high school diploma.

The Shoreline Unified School District, in partnership with the home and our rich diverse community, will prepare students for their future, assist them in becoming lifelong learners and enable them to reach their full potential as responsible, productive, and contributing members of society (emphasis added). The District will provide a safe educational environment in which students are actively engaged, excellence is expected, and differences are respected and valued.²

While Shoreline places greater emphasis on non-college bound students, each mission statement focuses on the entire student body. Terra Linda’s statement, for example, says “every student receives an empowering education.”³ Novato’s hope is to “empower all students, in a rapidly changing world, to realize their life goals.”⁴ Given that schools have a duty to prepare all students “for their future” and “enable [all] to reach their full potential,” high schools have a dual mission to:

- Equip students with the tools needed to succeed in higher education.
- Prepare students to enter the workforce in a trade or vocation.

Acknowledging a dual mission may encounter resistance; most high schools in the county focus on preparing students to continue their academic education post high school. Educational leaders in Marin have said that they would always advise students to pursue further education after graduating from high school.

An exception to high schools advocating for post high school education is Marin Oaks High School. This school works with students who are not succeeding in the mainstream high schools. These students are currently not headed for a four-year college and the focus of this school is to

² “[Mission Statement](#),” Shoreline Unified School District. Accessed 11 Apr. 2019.

³ “[TLHS Mission Statement](#),” Terra Linda High School. Accessed 11 May 2019.

⁴ “[NUSD Mission Statement](#),” Novato Unified School District (Includes Novato and San Marin High Schools). Accessed 11 May 2019.

get students back on track to graduate from high school. These students have a high likelihood of going straight into the workforce and this school is focused on developing programs to prepare them for post high school employment.

Outcomes for High School Graduates

According to MCOE, Marin County high schools graduate about 2000 students per year. (2007: 1978 Students, 2017: 2107 Students, info provided by MCOE).

Approximately 77% (about 1500) of Marin County high school graduates go on to college or some form of post-secondary school training. In 2017, about half of graduating students enrolled in a four-year college or university. The balance of the 77%, presumably, attended community colleges or certificate programs.⁵

The number of students who complete post-secondary education is considerably smaller. On average only about 51% (less than 800) of the graduating high school students who go on to college or post-secondary training actually get a degree within six years of graduating from high school. This indicates that as many as 1200 students each year do not complete any formal post high school education. Thus, approximately half of our students will have to make a living with little or no formal education beyond what they will receive in high school.

Resources for High School Students Preparing to Enter the Workforce

The high schools in the county's four secondary school districts actually offer a broad array of courses aimed at preparing students for future careers. Appendix B provides a list from the MCOE of the CTE courses offered by the county's high schools. These offerings include courses aimed at college bound students as well as students who will be heading straight into the workforce.

In addition to the courses in Appendix B, several other opportunities offered by Regional Occupational Programs (ROP) and Schools to Career (STC) exist.⁶ These programs were covered extensively in the 2007 Grand Jury report.

⁵ ["Cradle to Career Educational Progress Report"](#) *Marin Promise Partnership*. Apr. 2019.

⁶ ["School to Career Partnership."](#) *Marin County Office of Education*. Accessed 9 Jun. 2019.

Examples of current CTE opportunities include:

Construction Skills: Redwood High School provides a program for 10th through 12th graders to learn construction skills. This is an ROP program that runs for 18 Wednesday evenings from 5:00 PM to 9:00 PM and earns the same credits as a daily course for a semester. In this course, students learn basic construction skills as they construct a small structure.

A new program has started with a substantial grant from one of the large construction contractors in the area. Its goal is for high school seniors to gain a deeper exposure to the construction trades. Students take introductory courses in a variety of trades on Tuesday evenings and one Saturday a month; they finish with a two week “boot camp” in the summer after they graduate. The program’s goal is to prepare students to enter one of the trades as an apprentice.

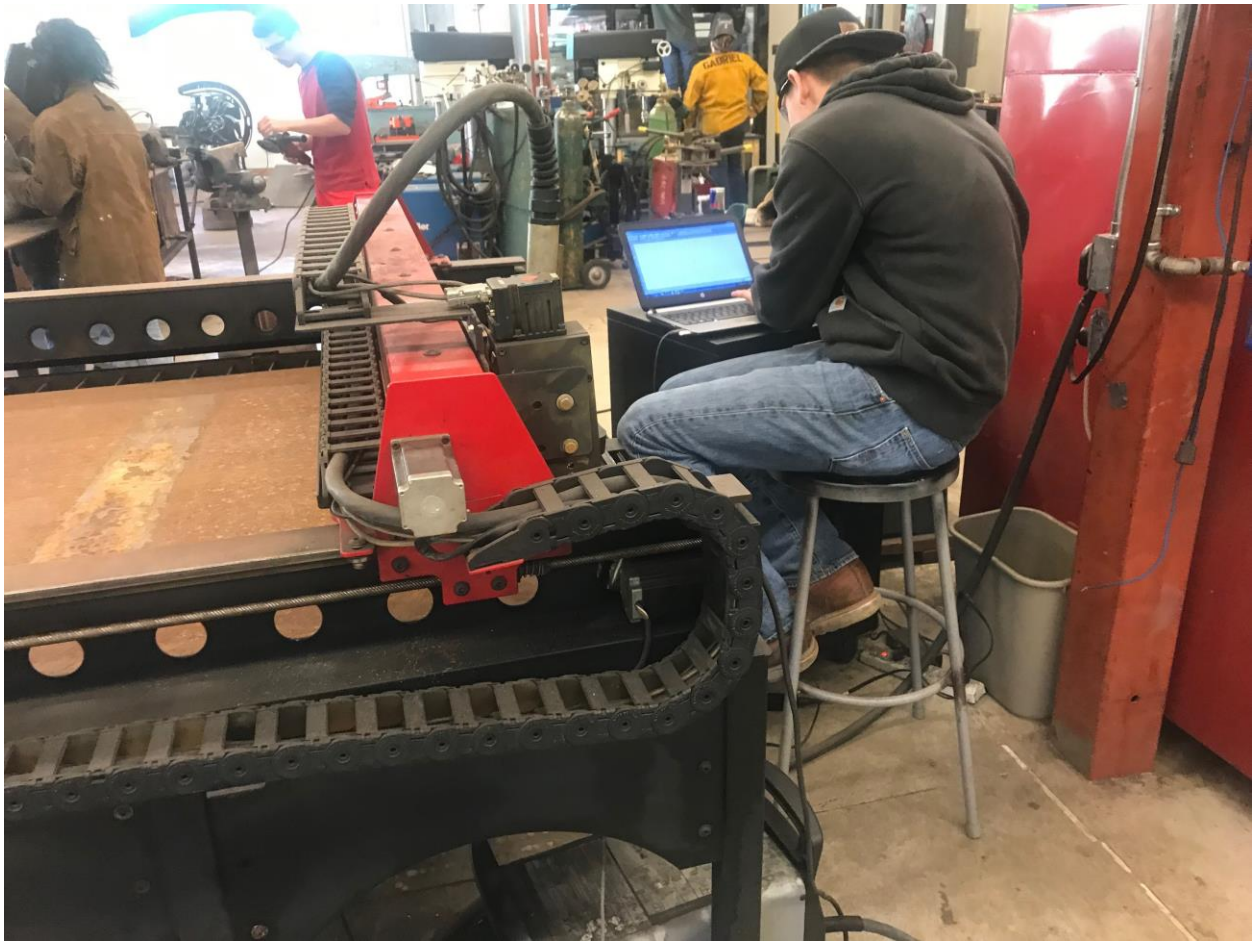
Virtual Reality: XR Marin is a 2000 sq. ft. Regional Training Center located at Hamilton for high school students and adults interested in virtual reality, augmented reality, mixed reality & 360-degree video. XR Marin is sponsored by the MCOE in partnership with the College of Marin, Novato Unified School District, and the Marin County Free Library.⁷

Medical Technicians: Kaiser Permanente offers a certificate program which will enable the successful student to be accepted for an entry level position as a medical assistant throughout the Kaiser Permanente network. The certificate is also recognized by other (but not all) medical employers. This program has been offered for approximately 15 years and is offered in conjunction with MCOE. Students from any Marin County high school are eligible to apply.

Tomales High School Welding Instruction: Tomales High has a robust welding program. Students are able to perform most welding skills from tack welding to cutting intricate designs and patterns from computer assisted metal cutting machines. Welding instruction is part of the agriculture department at Tomales.⁸ Because of its rural location, many of the students already have had exposure to the necessities of farm operations. Overall, the agricultural department at Tomales High School appears vibrant and successful in meeting the needs of students who plan on entering the workforce directly from high school or after receiving minimal continuing education.

⁷ “[XR Marin](#).” *Marin Arts*. Accessed 9 Jun. 2019.

⁸ “[2015-16 School Accountability Report Card](#).” *Tomales High School*. Accessed 9 Jun. 2019.



Computer Assisted Design (CAD) Cutting Station

Awareness of Programs

Little emphasis is placed on CTE opportunities by high school counselors. Interviews revealed that most counselors focus on post-secondary education while CTE opportunities are seldom addressed. Some schools have a specific counselor to handle these CTE opportunities, sometimes hired at the district level, but others seem to ignore them altogether. MCOE tries to mitigate this problem by providing additional counselors to augment those of the schools. More needs to be done.

School counselors often host group sessions to enlighten students about potential career paths. Most of the careers highlighted require a college education. Some effort is made to provide information as to potential careers not requiring a college degree, but not in relation to the number of students who would benefit from such a discussion. Marin Oaks has a program called *Bridges*.⁹ This year-long program provides students with resume preparation assistance, job interview training, internships, and guest speakers. Through Bridges, information on trade professions is provided though it appears that its main focus is upon preparing the student for success in college or post-secondary vocational programs. Though a laudable goal, it doesn't

⁹ ["Introducing the Bridges Program to Marin Oaks."](#) Novato Unified School District. 28 Nov. 2016.

seem to provide the student who seeks to obtain full time employment immediately about graduation with the necessary training. More needs to be done.

Obstacles to a Creating Comprehensive CTE Pathway

There are obstacles to setting up a truly comprehensive CTE pathway:

- Resources
- Eliminating the stigma associated with non-academic preparation

Resources: A large allocation of resources directed towards CTE would be required. Making every trade available at every high school is clearly impractical. Two or three specialty high schools (perhaps charter schools) might be set up for 11th and 12th graders. Alternatively, a single campus run by the MCOE to serve the entire county (as is done with the Silicon Valley Career Technical Education - see section below) might be more practical.

Eliminating the Stigma: Not everyone is destined to be a brain surgeon, lawyer, or practitioner of other prestigious professions. Based only on economic rewards, tradesmen often are richly rewarded. The median household income in California in 2017 was \$71,805.¹⁰ The union wage for a journeyman carpenter in Marin is \$46.40 per hour plus benefits.¹¹ Though not a direct comparison, a journeyman carpenter, if employed full time can earn a wage far above the median household income for California. If a student begins the training to become a journeyman carpenter while still in high school, journeyman status could be obtained before the age of 25. Our educational system can take the lead in instilling the idea that there is value and purpose in all productive pursuits. The value of starting the productive phase of life at a young age and without debt, can be instilled in our students.

A Model Program

In the Bay Area, a comprehensive program has stood the test of time. Established first in 1917, it is still going strong. This is the Silicon Valley Career Technical Education (SVCTE) program of the Metropolitan School District. This school district is a Joint Powers Authority (JPA) comprised of six school districts in Santa Clara County. The districts contain 41 high schools and approximately 100,000 students. The program has been at its current campus since 1965. This campus was built with state funds and is funded operationally by the member school districts.

SVCTE has one- and two-year programs covering 24 vocational areas. See Appendix C for a list of courses. Some of these tracks require post-high school formal education. Examples are the programs in firefighting, law enforcement, veterinary science, animation, and pharmacy. Most, however, prepare the student to either go directly into the workforce at a vocational level or go

¹⁰ "[California Household Income](#)." *Department of Numbers*. Accessed 31 Mar. 2019.

¹¹ "[Carpenters Wages](#)." *Carpenters Union Wage Table*. Accessed 31 Mar. 2019.

on to additional formal education to enter at a professional level. The construction trades, automotive technology, fashion design and textile art, dental technology, film and video production are examples of these two-tiered programs. There is emphasis on internships and, over the years, a sizable network of partnerships has been built. Many of these partners provide students summer internships and many students are offered jobs on graduation. In the electrical and HVAC programs, local partners provide students who have a B grade or better tool kits valued at about \$750.



Entry to Silicon Valley Career Technical Education Campus

The program has a strong emphasis on employment soft skills: showing up on time, addressing your boss and teammates appropriately, dressing appropriately, and presenting yourself and your resume professionally.

Students at SVCTE continue to be a part of their local high schools and spend either their mornings or afternoons there with the balance of their day at SVCTE. Busses transfer students from the high school campus to SVCTE and back. The students cover the remaining core courses needed for graduation at their local school and the CTE courses at SVCTE.

Duplicating this program in Marin would face additional challenges. SVCTE has approximately 1600 to 1800 students drawn from 41 high schools. Marin County has only eight mainline high schools. SVCTE also had state funding in the sixties to purchase the land and build the facilities; this may not be available now. It is worth noting that the Novato School District has land at Hamilton and there may be facilities at IVC that could be modified for the purpose.

CONCLUSION

A century ago, many went into a trade at the age of sixteen. For decades through the mid-twentieth century, a high school diploma was sufficient to gain entry into a trade that would support a family and give lifetime employment. Today, parents and educators feel that everyone needs a college degree to succeed. Is this approach wise? With only about half of those entering college actually getting a degree within six years, the waste in time and resources for those who do not seems staggering.

The educational establishment in Marin County has taken steps to increase opportunities for students who will be completing their formal education with a high school diploma. However, the students who will not go on to higher education or ultimately succeed in college are underserved in too many cases. Much more needs to be done to remove the stigma from non-academic pursuits and make students and their parents aware of the opportunities that exist.

FINDINGS

- F1. Marin County high schools' focus on preparing students to go to college poorly serves approximately half of the students who will not complete post-high-school formal training within six years of graduation.
- F2. Much of the career information presented to parents and students concerns opportunities for continued education in colleges and universities with little emphasis on available CTE opportunities, leaving workforce bound students and their parents unaware of the possibilities.
- F3. In each high school, counselors, except where there is a specialized counselor, generally do not have an in-depth knowledge of available CTE opportunities, limiting their ability to serve workforce bound students.
- F4. A lack of physical resources and coordinated programs for CTE programs in the county disadvantages students who want to pursue non-academically oriented careers.

RECOMMENDATIONS

- R1. During the 2019-2020 school year and annually thereafter, a career night should be offered at each high school for all students and parents featuring various CTE options as well as the more traditional offerings.
- R2. Throughout the 2019-2020 school year and annually thereafter, parents should be made aware of the income potential and career security enjoyed by people in the trades.
- R3. In the 2019-2020 school year and periodically thereafter, all high school counselors should receive in depth training in the available CTE opportunities to enable them to effectively counsel all students.
- R4. The Marin County Office of Education should establish a working group by December 31, 2019, to collaborate with local employers and other entities to create post high school career pathways.

REQUEST FOR RESPONSES

Pursuant to Penal code section 933.05, the grand jury requests responses as follows:

From the following governing bodies:

- Marin County Office of Education Board of Directors (R1, R2, R3, R4)
- Tamalpais Union School District Board of Trustees (R1, R2, R3)
- Novato Unified School District Board of Trustees (R1, R2, R3)
- San Rafael School District Board of Education (R1, R2, R3)
- Shoreline Unified School District Board of Trustees (R1, R2, R3)

The governing bodies indicated above should be aware that the comment or response of the governing body must be conducted in accordance with Penal Code section 933 (c) and subject to the notice, agenda and open meeting requirements of the Brown Act.

Note: At the time this report was prepared information was available at the websites listed.

Reports issued by the Civil Grand Jury do not identify individuals interviewed. Penal Code Section 929 requires that reports of the Grand Jury not contain the name of any person or facts leading to the identity of any person who provides information to the Civil Grand Jury. The California State Legislature has stated that it intends the provisions of Penal Code Section 929 prohibiting disclosure of witness identities to encourage full candor in testimony in Grand Jury investigations by protecting the privacy and confidentiality of those who participate in any Civil Grand Jury investigation.

APPENDIX A: Mission Statements for Marin Public High Schools

Novato High School District

*Engage, inspire and empower all students, in a rapidly changing world, to realize their life goals.*¹²

Tamalpais Union High School District

*The Tamalpais Union High School District is dedicated to the development of creative, passionate, and self-motivated learners. Upon graduation, students will be prepared for engaged citizenship and able to contribute individually and collaboratively in order to address the challenges of a dynamic and diverse world. To these ends, all students will demonstrate mastery of core competencies and will be offered meaningful learning experiences to enable them to access and critically analyze information, pose substantive questions, and communicate effectively.*¹³

San Rafael High School

*Our mission at San Rafael High School is for each student to acquire the skills and knowledge necessary to succeed in the future and to contribute to society while recognizing the dignity and worth of each individual.*¹⁴

Terra Linda High School

*The San Rafael City Schools community ensures that every student receives an empowering education. High expectations and skillful individualized instruction enable all students to embrace their own learning, think critically, and experience success. Our welcoming school climate ensures our diverse community of students, families, staff, and community members are treated with dignity and respect, creating opportunities for participation, engagement and support. Every student graduates ready for college and/or a career, able to take responsibility for a future that includes life-long learning.*¹⁵

Shoreline Unified School District

*The Shoreline Unified School District, in partnership with the home and our rich diverse community, will prepare students for their future, assist them in becoming life-long learners and enable them to reach their full potential as responsible, productive, and contributing members of society. The District will provide a safe educational environment in which students are actively engaged, excellence is expected, and differences are respected and valued.*¹⁶

Mission Oaks

*The mission of Marin Oaks is to provide a small, learning environment that fosters a collaborative culture, which focuses on credit recovery and academics to help build the bridge to post-secondary education.*¹⁷

¹² "[NUSD Mission Statement](#)." Novato Unified School District (Includes Novato and San Marin High Schools), Accessed on May 11, 2019

¹³ "[TUHSD Mission Statement](#)." Tamalpais High School District (Includes Drake, Tamalpais and Redwood High Schools), Accessed on May 11, 2019.

¹⁴ "[SRHS Mission Statement](#)." San Rafael High School, Accessed on May 11, 2019.

¹⁵ "[TLHS Mission Statement](#)." Terra Linda High School, Accessed on May 11, 2019.

¹⁶ "[SUSD Mission Statement](#)." Shoreline Unified School District, Accessed May 11, 2019.

¹⁷ "[Marin Oaks](#)." Novato Unified School District. Accessed 9 Jun. 2019.

APPENDIX B: Marin HS Pathways & CTE Programs (2017-18)

Novato Unified School District

Novato High School - NCCPA Pathways
Manufacturing and Product Development/ Product Innovation and Design (9-12)
<ul style="list-style-type: none"> ▪ Product Design 1 ▪ Product Design 2 ▪ Product Design 3

Other Novato High CTE Programs
<ul style="list-style-type: none"> ▪ North Bay School of Innovation (potential CTE) ▪ Marin School of the Arts (potential CTE) ▪ Medical Careers Pathway ▪ Aerospace (ROTC)

San Marin High School - NCCPA Pathways
Health Sciences and Medical Tech./ Biotechnology (9-12)
<ul style="list-style-type: none"> ▪ Biology for Biotechnology ▪ Chemistry for Biotechnology ▪ Biotechnology 1 ▪ Biotechnology 2

Other San Marin High CTE Programs
<ul style="list-style-type: none"> ▪ STEM Academy ▪ San Marin Arts and Technical Arts Technology (smARTt) ▪ Auto Tech 1&2 ▪ GIS Fundamentals, Engineering Design, and Computer Modeling ▪ CISCO Academy ▪ AP Computer Science Principles ▪ Photojournalism

APPENDIX B: Marin HS Pathways & CTE Programs (2017-18) (cont'd)

San Rafael City Schools

San Rafael High - NCCPA Pathways
Engineering & Architecture/Engineering Tech. (9-12)
<ul style="list-style-type: none"> ▪ Engineering Principles & Engineering Tech. 1 ▪ AP Physics and Engineering Technology 2 ▪ Senior Engineering Projects
Information and Communication Technology/ Software and Systems Development (9-12)
<ul style="list-style-type: none"> ▪ Introduction to Computer Science ▪ AP Computer Principles

Other San Rafael High CTE Programs
<ul style="list-style-type: none"> ▪ Metal Shop 1 & 2 ▪ Woodshop 1 ▪ Broadcast Journalism ▪ Media Academy (TV Video Tech 1 & 2) ▪ Automotive Repair 1 & 2

Terra Linda High - NCCPA Pathways
Health Sciences & Medical Tech./Patient Care (11-12)
<ul style="list-style-type: none"> ▪ ROP Medical Assisting ▪ Medical Assisting Externship (summer)
Engineering & Architecture/Environmental Engineering (11-12)
<ul style="list-style-type: none"> ▪ MarinSEL Environmental Engineering ▪ MarinSEL Senior Internship (questions around whether this counts)

Other Terra Linda High CTE Programs
<ul style="list-style-type: none"> ▪ Automotive Repair 1 & 2 ▪ Engineering Tech 1 & 2 ▪ Gaming Academy (in development)

Shoreline USD

Tomales High - NCCPA Pathways
Agricultural & Natural Resources/AgriScience. (9-12)
<ul style="list-style-type: none"> ▪ Sustainable Ag Biology ▪ Ag Soil Chemistry
Agricultural & Natural Resources/ Agricultural Mechanics (9-12)
<ul style="list-style-type: none"> ▪ ROP Ag Mechanics ▪ ROP Beginning Ag Welding ▪ ROP Advanced Ag Welding ▪ ROP Ag Project Fabrication

Other Tomales High CTE Programs
<ul style="list-style-type: none"> ▪ AP Computer Science Principles

APPENDIX B: Marin HS Pathways & CTE Programs (2017-18) (cont'd)

Tamalpais Union High School District

Redwood High - NCCPA Pathways
Engineering & Architecture / Architectural Design (9-12)
<ul style="list-style-type: none"> ▪ Architecture 1/2 ▪ Architecture 3/4 ▪ Advanced Architecture Design Honors
Engineering & Architecture/Engineer. Design (9-12)
<ul style="list-style-type: none"> ▪ Introduction to Engineering Design ▪ ROP Engineering Projects

Other Redwood High CTE Programs
<ul style="list-style-type: none"> ▪ Accounting 1-4 ▪ Web Design ▪ Computer Graphics ▪ Computer Programming 1 & 2 ▪ AP Computer Science ▪ Digital Communications - Redwood TV ▪ Construction Technology/Woodshop

Sir Francis Drake High - NCCPA Pathways
Engineering & Architecture/Engineering Design (9-12)
<ul style="list-style-type: none"> ▪ Principles of Engineering Technology ▪ Engineering Design ▪ Engineering Projects

Other Sir Francis Drake CTE Programs
<ul style="list-style-type: none"> ▪ Computer Programming 1-2 ▪ AP Computer Science ▪ Computer Graphics 1-6 ▪ Web Design 1-4 ▪ Communications Academy ▪ Graphic design

Tamalpais High School - NCCPA Pathways
Information and Communication Technology / Software and Systems Development (9-12)
<ul style="list-style-type: none"> ▪ Computer Programming 1/2 ▪ Computer Programming 3/4 ▪ AP Computer Science
Engineering & Architecture / Engineering Design (9-12)
<ul style="list-style-type: none"> ▪ Principles of Engineering ▪ Introduction to Engineering & Design ▪ Engineering Projects

Other Tamalpais High CTE Programs
<ul style="list-style-type: none"> ▪ Auto Tech ▪ Advanced Auto Tech ▪ Documentary and Integrated Media Studies (AIM) ▪ Architectural Design 1/2

APPENDIX C: Silicon Valley Career Technical Education 2018-19 Courses

Animation

Acquire skills in basic figure drawing, cell animation, and 2D and 3D computer animation. Develop an understanding of script writing, storyboarding, and sound design.

Auto Body Refinishing

Use restoration techniques to prepare the surface of vehicle parts for finishing spray painting and detailing work. Learn in a professional shop environment.

Auto Body Repair

Develop skills of welding, metal straightening and finishing, surface preparation to return cars to pre-accident condition. Apprenticeships may be available.

Automotive Services

Study eight areas of basic and advanced skills in: automotive brakes and alignment, electrical and electronic systems, automatic and manual transmission repair, engine repair, engine performance, heating ventilation and air conditioning, and suspension and steering.

Construction Technology

Design, estimate, and construct buildings with carpentry tools and equipment using industry standards.

Culinary Arts

Students train in our well-equipped kitchen to prepare stocks, cuts of meat, poultry and seafood utilizing a variety of cooking methods. Work in various kitchen positions and restaurant settings while preparing for your career and future college education.

Cybersecurity

Train students for technical challenges in a networked computer system and learn methods to protect vital data in private and public industries. Prepare secure communications and identify risks for networks and devices.

Dental Assisting

Preparation and internship for students who aspire to be dental assistants, dental hygienists, and dentists. Acquire chair-side assisting skills, laboratory, and x-ray capabilities. Qualified students may earn state certification in radiation safety and infection control.

Electrical Maintenance

Students install, maintain, troubleshoot, and repair residential and commercial electrical systems. Successful students are qualified to receive the California Electrical Training Card.

Fashion Design & Textile Art

Students learn entry-level skills in the clothing and fashion field. Style, line, color and design principles will set the tone for creating garments. Students will apply art elements and principles of fine art and design to their work.

Film & Video Production

Students learn to write for television and film, storyboarding, directing, and sound design engineering. Produce videos for business and entertainment from script writing to final edit.

Fire Science/First Responder

Students will be introduced to Fire Department and Emergency Services related fields and techniques used to perform the job. The class focuses are academic, technical skills and employability practices.

APPENDIX C: Silicon Valley Career Technical Education Courses (cont'd)

Forensic Science

Develop the knowledge and training related to forensics while exploring the procedures to solve crimes. Topics include investigating crime scenes and laboratory safety rules and regulations.

Heating, Ventilation, And Air Conditioning (HVAC)

Learn maintenance, overhaul, repair, and adjustment of residential and commercial heating, air conditioning, and refrigeration units.

Law Enforcement

Prepare for a career in public and private investigative fields. Understand the criminal justice system, investigate crimes, and improve decision-making skills.

Mechatronics Engineering

The combination of electrical and mechanical engineering where students design, build, and program robotic mechanisms. Students will apply C++ and Python coding to direct microcontroller parts.

Medical Assisting

Learn back office medical procedures. Topics include medical terminology, anatomy and physiology, lab procedures. Clinical training in hospitals, clinics, and doctors' offices is available.

Medical Science/Health Careers

Prepare students who aspire to become nurses and doctors for a career in the medical field. This course focuses on human biology and disease, practice hands-on patient care, medical terminology, leadership and teamwork, with hospital internships in emergency, surgery, physical therapy, radiology, pediatrics, and more.

Metals Technology

Learn welding theory and safety with hands-on experience in operation of welding equipment. Welding is used in auto repair, building construction, ornamental ironwork, and many machinery jobs.

Mobile App Design and Computer Coding

Learn multimedia design, web development for internet technology and programming for mobile platforms and devices. Learn the process of designing, coding and deploying mobile applications for use in e-commerce, productivity, enterprise and web purposes.

Pharmacy Technician

This course prepares students with the knowledge and skills required for employment as a pharmacy clerk. It focuses on academics, technical skills, and employability practices essential in the pharmacy profession.

Sports Medicine & Kinesiology

Acquire skills related to anatomy and physiology, nutrition, fitness and exercise, taping procedures, vital signs, training room management, injury treatment and training, patient care, and bio-metrics of movement.

Truck Mechanics

Repair and service the systems and components on light and heavy-duty trucks and sports utility vehicles. Prepare for jobs in the auto/truck/heavy equipment industry.

Veterinary Science

Learn anatomy and physiology, as well as animal health and disease, animal behavior and client communication to prepare for employment in Veterinary careers.

APPENDIX C: Silicon Valley Career Technical Education Courses (cont'd)

Advanced Courses

Only available to second year students or with counselor/teacher approval.

- Advanced Automotive Services
- Advanced Culinary Arts
- Advanced Fashion Design & Textile Art
- Advanced Film & Video Production
- Advanced Fire Technology II
- Advanced Metals Technology
- Advanced Truck Mechanics