

EDUCATION *& Training*

CUSTOM CONTENT • February 4, 2019



K-12 STEAM GUIDE

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Orange Coast College
PLANETARIUM

Opening Spring 2019

Visit galaxies near and far at Orange Coast College's Planetarium. In addition to providing space for college-level courses, the Planetarium will be accessible to the local community with shows, lectures and K-12 field trips throughout the year. Take in a show in the state-of-the-art, 125-seat dome theater, or witness the rotation of the earth with Orange County's first Foucault Pendulum. Weather buffs won't want to miss the National Oceanic and Atmospheric Administration Science on Sphere exhibit, capable of showing weather patterns on Earth in real-time. Find out more at www.orangecoastcollege.edu/planetarium

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ORANGE
COAST
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READY. SET. LAUNCH.

On a recent cold morning at Vandenberg Airforce Base near Lompoc, Calif, a record number of people chose to forego sleep in order to watch an historic space launch.

Orange Coast College alumni Jessica Artinger joined a crowd of roughly 50 fellow “ELFINers” who rose before dawn to make the three-hour drive from Los Angeles to see project “ELFIN” launch into space. ELFIN (Electron Losses and Field Investigation CubeSat) is the name of a student-led, five-year-long project that built two satellites, designed to measure space weather. The satellites - constructed at UCLA and attached to a rocket - were both about as big as a loaf of bread. It was a prideful moment for the students who spent five years working on the project, including Artinger; a recent transfer student to UCLA, she eventually became the lead fabrication engineer for the project.

“We got to hear the countdown to [launch], the crowd started kind of counting down with the guy that was in the control room,” Artinger said. “So everybody was getting super excited and you could just feel the energy before the actual rockets lit up.”

During her three and a half years as a student at OCC, Artinger built an impressive resume. She was the president of the astronomy club, president of Phi Theta Kappa (an international honor society for two-year colleges), vice chair of the advocacy committee, logged 850 service hours and was named the 2016 student leader of the year. It’s little wonder Artinger became the lead fabrication engineer- her time at OCC gave her the tools needed to take on the task.



“My last year at OCC I quit my day job so I could dedicate all my time to school,” she said. “That really prepared me [in terms of learning to] juggle the stresses of getting this done. We literally built the last two flight models in the last three months, which is an extremely tight timeline.”

When Artinger first set foot on OCC’s campus in Spring 2013, she never imagined it would be the first step on a path that led to helping launch a satellite into space.

“In fact, I didn’t really become an astrophysics major until my last two years [at Coast],” says Artinger. “I knew I wanted to study science but I didn’t know what branch of science. I didn’t really know much, and I didn’t follow rockets or anything like that. Looking back, if you would have told me that I would be doing this, I would have told you that you’re crazy.”

Artinger came to OCC with the intent of transferring to UCLA but never knew how much she would grow to care about the College - her post-UCLA plans include teaching at Coast.

“I think that, especially in science, everybody is capable,” says Artinger. “Having instructors that push students along the way is important. And I got that from OCC. It would be really cool to be able to give that back.”



Photo courtesy of NASA/Bill Ingalls

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CONCORDIA UNIVERSITY IRVINE SCHOOL OF BUSINESS ALUM IS PUTTING HIS DEGREE TO WORK ORGANICALLY

Concordia University Irvine School of Business graduate Paul Greive '07 was working a desk job when he decided to make a change. Seeking a lifestyle with greater meaning and quality, he and his family began raising pasture-fed chickens for local consumption. In just five years, Greive's companies, Primal Pastures and Pasturebird, have ballooned to \$4,000,000 in annual sales.

Greive, who was a business major at Concordia University Irvine as well as a gifted athlete, took full advantage of Concordia's liberal arts community and was "super involved on campus." "I loved the small classes, the small vibe," he says. "Compared to my friends at big public schools I had ten times as many friends. I loved every minute of Concordia and thought it was the best place ever."

He came to play baseball but burned out on the sport and was recruited instead to throw the javelin.

"Track was amazing because the team was super diverse," he says. "I had roommates from all over the world: Africa, Mexico, Asia. It was a really cool group of people. Coach Blutreich will forever be the ultimate mentor to a college kid. He shared his faith in a way that was so unique and compelling to a college athlete. He was a big part of my life in college. I still want to be like him."

And when a national race-walking coach visited campus and urged him to pursue the sport, he did just that. Five weeks later, Greive had qualified for nationals and earned sixth place at championships, making him an All-American race-walker and javelin hurler. Greive also helped found the Chinese language club, hosted a campus radio show and became a member of the handbell choir.

After graduation and a four-year career in the Marine Corps as an intelligence officer, Greive returned to civilian work, earned his CPA license, and landed a job with a good accounting firm. But "I wasn't passionate about what I was doing," he says. "I always knew I wanted to do entrepreneurship."

After raising a batch of fifty chickens and selling them on Facebook, Greive and his family members realized they had a viable business. Greive began plowing time into the operation before and after work. They soon won a \$15,000 entrepreneurial award from UCLA, which made it realistic to try farming full-time. "It's not all fun and games," Greive says, recalling how difficult it was to leave a regular salary. A major boost came from a 2013 Kickstarter campaign that caught national attention and was featured on MSNBC, L.A. Weekly and AOL.com. Dubbed the "Let's build a farm together" campaign, it raised \$60,000.

And Primal Pastures was born. It sells pasture-raised chicken, lamb, pork, beef, turkey, eggs and raw honey directly to consumers. It is one of just a handful of farms in the area that raises animals for consumption in a rotational grazing method, allowing the animals to eat and live close to nature. Primal Pastures now has 7,000 customers, with sales to almost every state west of the Mississippi River.

Greive, who earned his MBA at UCLA, has now expanded the rotational grazing ethic of Primal Pastures to a national scale. His idea, called Pasturebird, involves a proprietary technique to graze chickens in much greater numbers on grass, eating bugs and worms, without the requirement for antibiotics or drugs. Its mission is to provide wholesale pastured poultry to restaurants and grocery stores.

"If we want to change the world we need to bring prices down close to what they sell for in the store," he says. "Pasturebird scales the idea way up, producing pasture poultry close to a conventional price using methods that are healthy for the land, the animal and the consumer."

The Pasturebird idea won \$25,000 from the American Farm Bureau, and more than \$30,000 in a separate award. Pasturebird is now largest pastured poultry operation in the country. Its client list includes the LA Lakers, LA Dodgers, celebrity chefs Wolfgang Puck and Curtis Stone, and some of the best restaurants and butcher shops in the nation.



Greive says he is grateful "to rely on my passion for what I do for a living. The ultimate blessing is waking up every morning knowing I'm making a difference and getting chicken out of the factory farms and outside into pasture. With this venture I feel like I'm having an impact on things that matter."

To read more about Paul Greive and the Concordia University Irvine School of Business, please visit www.cui.edu/business. ■

Concordia business grads aren't afraid to roll up their sleeves.



Paul Greive '07
Farming Entrepreneur: Co-Founder, Pasturebird
U.S. Marine Corps: Intelligence Officer, Iraq Veteran
Featured on CNBC's Billion Dollar Buyer

Go to www.cui.edu/paul to see Paul's story.

Prepare yourself for a career path in any field, even an actual pasture, with a business degree from the Concordia University Irvine School of Business. Our students learn what it takes to grow a business from scratch. Concordia offers a flexible, practical curriculum taught by experienced instructors who are eager to mentor emerging business talent.

Our School of Business includes an MBA as well as bachelor's degree programs in Accounting, Data Analytics, Economics, Finance, International Business, Management, Marketing, Sport Management, and **starting this fall, Business Economics and Healthcare Management**. For more information, visit www.cui.edu/business.

 **CONCORDIA**
UNIVERSITY IRVINE
SCHOOL OF BUSINESS



Concordia University Irvine School of Business is IACBE Accredited.

CUI.EDU/BUSINESS

Hot Jobs: Demand for Data Scientists Continues to Rise

The era of Big Data is here, and successful businesses are now relying on highly-trained data analysts to help them drive corporate strategy and make smart decisions.

According to CareerCast 2017, data science is the 7th fastest-growing career, with a 19 percent rise between 2016 and 2017.

Those entering the field are being highly rewarded. Glassdoor says the pay range for entry to mid-level data scientists is \$94,000 to \$133,000, significantly higher than the average college graduate pay, which is \$48,850, according to the Society for Human Resource Management.

"Simply put, supply does not meet demand for this profession," said Abe Helou, dean of the College of Business and Public Management at the University of La Verne. "The modern business world needs professionals with the skills to gather, analyze, and make data-driven decisions that drive corporate strategy and execution."

To prepare students to excel in the growing field of data science, the University of La Verne offers a Master of Science in Data Analytics (MSDA) degree, with the next class starting in the fall 2019.

The MSDA, offered by the university's College of Business and Public Management on the La Verne campus, provides two specializations: Marketing Analytics and Supply Chain Management Analytics.

While other programs in the region take 18 to 24 months to complete, La Verne's can be completed in just 12 months. That allows students to graduate quicker, at less cost, and enter the workforce with the skills they need sooner.

Additional features of the program include: a career advisor who will help in placing students in internships and jobs, a program advisor who will ensure students remain on track for graduation, and complimentary workshops to help students prepare for exams that would enable them to earn certification by SAS in Advanced Analytics and Predictive Modeling.

"Graduates of the MSDA will be equipped with a comprehensive understanding of business intelligence and data analysis, including a holistic view of business analytics from both company and consumer points of view," Helou said. "They will also have the ability to develop a big data strategy within a corporation, build a model to see how digital analytics and big data can be used for market predictions, and a develop practical knowledge of how to develop performance measurement tools and assess return on investment."

Four courses are shared between the two concentrations, and six courses are tailored to each of the two specializations. The curriculum includes SAS programming; data mining and predictive analytics; multivariate statistical analysis; marketing research methods; problem-solving methodologies; analytics in operations and planning; analytics in logistics and sourcing; experimental design and market testing; theory and practice of consumer behavior; marketing analytics; digital marketing; and social media analytics.

The university is now accepting applications for the fall term.

Learn more at laverne.edu/data.

About the University of La Verne

Founded in 1891 and located 35 miles east of Los Angeles, the University of La Verne is a private, nonprofit, comprehensive institution founded on four core values: lifelong learning, ethical reasoning, civic and community engagement, and diversity and inclusivity. The university serves more than 8,100 students on the historic La Verne location as well as across nine regional campuses and online.



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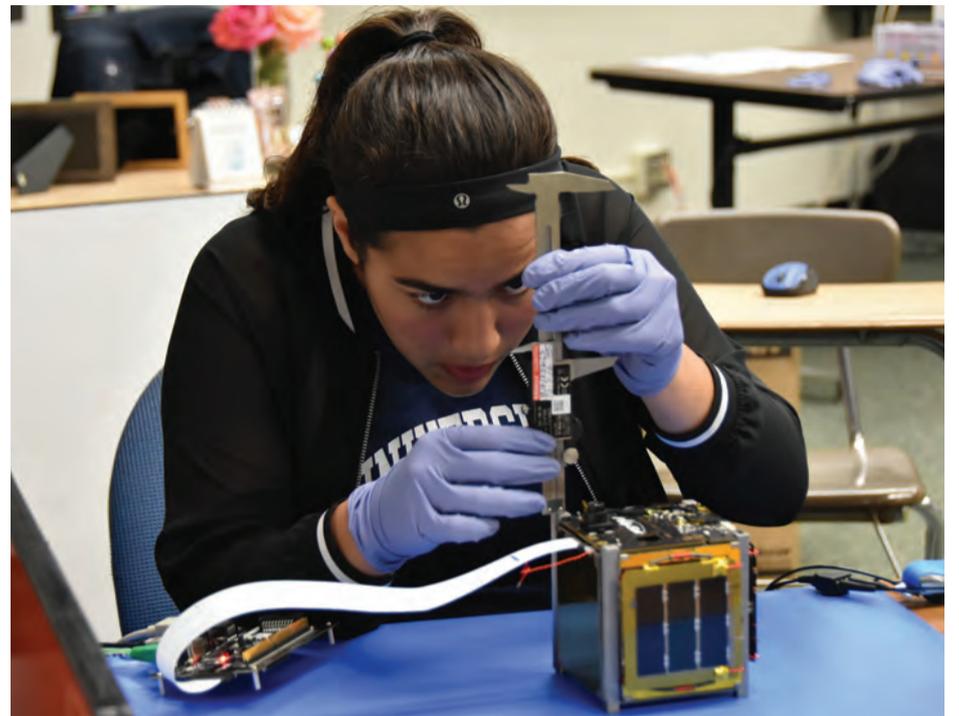
Now accepting applications for Fall 2019

Learn more at: laverne.edu/MSDA

**Analyze
this.** Sharpen your
competitive edge.

University of
La Verne

K-12 STEAM GUIDE



The Next Generation of Innovators Are Here

Orange County is one of the most diverse and fastest growing technology sectors in the United States, creating a high demand for skilled and dynamic talent to support its growth. One local nonprofit has found a way to unite the academic and business communities to create opportunities for students to gain the skills, confidence, and determination needed to find success in today's competitive STEM workforce.

Three years ago, the Irvine CubeSat STEM Program started as a collaboration between Irvine Public Schools Foundation (IPSF), and Irvine Unified and Tustin Unified school districts as a way to attract and retain students, teachers, and faculty in STEM disciplines, as well as strengthen Orange County's future workforce. The goal was to change the way students experience STEM education and inspire the next generation of innovative thinkers, makers, programmers, and explorers. What has evolved has been truly groundbreaking, giving high school students a once in a lifetime opportunity to plan, build, test, and launch a miniature satellite into space, and then analyze data sent back to earth from orbit.

In winter 2018, the first two Irvine CubeSat missions, IRVINE01 and IRVINE02, successfully launched into orbit making history as the first high school program to send two functioning satellites into space.

"What started as a crazy idea to change the way that students experience STEM education, has evolved into one of the most progressive high school space programs in the country and a truly invaluable experience for all involved," explains Neda Eaton, president & CEO, Irvine Public Schools Foundation. "Over the past three years, our students have faced many real world obstacles that provided them with an even better understanding of the aerospace industry. They met these challenges head on, and we are so proud of their hard work and dedication to this program."

IRVINE02 and IRVINE03, the second and third missions, were both selected as one of 34 small satellites nationwide selected by NASA to participate in their CubeSat Launch Initiative to fly on their 2018 and 2020 launches. Irvine CubeSat is one of only two high schools chosen by NASA to participate in this prestigious program, alongside renowned universities and research centers. "It is a huge honor for Irvine CubeSat to be recognized and selected by NASA to

participate in their launches," said Neda Eaton, president and CEO of IPSF. "This unbelievable opportunity validates the hard work and dedication of the students, teachers, and all of the partners involved. The Irvine CubeSat STEM Program is a true testament to what can be accomplished through the collaboration of industry experts, corporate partners, and public education. These students are setting an example for young people around the world that anything is possible, and we are excited to be part of making their dreams become a reality."

The Irvine CubeSat STEM Program is made possible through dynamic partnerships between private funding and public education, facilitated by IPSF. Funding from corporate sponsors including FivePoint, Arnold and Mabel Beckman Foundation, Google, Ingersoll-Rand/Trane, and MEGGiTT Defense Systems, Inc., have made the program a true collaboration, and an inspiring example of what can be accomplished when communities come together in support of public education.

The students engaged in this program are learning much more than just how to build a satellite, they are gaining experience on how to collaborate, communicate, and present their ideas to not only their peers, but industry professionals and mentors from NASA/JPL, CalPoly SLO, Ecuadorian Space Agency (EXA), Accion Systems, Rocket Lab, and Tyvak Nano-Satellite Systems. The value of this experience will take students far beyond their classrooms and into their future careers.

A key goal of the program is to create opportunities for underrepresented groups in STEM-related fields, including women and minorities, and low-income students.

"After this exposure to the engineering field, I now have the confidence to go into the field. Even though it is a predominantly male field, there are so many females interested in it. I feel like I can go into this with no problem and actually succeed," said Melinda Chiao, CubeSat team member at Northwood High School. "I'm really excited to see where this program will go, and what students my age will accomplish in the future."

If you are interested in getting your company involved with the Irvine

CubeSat STEM Program and being a part of Orange County history, please contact Neda Eaton neaton@ipsf.net. To learn more about Irvine Public Schools Foundation, visit www.ipsf.net.



K-12 STEAM GUIDE



The Classroom and the Cloud: Reimagining Traditional Teaching Spaces for the Digital Age

Dr. Michael D. Pratt and Dr. James E. Jordan

Great schools are introspective and are willing to experiment and innovate. In the 2017-18 school year, we agreed to pilot teaching with technology in our 8th Grade U.S. History course. Very quickly, we came to realize that this would not be a simple matter of using technology more extensively in the delivery of content; rather we determined that we should rethink the course from the ground up. Ultimately, we created an entirely new theme-based curriculum, all of which we placed online; experimented with pedagogy to take advantage of collaborative learning and to provide students the opportunity to be knowledge makers rather than mere recipients; and, took the first steps toward reinventing a highly traditional classroom space as a flexible learning laboratory. We witnessed many successes and gained clarity on steps that must be taken to ensure the deepest and most durable learning.

Traditionally, the 8th Grade U.S. History narrative ended either at Reconstruction (1865-77) or World War One (1914-18). Knowing that young students are keenly interested in more recent history, we wanted this course to cover the entire historical narrative from the explorations to the present, using a thematic approach. Thus, the course began with an overview of the major markers of U.S. History to prepare students for their weeklong field trip to Williamsburg/Washington D.C. Guided by essential questions, students then examined four themes throughout the year. Each theme was investigated chronologically from its beginnings to the present. The themes were: Movement, War and Diplomacy, The Role of Government, and Protest and Reform. Students also learned to evaluate original source materials and continued to develop their creative note-taking and critical thinking skills in various projects and class discussions/debates. For example, during The Role of Government theme, students divided into small groups to research the gender pay gap and debate whether there should be a Constitutional Amendment guaranteeing equal pay for equal work. Throughout the course, students wrote extended responses to writing prompts and also generated original research questions and thesis statements, culminating in a multi-paragraph, documented persuasive research essay on a topic of their choosing. We were aided by student feedback in modifying the course. At three times during the school year we anonymously surveyed the students and found that they enjoyed interactive learning, debating important issues, having content and supplementary materials easily accessible, and being given a voice in course design and implementation.

Reimagining the learning space does not simply refer to the physical architecture of the classroom. Instead, it encompasses the entire learning ecosystem, and, in particular, how technology can be utilized to extend the learning experience beyond the walls of the classroom. In U.S. History, we leveraged Office 365, which

is the brand name Microsoft uses for a group of subscriptions that provides productivity, software, and related services. Specifically, we leveraged Microsoft OneNote's Class Notebook feature to deliver the curriculum and manage the content. OneNote Class Notebooks have a personal workspace for every student, a content library for handouts, and a collaboration space for interactive lessons, peer-to-peer dialogue, and shared activities. Therefore, any student with an Internet-enabled device could interact with course material at any time, any place. This technological flexibility allowed us to employ a Bring Your Own Device



(BYOD) policy, which stands in contrast to many schools' 1:1 initiatives. While having a common classroom device is advantageous to adults for control purposes, a BYOD policy allows for students to bring to school the device that they already own, are comfortable with, and one that fits with the family's budget and preferences. We also had laptops on hand for students who desired one but did not bring one to school. In this way, we were able to tailor the technology and educational experience to individual students' needs.

The classroom that we inherited was adequate for direct instruction (lectures) but did not function well for collaborative learning. By fully employing the Office 365 "cloud," we were able to create more physical space by removing the original "built-in" cabinets that housed old print materials and other rarely used classroom supplies. This innovation

enabled us to experiment with a variety of seating arrangements that were responsive to different pedagogies. Students found it most engaging and enjoyable when sharing with their peers and gaining different perspectives. The biggest obstacle to the desired flexible learning space were the antiquated desks and traditional emphasis on the "front" of the classroom. Moving away from this outdated "sage on the stage" model of education, we must design our classroom architecture and furniture to be easily moveable, and able to provide a decentralized and personalized learning experience when appropriate.

This past summer, we were able to design and create an adaptable learning space with flexible and student-friendly furniture to meet the diverse needs of our students. One way we further enhanced the learning experience is to introduce several television monitors around the room to allow for more visual and collaborative focus points. By integrating these technology rich hubs for students to interact with each other and course materials, we will better facilitate the types of active learning the 21st century demands. Relying upon what brain science has revealed about learning, experience gained through teaching with technology pilot, and feedback from our students, St. John's is ready to launch its **Making Space for the Future** initiative, which will transform classrooms throughout the campus.

Through its commitment to ongoing discovery and innovation, St. John's continues to be the leader in pre-secondary STEAM education in Orange County

EVOLUTION OF STEAM AT ST. JOHN'S



JANUARY 2019

St. John's launches Making Space for the Future Campaign. St. John's featured and recognized as an "Innovative School of the Future" by Planet TV

SEPTEMBER 2018

St. John's opens a State of the Art Learning Commons on the campus



OCTOBER 2017

St. John's hosts 2nd STEAM panel, opens a new TV production studio, rounds out the school's arts offerings by introducing drama



SEPTEMBER 2017

St. John's launches a teaching with technology pilot in grades 3 and 8

FEBRUARY 2017

Vedha Muthu, St. John's Middle Division Science Teacher wins Project Based Educator of the Year. St. John's hosts 1st STEAM panel

OCTOBER 2016

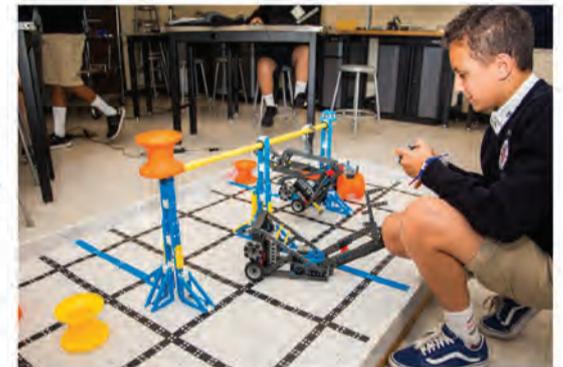
St. John's honored as a finalist for Innovative School-Wide Program of the Year. Suzy Hardy, Middle Division Teacher, recognized as Orange County High Impact Teacher Finalist

OCTOBER 2016

St. John's becomes a consultant to other schools considering STEAM program

SEPTEMBER 2016

St. John's opens state of the art, Johnson STEAM Center



SEPTEMBER 2015

St. John's adopts a fully integrated STEAM program St. John's adds band and dance to the arts program



JANUARY 2015

St. John's Robotics Team wins 3rd place at State, continues a focus on Engineering and STEAM builds with local high schools

SEPTEMBER 2014

St. John's begins piloting a STEAM approach to teaching through Project Lead the Way, Robotics, Makers and STEAM Challenges

MAY 2014

St. John's holds its first annual STEAM Day

APRIL 2014

St. John's invests in professional development for the teachers to attend STEAM training

SEPTEMBER 2013

St. John's formed a Faculty and Staff committee and began investigating the concept of STEAM education





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I CAN
I AM
I WILL

675 STUDENTS
13 GRADE LEVELS

25 YEARS

EDUCATING FUTURE GLOBAL CITIZENS

13 RELIGIONS

REPRESENTED IN STUDENT BODY

26 COUNTRIES

REPRESENTED IN STUDENT BODY

12 ART TECHNIQUES

THROUGHOUT ALL GRADES

23 LANGUAGES

SPOKEN BY STUDENTS

40 SPORTS TEAMS

FIELDIED IN 11 SPORTS

6 EXPLORATORIES

SUBJECTS CONNECTED TO CORE SUBJECTS

3 FOREIGN LANGUAGES

TAUGHT AS CORE SUBJECTS

1,400 ALUMNI

MAKING A DIFFERENCE IN THE WORLD

20 MUSICAL INSTRUMENTS

PLAYED BY STUDENT BODY



K-12 STEAM GUIDE

Cornelia Connelly School – Where girls Lead with Integrity, Serve with Joy, and Inspire with Faith & Action

For nearly 60 years, Cornelia Connelly School, a premier preparatory school, and the only independent all-girls school in Orange County, has been educating young women in grades 9-12. Connelly is part of the Holy Child Network of Schools, which operates schools in the United States, Europe and Africa, and which are guided by the educational philosophy of Cornelia Connelly.

Connelly provides an intellectually challenging and creative program of study that encompasses academic excellence, artistic expression, faith development, athletics, international study, and service. We have a diverse student body of bright and talented young women who have gone on to great success as Ivy League graduates, university valedictorians, Fulbright scholars, doctors who are leaders in cancer research, scientists, lawyers, and fashion industry experts.

All-girls Advantage

Because girls learn differently from boys, and vice versa, we provide an environment that caters specifically to girls' needs both academically and emotionally. At Connelly, girls hold every leadership position, which empowers them to hone the skills and confidence needed to succeed in life, particularly at the university level and in the work-force environments. Studies have shown that girls who attend all-girls schools have stronger academic skills; are more academically engaged; demonstrate higher science self-confidence; display higher levels of cultural competency; express stronger community involvement; and exhibit increased political engagement (Riggers-Piehl, T., Lim, G., and King, K. (2018). *Fostering Academic and Social Engagement: An Investigation into the Effects of All-Girls Education in the Transition to University. Higher Education Research Institute.*)

STEAM

Connelly is pleased to offer classes and clubs related to STEAM, including classes in Visual, Performing & Theatre Arts; advanced Math, Science & Physics; Engineering; Computer Science; and Renewable Energy. Students can apply their classroom knowledge in clubs like VEX Robotics, Renewable Energy Club, and also in the CCTV studio where students film weekly broadcasts. They use Connelly's IDEAS Center as their learning hub. The IDEAS Center (Innovation, Design, Energy, Artistry, Synergy), was designed to be an innovative space for active learning where students develop new skills through the



creative use of technology. It is equipped with top-of-the line iMacs and MacBook Pros that will be able to keep up with the extensive processing power needed for graphic design, 3D development, and other multimedia capabilities. As technology is always changing and moving forward, Connelly will continually explore newer technology as it relates to teaching and learning.



Academic Excellence

Connelly offers small classes, Honors and AP courses, award-winning choir, handbells, and more. Students make good use of the beautiful Visual Arts Center and the technologically advanced IDEAS Center. Connelly's academic requirements exceed those of the State Board of Education, as well as the University of California entrance requirements. 100 percent of the Class of 2018 went on to college and four-year universities.

Rounding out Connelly's strong academic curriculum, is the vibrant faith community on campus. Catholic Christian principles are taught and modeled, which is evident in activities that promote spirituality, respect for all faith traditions and social justice inspired by Cornelia Connelly's philosophy of "actions, not words."

14 AVERAGE CLASS SIZE

13 AP COURSES OFFERED

100% GRADUATES ARE ACCEPTED TO 4-YEAR UNIVERSITIES

Educating young women for nearly **60** years

- IDEAS Technology Center
- Visual Arts Center
- Advanced Math, Science & Physics
- Computer Science & Engineering
- Performing & Theater Arts
- Connelly Chronicle TV & Newspaper

... and other intellectually challenging and well-rounded classes that lead to academic excellence.



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K-12 STEAM GUIDE



Harbor Day School Maker Faire Saturday, April 27, 2019

The Harbor Day School curriculum has integrated Science, Technology, Engineering, Art, and Math (STEAM) since 2014. These interdisciplinary lessons develop creativity and build skills in critical thinking, collaboration, and communication. This multi-subject, hands-on methodology challenges each student to think and problem solve creatively. Students begin with simple coding and design in kindergarten and progress through eighth grade to a more formal design thinking process that integrates 3D printing, Arduino processing, robotics, and more. The design thinking process, developed by the Stanford d.school, is utilized in the curriculum following a five-step process: Empathize, Define, Ideate, Prototype, and Test. To support this process, Harbor Day School has a design and maker lab and a designated library makerspace. These spaces not only develop children's independence but foster collaborative learning. Students are given the materials to use their imagination and be creative to solve real-world problems and challenges.



Harbor Day will celebrate STEAM through its annual Maker Faire held on Saturday, April 27, 2019. Harbor Day School's Maker Faire is a free community event for the entire family. Coding with Scratch, building cardboard rockets, working with simple robots, and creating with 3D printers are just a few of the activities that will be available. Our main purpose is to support Making by raising awareness and interest in the science, technology, art, and engineering fields.

Harbor Day School is an independent, co-educational school for kindergarten through eighth grade that provides an academically challenging, well-balanced education in a nurturing, family-centered environment. Our traditional, yet innovative, curriculum develops eager, confident learners who think creatively and work collaboratively. Developing self-reliance, building strong moral character, and encouraging social responsibility are hallmarks of a Harbor Day education.

CONNECTING CURIOUS MINDS. SELF-RELIANT

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CREATIVE ACADEMICALLY CHALLENGING

INNOVATIVE SOCIALLY RESPONSIBLE

CONFIDENT LEARNERS



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HARBOR DAY SCHOOL MAKER FAIRE
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RSVP: WWW.HARBORDAY.ORG/MAKERFAIRE

K-12 STEAM GUIDE

Together We Are Changing California's Future



More than two million K-12 students in California are not proficient in math or English. A third of all California students, these kids are struggling to keep up with their peers. Without additional support, they will fall further behind and their dreams for a better future will become even more difficult to achieve.

This is where Think Together comes in. We partner with schools across California to provide over 150,000 students with access to high-quality educational opportunities during and outside the school day. Our programs give kids critical academic support and life skills that propel them to excel in school.

And we're preparing students for the 21st century workforce. The 2017-18 school year saw the rollout of our new coding program for 500 students from low-income families in Orange County. Students were introduced to computer science through fun projects like debugging computer games and building 3D dioramas. This year we're launching our Coding For All campaign to expand our coding program throughout California.

For sixth-grader Emily, coding has opened a new world of possibilities. The program sharpens her analytical and problem-solving skills to help her succeed in core subjects and beyond. And she's learning a new language – one that is essential for the next generation. Emily loves coding because it's a great way to "work together with my groupmates."

Kids are not the only ones that need additional help. Eight out of ten California



Emily practices coding with brother William looking on

school districts are not adequately preparing their students to meet the state's learning standards in Math. Six out of ten fail to do so in English. Think Together also empowers adults, from the boardroom to the classroom, with the tools and strategies to accelerate learning for all students.

Our programs are possible because of generous philanthropic support. Together we are changing the odds for millions of California's students by ensuring they have an opportunity to realize their potential, excel in school, and beat the odds.

We invite you to join us in changing the odds for kids at thinktogether.org/obj.

K-12 STEAM Guide

Name of School: Cornelia Connelly School

Address: 2323 W. Broadway, Anaheim, CA 92804

Website: www.connellyschoollanaheim.org

Grade Levels: 9-12

Type of School: STEAM

STEAM Mission: Cornelia Connelly School endeavors to inspire and empower girls to develop 21st century skills through the creative use of Science, Technology, Engineering, Arts, and Math.

Name of School: Harbor Day School

Address: 3443 Pacific View Drive, Corona Del Mar, CA 92625

Website: www.harborday.org

Grade Levels: K-8

Total Enrollment: 408

Type of School: STEAM

STEAM Mission: We don't have a STEAM Mission specifically. However, we have our value statement which I feel is applicable: Connecting Curious Minds. Discovering New Passions.

Name of School: Irvine Public Schools Foundation

Address: 1 Post, Suite 250, Irvine, CA 92618

Website: www.ipssf.net

Grade Levels: K-12

Total Enrollment: 35,000

Type of School: STEAM

STEAM Mission: IPSF seeks to enrich the education of each child in every school and inspire the next generation of innovative thinkers, makers, creators, and leaders.

Name of School: Santa Margarita Catholic High School

Address: 22062 Antonio Parkway, Rancho Santa Margarita, CA 92688

Website: www.smhs.org

Grade Levels: 9-12

Total Enrollment: 1,670

Type of School: STREAM, International Baccalaureate World School

STREAM Mission: The program integrates science, technology, religion, engineering, arts and math building bridges across disciplines while inspiring innovation and strengthening critical thinking skills for success in today's world.

Name of School: St. John's Episcopal School

Address: 30382 Via Con Dios, Rancho Santa Margarita, CA 92688

Website: www.stjohns-es.org

Grade Levels: 8 weeks – Grade 8

Total Enrollment: 450

Type of School: STEAM

STEAM Mission: St. John's fosters every child's intellectual, physical, and spiritual development. A nurturing learning environment and STEAM-based programs encourage students to pursue lives of service and purpose."

Name of School: St. Mary's School

Address: 7 Pursuit, Aliso Viejo, CA 92656

Website: www.smaa.org

Grade Levels: Early Education – Grade 8

Total Enrollment: 675

Type of School: International Baccalaureate, STEAM

STEAM Mission: We teach students to ask "what" and "why," demonstrating that they are an essential piece of the answer to "how."

K-12 STEAM GUIDE

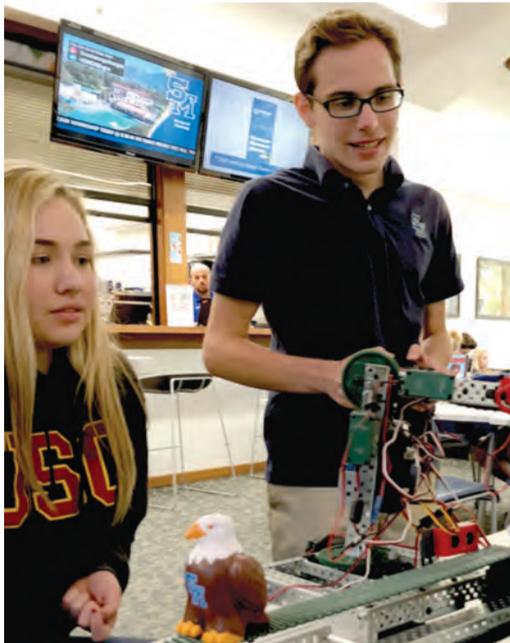
Student-Centered Learning Inspires Innovation Preparing Students for College and Beyond

From building robots that compete internationally to fluidly exchanging ideas and information in shared digital workspaces – Santa Margarita Catholic High School’s experiential, student-centered approach to learning promotes a culture of innovation and propels students to succeed in college and beyond.

With academic programs designed to meet the needs of varied learners, classes are spent mastering material through group exercises, projects and engaging discussions. Santa Margarita is the only Catholic school in the county to offer the International Baccalaureate program providing students the opportunity to earn a globally recognized diploma with a curriculum that develops internationally-minded, creative thinkers.

The school’s STREAM program combines science, technology, religion, engineering, arts and mathematics to bridge a better understanding of curriculum across disciplines. Through hands-on assignments, critical thinking skills are strengthened. Students have designed artificial limbs and engineered safety equipment among other projects.

Recently, the school was recognized as a global leader in educational technology. For the fifth consecutive year, SMCHS was named a Microsoft Showcase School for successfully integrating tablet PC and cloud technology to deliver a more personalized, immersive education preparing students for success in college and the workplace. SMCHS joins an elite community of approximately 300 schools worldwide recognized for their innovation in teaching, learning and assessment. Santa Margarita is the only school in the county to receive this honor and one of just 39 in the nation. Students use digital ink to take and file notes in electronic notebooks, virtually collaborate with students and teachers through shared workspaces and can quickly access e-books and course material through their tablets.



Innovation extends beyond the classroom with numerous opportunities for students to gain “real-world” skills. Whether it be tinkering around with emerging technology in the Borchard Library Media Center’s “makerspace;” exploring computer programming through the Coding Club; broadcasting a sports game live on Eagle TV 2.0 or utilizing theater as a means for self-discovery and societal transformation, God-given talents are developed in a nurturing environment.

With a class and a competitive team, the school’s award-winning robotics team functions like a startup with students learning CAD modeling, welding, marketing and project management. Students design, build and program competition-ready robots. In 2018, the team took top honors in Orange County, earning a spot at the world championships where they reached the quarterfinals. As an official chapter of the national GoBabyGo! program, students also use their skills to improve the lives of children with limited mobility. Through Santa Margarita’s robotics program, students are mentored by industry professionals.



Santa Margarita’s Eagles Edge program also provides students with access to industry experts through internship and job opportunities as well as hands-on workshops that help establish a foundation for future success. In the arts, a master artist series exposes students to working professionals across the arts spectrum.

With nine full-time counselors, a college relations director forging strong partnerships with universities across the nation, and college planning tools to assist families with making informed decisions – students are accepted into the world’s leading universities with the majority of students earning scholarships.

For more information on Santa Margarita Catholic High School, visit www.smhs.org or call (949) 766-6096.



Together Eagles
ACHIEVE MORE

WE RANK AMONG THE NATION'S BEST

#1 CATHOLIC HIGH SCHOOL IN ORANGE COUNTY
Niche.com

#1 CATHOLIC HIGH SCHOOL IN SOUTHERN CALIFORNIA
The Washington Post

#15 CATHOLIC HIGH SCHOOL IN THE NATION
The Washington Post

73% RECEIVED A SCHOLARSHIP OFFER
(CLASS OF 2018)

100% ACCEPTANCE RATE AT 208 SCHOOLS
(CLASS OF 2018)

\$57.8 MILLION IN SCHOLARSHIP OFFERS
(CLASS OF 2018)

\$175,000
AVERAGE COMBINED SCHOLARSHIP OFFERS PER GRADUATE
(CLASS OF 2018)

SANTA MARGARITA CATHOLIC HIGH SCHOOL
22062 Antonio Parkway, Rancho Santa Margarita, CA 92688 949-766-6000
www.smhs.org @smchseagles @santamargarita eagles