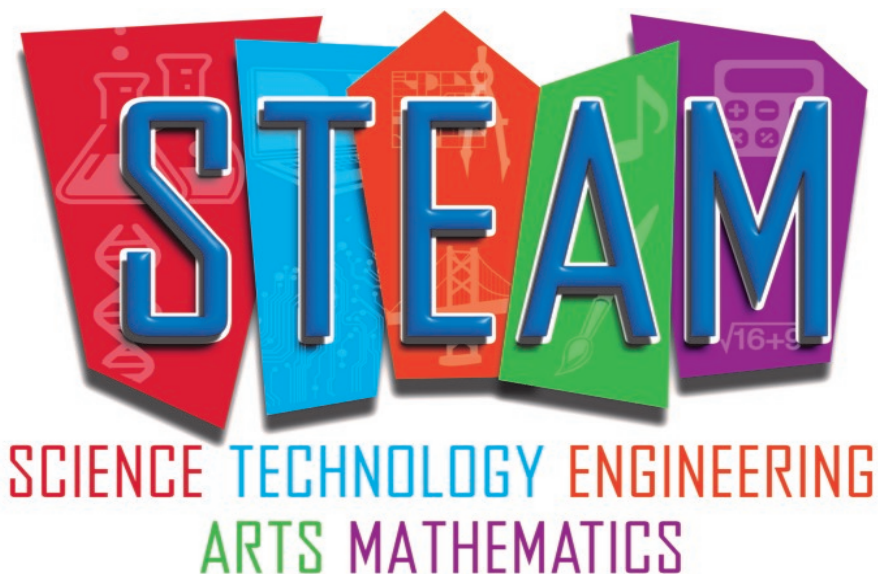# STEAM CAREER EXPLORATION NIGHT

February 18, 2016

Special Thanks to

STEAM Night Presenters

Medea Creek Parent Faculty Association

Medea Creek Middle School

Debbie Hammill, OPUSD Science Specialist

Friends of Oak Park Schools

Ken Jones, Engineering Pathway Teacher

Jean Hawkins, College and Career Counselor

What is STEAM?

In this climate of economic uncertainty, America is once again turning to Creativity and Innovation as the way to ensure a prosperous future. Yet while innovation remains tightly coupled with Science, Technology, Engineering and Math – the STEM subjects, it is Art + Design that are poised to transform our economy in the 21st century, just as science and technology did in the last century. We need to add Art + Design to the equation to transform STEM into STEAM.

STEM + Art and Design = STEAM

How does that impact careers and career choice?

STEAM jobs are increasing at a rate of 25-30% more than non-STEAM jobs, but still go unfilled. These are creative, innovative, and high paying jobs that you may not be aware of because there are so many diverse STEAM professions today. The purpose of this event is to allow parents and students to sit down at a table with a STEAM professional and learn about their career. Participants will spend 15 minutes at the professional's table and rotate through a total of six tables. The professional at the table will give a brief description of their industry sector, describe their job and how they got there. As a result, students explore STEAM-related career options and learn their practical applications through opportunities such as this. Ideally, they connect this to academic course work and electives to continue their exploration.

Students as young as middle graders wonder, **"What do I want to do with my life?"**

How do we prepare for these careers?

In 2006, the California Department of Education released the Career Technical Education (CTE) Model Curriculum Standards for grades seven through twelve to guide educators in developing career connections for students. In the same year, the State Superintendent of Public Instruction's P-16 Council, in its Report on High School Reform, issued the following recommendation:

"In the long run, success in high school would be greatly enhanced

if an academic or a career plan or both, starting in middle school through the postsecondary level, were required for all students. The plan must identify the college or career pathway, or both, associated with each student's goals and be reviewed annually and modified as needed throughout high school." (*California P-16 Council Report and Recommendations on High School Reform. Sacramento: California Department of Education, January 2007, 11.*)

In today's world CTE is important so that our children can understand responsibility; learn what is required to get and keep a job; receive information about and gain experience in careers of interest; and make informed choices for postsecondary education and life. All of California's students need knowledge and skills for success in postsecondary education and employment. They need to be prepared to make choices and manage their careers throughout their lifetimes. The CTE model curriculum standards and the CTE framework provide the foundation and strategies for designing educational programs that make these important goals possible. Linking rigorous curricula to real-world skills enhances learning, no matter what direction students take. California's students deserve the advantage that early consideration of career choices and preparation for tomorrow's workforce and economy can provide. Thank you for joining Oak Park USD in this mission to provide our youth with the crucial advantage of rigorous and relevant career preparation.

How do the CTE Standards work?

California's CTE model curriculum standards are presented in 15 industry sectors, or groupings, of related careers and broad industries, such as the Finance and Business industry sector or the Arts, Media and Entertainment sector. Each sector has two or more career pathways. Oak Park Unified has currently identified six pathways that would best serve our students: Engineering and Design; Residential and Commercial Construction; Business Management; Media and Design Arts; Systems and Software; Production and Managerial Arts. Within each career pathway are identified standards detailing the knowledge and technical skills students need to succeed in the selected pathway. For example, the Building Trades and Construction industry sector contains four pathways: Cabinetmaking and Wood Products, Engineering and Heavy Construction, Architecture, and Residential and Commercial Construction. The planned sequence of courses within the pathways was determined by staff at Oak Park High School to include a selection of rigorous academic and CTE courses that prepare students for entry-level careers and lay

the foundation for more advanced postsecondary training or college degrees related to their career interest.

Tonight we have professionals from six industry sector pathways: Arts Media and Entertainment; Building Trades and Construction; Engineering and Design; Finance and Business; Health Science and Medical Technology; and Information Technology.

For more information on the CTE pathways please visit: http://statecenter.com/resources/industry-sectors.

10 TIPS FOR CHOOSING THE RIGHT CAREER FOR YOU

How does a person know what career to work toward? There is no perfect answer, but the following 10 tips will get you off to a good start.

1 **Get to know yourself** – Complete more than one self-assessment test.

2 **Identify your strengths and weaknesses** – What do you do well and what do you not do well?

3 **Develop an inventory of careers** – Write down some careers that might interest you.

4 **Research different careers** – Talk to others and use the Internet.

5 **Write the pros and cons** – List positives and negatives about the careers that interest you.

6 **Network** – Discuss your ideas with others.

7 **Talk with people who work in your area of interest** – Family and friends are great resources.

8 **Find a mentor** – Find someone with whom you can discuss your career selection.

9 **Experiment** – Take a related class or part-time job.

10 **Don't give up** – "If there is a will, there is a way."

CALIFORNIA INDUSTRY SECTOR PATHWAYS

All Aspects of Industry:
Business Planning
Management
Health, Safety & Environment
Community Issues
Principles of Technology
Personal Work Habits
Technology Production Skills
Labor
Finance

Marketing, Sales, & Service:
- E-commerce
- Entrepreneurship
- International Trade
- Professional Sales & Marketing

Arts, Media, & Entertainment:
- Media & Design Arts
- Performing Arts
- Production & Managerial Arts

Engineering & Design:
- Architectural & Structural Engineering
- Computer Hardware, Electrical, & Networking Engineering
- Engineering Design
- Engineering Technology
- Environmental & Natural Science Engineering

Hospitality, Tourism, & Recreation:
- Food Science, Dietetics, & Nutrition
- Food Service & Hospitality
- Hospitality, Tourism, & Recreation

Health Science & Medical Technology:
- Biotechnology Research & Development
- Diagnostic Services
- Health Informatics
- Support Services
- Therapeutic Services

Public Services:
- Human Services
- Legal & Government Services
- Protective Services

Energy & Utilities:
- Electromechanical Installation & Maintenance
- Energy & Environmental Technology
- Public Utilities
- Residential & Commercial Energy and Utilities

Building Trades & Construction:
- Cabinetmaking & Wood Products
- Engineering & Heavy Construction
- Mechanical Construction
- Residential & Commercial Construction

Agriculture & Natural Resources:
- Agricultural Business
- Agricultural Mechanics
- Agriscience
- Animal Science
- Forestry & Natural Resources
- Ornamental Horticulture
- Plant & Soil Science

Fashion & Interior Design:
- Fashion Design, Manufacturing, & Merchandising
- Interior Design, Furnishings, & Maintenance

Manufacturing & Product Development:
- Graphic Arts Technology
- Integrated Graphics Technology
- Machine & Forming Technology
- Welding Technology

Information Technology:
- Information Support & Services
- Media Support & Services
- Network Communications
- Programming & Systems Development

Finance & Business:
- Accounting Services
- Banking & Related Services
- Business Financial Management

Education, Child Development, & Family Services:
- Child Development
- Consumer Services
- Education
- Family & Human Services

Transportation:
- Aviation & Aerospace Transportation Services
- Collision Repair & Refinishing
- Vehicle Maintenance, Service, & Repair

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ARTS, MEDIA & ENTERTAINMENT

The Arts, Media, and Entertainment industry sector is big business in California. This dynamic sector is relevant statewide, with most of the major employers concentrated in the southern part of the state. It offers jobs that require a vast range of creative and technical knowledge and skills. Flexibility and adaptability to a rapidly changing professional landscape are key elements to an individual's ultimate success in a career in arts, media, and entertainment. Consequently, most of the professions found in this sector require students to become familiar with information and skills across several different academic disciplines and career pathways as well as within their primary pathway. This Industry sector comprises of three major career pathways: The Media and Design Arts career pathway, The Performing Arts pathway, and the Production and Managerial Arts pathway.

Media and Design Arts Pathway

Media and Design Arts Pathway Sample CTE Courses		
Introductory	**Concentration**	**Capstone**
• Introduction to Design and Media Arts • Introduction to Digital Graphics • Film and New Media • Introduction to Design	• Two-Dimensional Design • Animation • Internet Publishing • Filmmaking • Computer Graphics • Broadcast Journalism	• Digital Animation • Three-Dimensional Modeling • Video Production • Cinematography • Computer Game Design • Technical Writing • Advertising Art
Education Level and Related Occupations		
High School Diploma	**Certification and/or AA Degree**	**Bachelor's Degree or Higher**
• Film Loader • Animation Assistant • Makeup Artist • Sign Painter	• Videographer • Prop Maker • Cutter/Fitter/ seamstress • Special Effects Coordinator • Web Designer	• User Interface Designer • Sound Engineer • Medical and Scientific Illustrator • Scriptwriter • Media and Design Arts Instructor

Performing Arts Pathway

Performing Arts Pathway Sample CTE Courses		
Introductory	**Concentration**	**Capstone**
• Introduction to Professional Dance	• Instrument Tuning and Repair • Musical Notation • Professional Dance	• Choreography • Professional Theatre • Professional Music Composition • Radio Announcing Apprenticeship
Education Level and Related Occupations		
High School Diploma	**Certification and/or AA Degree**	**Bachelor's Degree or Higher**
• Disc Jockey • Actor • Announcer • Voice-over Artist • Stunt Double	• Actor • Music Minister • Radio/Television Broadcaster	• Musical Accompanist • Music Director/ Conductor • Acoustician • Film Composer • Choreographer

Performing and Managerial Arts Pathway

Production and Managerial Arts Pathway Sample CTE Courses		
Introductory	**Concentration**	**Capstone**
• Introduction to Multimedia Production • Technical Theatre • Introduction to Sound Mixing	• Broadcast Production • Set Design • Television Production	• Stage Production Management • Filmmaking • Sound Engineering and Design
Education Level and Related Occupations		
High School Diploma	**Certification and/or AA Degree**	**Bachelor's Degree or Higher**
• Third Assistant Director • Focus Puller • Camera Loader • Dolly Grip • Tape/Film Logger	• First Assistant Camera Operator • Gaffer (Chief Lighting Technician) • Key Production Grip • Script Supervisor • Negative Cutter	• Producer • Line Producer • Sound Design Editor • Visual Effects Coordinator • Second Unit Director

Michel Etchart

Industry Liaison-Arts, Media & Entertainment
metchart@vcoe.org
Table # 13

Mike is a Ventura County educated kid, having gone K-12 in the Ojai Unified School District, with two years at Ventura College before graduating with BA in Economics at San Diego State. He is currently the Industry Liaison for Arts, Media and Entertainment representing the VC Innovates grant for the Ventura County Office of Education. Prior to his current job, he had a twenty year career in the entertainment industry in executive positions at Warner Bros., Universal and Capitol Records.

Jerry Frizell

Film Editor
frizylarge@hotmail.com
Table # 14

My career field that I have worked in for 35 years has been the entertainment industry. After receiving my college degrees in business administration, marketing and transportation. After being involved with acting as a child for many years, and my family being involved in the movie industry for many years, I took the path of becoming an editor in post-production. I joined Local 700 in 1976, and continued to work for many production companies, including Aaron Spelling, Universal, Paramount, MTM, ABC, WWE, Fox, and other various reality show productions. I am a member of ACE, American Cinema Editors. I have six Emmy nominations and receive the ACE award for best editing. It is a very rewarding career, but includes extremely long hours and dedication.

Michael Levine

Director/Editor Television Production
Table # 15

I have worn many hats in the television industry: Network Executive, Studio Executive, Writer, Editor and Director. I currently am working as an editor in reality television.

Rob Stone

Producer/Director, Vienna Productions
robstone22@gmail.com
Table # 16

Rob Stone: Producer/Director, Vienna Productions, which specializes in documentaries and specials.
Credits include Blue Angels, Around the World at the Speed of Sound, Thunder Over the Pacific, One Vision, as well as multiple episodes of the History Channel's Modern Marvels.

BUILDING TRADES & CONSTRUCTION

A strong demand for workers continues in the Building Trades and Construction industry sector, and that demand increases as populations, businesses, and local economies expand. According to the U.S. Bureau of Labor Statistics, construction is among the top ten of the nation's industries, constituting almost 5 percent of the total national gross domestic product. In some trades in the state, an increase of more than 30 percent in the number of available jobs is expected over the next 10 years. Nationally, more than one million construction jobs will be created over the next decade, with job categories ranging from laborers to engineers to contractors. In Building Trades and Construction industry sector classes, activities range from general or exploratory skills to job-specific skills that prepare students to select and pursue career paths through postsecondary training, work experience education, apprenticeships, and postsecondary education.

Cabinet and Wood Products Pathway

Cabinet and Wood Products Pathway Sample CTE Courses		
Introductory	**Concentration**	**Capstone**
• Exploring Technology • Technology Core • Wood Technology	• Woodworking 1 • Woodworking 2	• Cabinetmaking • Furniture Design
Education Level and Sample Occupations		
High School Diploma	**Certification and/or AA Degree**	**Bachelor's Degree or Higher**
• Cabinetmaking Apprentice • Machine Operator	• Cabinetmaking Journeyman • CNC Technician	• Cabinetmaking Instructor • Designer • Engineer

Engineering & Heavy Construction Pathway

Engineering & Heavy Construction Pathway Sample CTE Courses		
Introductory	**Concentration**	**Capstone**
• Exploring Technology • Technology Core	• Construction 1 • Wood 1	• Equipment Operator • Carpentry

Engineering & Heavy Construction Pathway

Education Level and Sample Occupations		
High School Diploma	**Certification and/or AA Degree**	**Bachelor's Degree or Higher**
• Apprentice Engineer • Laborer	• Contractor • Electrician • Heavy Construction Journeyman • Iron Worker • Plumber	• Business Owner • Engineer • Engineering and Heavy Construction Instructor

Mechanical Construction Pathway

Mechanical Construction Pathway Sample CTE Courses		
Introductory	Concentration	Capstone
• Exploring Technology • Technology Core • Construction 1	• Construction 1 • Construction 2	• Building Construction • Electrical Wiring • Plumbing
Education Level and Sample Occupations		
High School Diploma	**Certification and/or AA Degree**	**Bachelor's Degree or Higher**
• Electrician's Helper • Mechanical Construction Apprentice	• Electrician • HVAC Technician • Mechanical Construction Journeyman • Plumber	• Contractor • Engineer • Mechanical Construction Instructor

Residential & Commercial Construction Pathway

Residential & Commercial Construction Pathway Sample CTE Courses		
Introductory	**Concentration**	**Capstone**
• Construction 1 • Exploring Technology • Construction 1	• Construction 2	• Carpentry • Construction Technology
Education Level and Sample Occupations		
High School Diploma	**Certification and/or AA Degree**	**Bachelor's Degree or Higher**
• Carpenter Apprentice • Heavy Equipment Operator • Laborer	• Carpenter Journeyman • Contractor • Iron Worker • Surveyor • Welder	• Carpentry Instructor • Engineer

Keith Henderson

Senior Project Manager/Construction Manager
khenderson@balfourbeattyus.com
Table # 6

I started my career in construction at the age of 12 doing sheet metal parts fabrication for a heating and air conditioning company my father worked for while attending Junior High School. I continued working in the heating and air conditioning industry thru high school and college while also studying Marine Biology. I discovered that I loved Marine Biology but discovered the pay was very low and not many opportunities existed. I changed my college career path to small business management and kept working in the Heating and Air conditioning Industry until I was given an opportunity to take on more management related responsibilities. This led me to working in multiple areas of construction managing multiple trades on very large and complex projects. I worked my way up from a Project Superintendent to a General Superintendent, then Project Manager to my position now as a Senior Project Manager/Construction Manager overseeing projects ranging in a dollar amount of 240 Million. During my rise in management positions, I also obtained 8 Contractors licenses covering everything from Engineering to General Construction, plumbing, electrical, HVAC and Sheet metal. I currently am the onsite Program Manager for 2 School Bond Programs for 2 School Districts.

I love every minute of what I do for a career because I get to build lots of different things working side by side with other very talented and skilled people all to achieve a common cause and that is to leave my mark on the world and make the world a better place to live for all who come along after me. :-)

J. T. HSU

Registered Architect
jt.peiyu@yahoo.com
Table # 7

Bachelor of Science, 1983, NCKU, Taiwan
M.Arch, 1986, University of Kansas, Lawrence, Kansas

Registered Architect:
1990, Illinois and Wisconsin
2010, California
Notable work:
- Hong Kong Convention and Exhibition Center, Hong Kong
- Chicago Symphony Orchestra Hall renovation & expansion, CHI
- General Motors Global Headquarter, Detroit
- University Technology Park at IIT, Chicago
- Kaiser Hospital, Anaheim, CA
- Jacobs Medical Center, UCSD, San Diego

Matt Kuzmick

Vice President/Operations Manager
rmkuzmick@shimmick.com
Table # 8

Vice President/Operations Manager for top 400 heavy civil engineering and construction company with annual revenues in excess of $350 million. Manage a variety of projects including transit (light rail), transportation (highway) and water resource projects (including reservoirs, and dams) in Southern California and Hawaii. Primarily responsibility is overseeing the day to day operations including safety, cost control, engineering and construction of projects located within Southern California.

ENGINEERING & DESIGN

The Engineering and Design industry sector provides a strong foundation in engineering and design for students in California. The students are engaged in an instructional program that integrates academic and technical preparation and focuses on career awareness, career exploration, and career preparation in five pathways. To prepare students for the vast scope of job opportunities in this field, middle schools, high schools, regional occupational centers and programs, apprenticeship programs, community colleges, and four-year colleges and universities provide education and training in engineering-related occupations. The demand for engineers in a variety of specializations throughout the state and the nation will remain high.

The five pathways in this sector emphasize real-world, occupationally relevant experiences of significant scope and depth. To prepare students for continued training, advanced educational opportunities, and direct entry to a career, the engineering and design programs offer the following components: classroom, laboratory, and hands-on contextual learning; project-based and work-based instruction.

Architectural & Structural Engineering Pathway

Architectural & Structural Engineering Pathway Sample CTE Courses		
Introductory	Concentration	Capstone
• Introduction to CAD • Introduction to Design Drafting • Principles of Engineering • Technology Core	• Architectural Design • Design Drafting • Engineering Technology • Mechanical Drawing • Technical Drafting	• Advance Architectural Design • Computer-aided Design (CAD/CAM) • Engineering Design
Education Level and Sample Occupations		
High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• CAD Technician • Construction Apprentice • Drafting Apprentice • Engineering Aide • Junior Drafter	• Drafter/Designer • Engineering Technician • Estimator • Plan Checker • Surveyor	• Architect • Industrial Designer • Civil Engineer • Structural Engineer • Instructor

Computer Hardware, Electrical & Networking

Computer Hardware, Electrical, & Networking Pathway CTE Courses		
Introductory	Concentration	Capstone
• Computer Fundamentals • Electricity/Electronics • Exploring Technology • Technical Core	• Computer and Communications Networking • Computer Systems Design/Maintenance • Electrical Codes and Systems	• Computer Networking and Administration • Electrical/Electronic Technology • Essentials of Information Technology
Education Level and Sample Occupations		
High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• Apprentice Electrician • Computer Equipment Installer • Computer Repairer • Electrician's Helper • Telecommunications/ Security Equipment Installer	• Computer Networking Technician • Computer Technician • Electrician • Journeyman Electrician • Telecommunications Technician	• Computer Engineer • Electrical Engineer • Instructor • Network Administrator • Telecommunications Engineer

Engineering Design Pathway

Engineering Design Pathway Sample CTE Courses		
Introductory	Concentration	Capstone
• Exploring Technology • Introduction to CAD • Introduction to Drafting • Principles of Technology	• Architectural Design • Design Drafting • Engineering Technology • Mechanical Drawing	• Advanced Architectural Design • Computer-aided Design (CAD) • Electrical/Mechanical Technology • Engineering Design
Education Level and Sample Occupations		
High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• CAD Technician • Construction Apprentice • Design/Drafting Apprentice • Engineering Aide • Junior Drafter/Trainee	• CAD/CAM Specialist • Drafter/Designer • Engineering Technician • Journeyman Drafter	• Architect • Civil Engineer • Industrial Designer • Instructor • Structural Engineer

ENGINEERING & DESIGN

Engineering Technology Pathway

Engineering Technology Pathway Sample CTE Courses		
Introductory	Concentration	Capstone
• Exploring Technology • Introduction to Computers • Introduction to Drafting/CADD • Introduction to Electricity/Electronics • Introduction to Engineering Technology • Metal Technology • Technology Core	• Digital Logic Design • Electro-Mechanical Systems • Mechatronics/Robotics	• Electrical/Electronic Technology • Industrial Engineering Technology • Telecommunications
Education Level and Sample Occupations		
High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
•Apprentice Technician • Electronic Mechanic Helper • HVAC Installer • Telecommunications/ Security Equipment	• Electronic Mechanic/ Technician • Facilities Technician • Industrial Electronics Technician • Journeyman Engineer • Telecommunications Technician	• Electrical Engineer • Facilities Maintenance Engineer • Industrial Engineer • Instructor • Telecommunications Engineer

ENGINEERING & DESIGN

Environment and Natural Science Pathway

Environment and Natural Science Sample CTE Courses		
Introductory	Concentration	Capstone
• Essentials of Environmental Engineering • Exploring Technology • Introduction to Computers • Introduction to Drafting/CADD • Principles of Engineering • Technology Core	• Computer technology • Drafting and Computer-aided Design • Hydrology	• Electrical/Electronic Technology • Environmental Science and Technology • Industrial Engineering Technology • Telecommunications
Education Level and Sample Occupations		
High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• Environmental Sampling Assistant • Hazardous Material Removal • Environmental Engineering Aide • Environmental Apprentice	• Environmental Engineering Technician • Environmental Planner Assistant • Environmental Sampling Technician • Journeyman Environmental Engineer • Survey-Mapping Technician	• Environmental Engineer • Environmental Planner • Instructor • Survey-Mapping Engineer

ENGINEERING DESIGN
STEAM Night Speaker Bios

Abeer Alwan

Professor of Electrical Engineering
alwan_99@yahoo.com
Table # 9

Abeer Alwan received her Ph.D. in Electrical Engineering from MIT in 1992. Since then, she has been with the Electrical Engineering Department at UCLA as an Assistant Professor (1992-1996), Associate Professor (1996-2000), and Professor (2000-present). Dr. Alwan's research interests include modeling human speech production and perception mechanisms and applying these models to speech-processing applications such as automatic speech recognition, compression, and synthesis. She established and directs the Speech Processing and Auditory Perception Laboratory at UCLA. Dr. Alwan is the recipient of the NSF Research Initiation Award, the NIH FIRST Career Development Award, the UCLA-TRW Excellence in Teaching Award, the NSF Career Development Award, and the Okawa Foundation Award in Telecommunications.

Roberto Jacob Da Silva

Software Development Consulting Engineer
robertohjdasilva@hotmail.com
Table # 10

Roberto H Jacob Da Silva is a Software Development Consulting Engineer at Lenovo (Santa Clara, Silicon Valley), a technology company that manufactures computers, tablets, smartphones, IT management software and smart televisions. Roberto has 20 years of experience in the development of software for networking data communication products. Prior to joining Lenovo, Roberto worked at IBM, Alcatel-Lucent and Siemens. During this period, he had the opportunity to live and work in Belgium, Brazil, Spain and the U.S. (14 years). He is the author of 14 issued United States patents on LAN switching/virtualization technologies and formerly a Distinguished Member of Technical Staff at Alcatel-Lucent (company's top 0.3% R&D worldwide annually). Roberto graduated from the Technological Institute of Aeronautics (Sao Paulo, Brazil) with Bachelor of Sciences degree in Electronics Engineering.

ENGINEERING DESIGN
STEAM Night Speaker Bios

Frank Jenko

Professor of Physics and Astronomy at UCLA
jenko@physics.ucla.edu
Table # 11

I studied physics at one of the best universities in Germany, and I got interested in fusion energy research. Here, the idea is to recreate the sun on earth in order to generate electricity for generations to come in a safe and environmentally friendly way. I wanted to make a difference in an area that can be transformational for our society and that is at the same time scientifically exciting. My research efforts were quite successful, and were regarded highly by my colleagues. So I decided to pursue a career in science. I worked for more than 15 years at a research lab at Munich, leading a group of 12-15 people, while also teaching at a university, before I accepted a professorship at UCLA in 2014. I am very excited about doing collaborative research, finding out how nature works, sharing my findings with others, working with students, and changing the world in small and large ways. If any of that resonates with you, I am looking forward to meeting you!

Falgun Patel

Engineer / Director of Operations
pf1004@yahoo.com
Table # 12

I have worked in engineering jobs for all of my professional life. My background is in lasers and optics, but important skills that have served me well are: communications, both written and oral, good work ethic, professional attitude, desire to keep learning new things, and a strong foundation in math and science. I have worked in very high technology areas involving lasers, electronics, optics, computers, and mechanics. Stop by if you have any questions about careers or school (middle, high, college, or graduate).

FINANCE & BUSINESS

The Finance and Business industry sector, a vital contributor to the U.S. economy, employs more than six million people in related occupations. In all areas of this sector, advances in technology and trends toward direct marketing provide for many fast-growing career opportunities. For example, employment of accountants and auditors is expected to grow at a rate about equal to the average for all other occupations, and career opportunities in banking are expected to increase at a greater rate than normal as a result of the expansion of banking and investment institutions. Because of market globalization and an increasing demand for investment advice, employment in financial management will also continue to grow.

The sector includes three pathways. Accounting Services provides instruction in developing and utilizing general accounting systems; Banking and Related Services focuses on the fundamentals of lending and banking regulations; and Business Financial Management helps develop skills in investment analysis and guidance. Students interested in pursuing one or more of these pathways should develop knowledge and skills in mathematics, communications, and technology.

Accounting Services Pathway

Accounting Services Pathway Sample CTE Courses		
Introductory	Concentration	Capstone
• Business Communication • Computer Applications • Exploratory Business • Financial Literacy • Keyboarding	• Accounting I & II • Computer Accounting • Record Keeping	• Entrepreneurship • Internship • Virtual Enterprise • Volunteer Income Tax Assistance
Education Level and Sample Occupations		
High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• Account Clerk • Audit Clerk • Bookkeeper • Payroll Clerk	• Account Specialist • Cost Estimator • Tax Preparer	• Accountant • Auditor • Budget Analyst • Controller

Banking and Related Service Pathway

Banking and Related Services Pathway Sample CTE Courses		
Introductory	Concentration	Capstone
• Business Communication • Computer Applications • Exploratory Business • Financial Literacy • Keyboarding	• Accounting I & II • Financial Services • Banking • Money and Banking	• Business Law • Business Statistics • Entrepreneurship • Virtual Enterprise
Education Level and Sample Occupations		
High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• Account Collector • Bank Teller • Credit Clerk • New Accounts Clerk	• Actuary • Credit Analyst • Customer Service Representative • Loan Specialist	• Appraiser • Bank Manager • Credit Manager • Escrow Officer • Internal Auditor

Business Financial Management Pathway

Business Financial Management Pathway Sample CTE Courses		
Introductory	Concentration	Capstone
• Business Communication • Computer Applications • Exploratory Business • Financial Literacy • Introduction to Business	• Accounting • Financial Occupations • Insurance Services • Marketing • Stocks, Bonds, and Investments	• Business Statistics • Entrepreneurship • Financial Management • Virtual Enterprise
Education Level and Sample Occupations		
High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• Claims Clerk • Collector • Insurance Appraiser	• Claims Examiner • Tax Examiner • Treasurer • Underwriting Assistant	• Budget Analyst • Economist • Finance Director • Financial Planner • Securities Manager

FINANCE AND BUSINESS
STEAM Night Speaker Bios

Barbara Dickerson

Director of Fiscal Services
bdickerson@opusd.org
Table # 2

Now in her 8th year at Oak Park Unified School District as Director of Fiscal Services, Barbara Dickerson works with the accounting and payroll staff to handle payroll, accounts payable, accounts receivable, budget, and all State and Federal financial reporting. Prior positions include Budget Analyst for a nearby school district, and a number of years as an accounting manager in private industry. Her educational background includes a B.S. (Business Management/Accounting), M.S. (Accounting/Taxation), and completion of the CBO certification program at USC. Although numbers that "add up" make her smile, the best part of her job is working with a great team and being part of the Oak Park family.

Derek Ross

Insurance Broker/President
derek@kulchinross.com
Table # 3

Derek Ross has been in the insurance and risk management industry for over 25 years. He prides himself on providing responsive insurance service to clients in many diverse industries. His emphasis is in entertainment/amusement, fitness, real estate, contractors and retail industries. Derek provides Disaster Prevention Training, Annual Claim Reviews and Specialized Loss Control Programs to help his clients lower their risk ratio and improve their bottom line. Derek is a two-time President of the Independent Brokers and Agents of the San Fernando Valley (IBA SFV). While serving, he represented the association in Washington D.C. and Sacramento, working with legislators to reform insurance regulations. Derek was also elected to a three year term in 2014 as a Southern California Regional Director for the Independent Insurance Agents and Brokers of California (IIABcal).

Marilyn Shafer

Actuary
mschafer@beechercarlson.com
Table # 4

Marilyn Schafer graduated UCLA in 1986 with a BS Engineering. Her first job (1985) was as an actuarial student with Milliman, an actuarial consulting firm in Pasadena. In 1990, Ms. Schafer was hired by Mercer, a subsidiary of Marsh McLennan, continuing to work as an actuarial student. Having completed 7 of the required 10 exams in 1995, Ms. Shafer became an Associate of the Casualty Actuary Society (ACAS). After a seven year leave of absence from the profession, in 2002 Ms. Schafer returned to work as an actuarial consultant for Beecher Carlson, an insurance brokerage firm. She became an employee in 2010. During her career as an actuary her tasks have included calculating auto insurance rates for Michigan's no-fault auto insurance program; approximating reserves for self-insured workers' compensation, hospital professional liability, and other general liability programs; and estimating future liabilities. Ms. Schafer's duties also include writing opinions for captive insurance programs because every insurance company and insurance captive must be certified by an accredited actuary.

Patrick Sheehan

Technical Specialist
patrick.sheehan@secotools.com
Table # 5

I've been involved in industrial sales to manufacturing facilities in the Los Angeles area since 1996. During that time I have a had the opportunity work on a diverse range of products such as skateboards and surfboards, aerospace components, medical implants and musical instruments. All of these items are manufactured here in Southern California and need to be made a efficiently as possible. My skill in integrating the engineering side and the creative side of manufacturing allows me to bring winning solutions to my clients and help them with their manufacturing challenges. I currently work for Seco Tools, LLC, a global manufacturer of carbide cutting tools.

HEALTH SCIENCE & MEDICAL TECHNOLOGY

Health Science and Medical Technology continue to be one of the fastest-growing industry sectors in California, offering numerous opportunities and benefits. Of the more than 300 careers within this sector, about 41 percent require professional-level preparation; about 33 percent, technical-level preparation; and 26 percent, assistant-level preparation. The Health Science and Medical Technology pathways and careers offer options to match a variety of the aptitudes, interests, abilities, and academic achievement of students. The career pathways are grouped in functions that have a common purpose and similar attributes: Biotechnology Research and Development, Diagnostic Services, Health Informatics, Support Services, and Therapeutic Services. Standards for each career path build on and continue the Health Science and Medical Technology foundation standards, providing more complexity, rigor, and career specificity. And each career pathway includes standards needed for all careers within that pathway.

Biotechnology Research & Development Pathway

Biotechnology Research & Development Pathway Sample CTE Courses		
Introductory	Concentration	Capstone
• Introduction to Health Careers I • Introduction to Health Careers II	• Introduction to Biotechnology I • Medical Terminology • Structure and Function	• Biotechnology Assistant • Biotechnology Technician • Introduction to Biotechnology II
Education Level and Related Occupations		
High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• Biotechnology Assistant	• Biomedical Technician • Biotechnology Technician • Quality Assurance/ Control Technician	• Bioinformatic Specialist • Biomedical Chemist • Biostatistician • Biotechnology Scientist • Clinical Trials Researcher

Diagnostic Service Pathway

Diagnostic Service Pathway Sample CTE Courses		
Introductory	Concentration	Capstone
• Hospital Occupations • Introduction to Health Careers I • Introduction to Health Careers II • Introduction to Imagery I	• Health: Biological Structure and Function • Medical Terminology	• Bioengineering Assistant • Medical Laboratory Assistant • Radiology Assistant
Education Level and Related Occupations		
High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• Medical Laboratory Aide • Transporter	• Biotechnology Engineer • Cardiology Technologist • Medical Laboratory Assistant • Medical Laboratory Technician • Radiology Technologist	• Biotechnology Scientist • Clinical Medical Technologist • Geneticist • Radiologist

Health Informatics Pathway

Health Informatics Pathway Sample CTE Courses		
Introductory	Concentration	Capstone
• Computer Technology • Hospital Occupations • Introduction to Health Careers I • Introduction to Health Careers II	• Health: Biological Structure and Function • Medical Terminology	• Insurance Billing • Medical Coding • Medical Transcription • Skill-specific Health Informatics
Education Level and Related Occupations		
High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• Health Unit Coordinator • Medical Coder • Medical Records Clerk • Medical/Hospital Receptionist	• Medical Record Technician • Medical Transcriptionist • Telehealth Technician	• Health Educator • Health Services Administrator • Hospital/Nursing Home Administrator • Medical Librarian

HEALTH SCIENCE & MEDICAL TECHNOLOGY

Support Services Pathway

Support Services Pathway Sample CTE Courses		
Introductory	Concentration	Capstone
• Introduction to Health Careers I • Introduction to Health Careers II • Introduction to Hospital Occupations	• Medical Terminology • Structure and Function	• Hospital Support Services • Maintenance and Supply Technician • Medical Transporter
Education Level and Related Occupations		
High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• Central Supply Aide • Environmental Services Assistant	• Central Supply Technician • Environmental Services Technician • Mortician	• Environmental Health Specialist • Health Educator • Industrial Hygienist • Materials Management Supervisor • Nursing Home Administrator

Therapeutic Services Pathway

Therapeutic Services Pathway Sample CTE Courses		
Introductory	Concentration	Capstone
• Introduction to Health Careers I • Introduction to Health Careers II • Introduction to Hospital Occupations	• Hospital Occupations II • Medical Terminology • Structure and Function	• Certified Nursing Assistant • Dental Assistant • Emergency Medical Technician • Medical Assistant

HEALTH SCIENCE & MEDICAL TECHNOLOGY

Therapeutic Services Pathway

Education Level and Related Occupations		
High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• Certified Nurses Assistant • Emergency Medical Technician • Medical Assistant • Physical Therapy Aide • Respiratory Therapy Aide	• Dental Hygienist • Fitness/Aerobics Instructor • Licensed Vocational Nurse/ Registered Nurse • Pharmacy Technician • Registered Physical Therapy Aide	• Dentist • Exercise Physiologist • Pharmacist • Physical Therapist • Physician Assistant

HEALTH SCIENCE & MEDICAL TECHNOLOGY STEAM Night Speaker Bios

Michael Baywitch

Director, Search and Evaluation, Biologics
mbayewitch@hotmail.com
Table # 20

My career evolved from an advanced education in science to the business side of the life sciences. I have fulfilled business development roles, managed deal due diligence, and deal execution within startup biotech companies, venture funds, and mid-large size pharmaceutical companies. I am currently Director of Search and Evaluation for Teva Pharmaceuticals, R&D division, with key responsibility to manage the identification, technical diligence, and support transaction processes focused on in-licensing product and platform opportunities.

Lisa Harris

Clinical Psychologist
lisa@drlisaharris.com
Table # 21

Lisa Harris, Clinical Psychologist, private practice in Agoura Hills specializing in depression, anxiety and marital issues. Adjunct faculty at Loyola Marymount University, USC, and Cal Lutheran University. 17 year history as Adult Outpatient Program Manager, Didi Hirsch Community Mental Health Center, Culver City, working with the chronically mentally ill.

Steven Madhavan

Head, Occupational and Environmental Medicine, Naval Base Ventura County
stevemadhavan@gmail.com
Table # 22

I am a physician that practices a specialized type of medicine that is a hybrid of clinical care, engineering and the law to protect our workforce and the general public from environmental hazards, e.g., chemical spills and natural disasters. Part of my duties also involve overseeing humanitarian assistance medical care for refugees and other displaced people! Additionally, I have worked at many federal government agencies to assist in the development of guidelines for preventive care e.g. physical fitness, healthy eating and patient safety.

INFORMATION TECHNOLOGY

Information Technology (IT) careers involve the design, development, support, and management of hardware, software, multimedia, and systems integration services. The IT industry offers a dynamic and entrepreneurial working environment that has had a revolutionary impact on the economy and on society. IT careers are available not only in the IT industry but also in every other sector of the economy, from Agriculture and Natural Resources to Transportation. Employment for IT support specialists is expected to increase faster than the average for all other occupations as organizations continue to adopt and integrate increasingly sophisticated technology. The IT sector contains some of the fastest-growing industries, such as software publishing, Internet publishing, service providers, Web search portals, and data-processing services.

Information Support and Services Pathway

Information Support and Services Pathway Sample CTE Courses		
Introductory	Concentration	Capstone
• Business Communication • Computer Applications • Keyboarding	• Office Technology	• Microsoft Office Specialist Certification
Education Level and Sample Occupations		
High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• Administrative Assistant • Help Desk Support Technician • Word Processing Operator	• Desktop Publisher • Information Systems Specialist • Database Administrator • Technical Writer	• Software Engineer • Information Systems Architect • IT Manager/Director • Business Teacher

Media Support and Services Pathway

Media Support and Services Pathway Sample CTE Courses		
Introductory	Concentration	Capstone
• Computer Application • Introduction to Business • Introduction to Desktop Publishing	• Desktop Publishing • Web Design	• Multimedia and Image Management • Advanced Web Design

INFORMATION TECHNOLOGY
Media Support and Services Pathway

Education Level and Sample Occupations		
High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• Computer Operator • Production Technician • Web Page Developer	• Computer Graphic Artist • Desktop Publisher • Multimedia Specialist • Web Designer • Webmaster	• Graphic Designer • Multimedia Artist • Multimedia Producer • Web Architect • Corporate Communications Manager

Network Communications Pathway

Network Communications Pathway Sample CTE Courses		
Introductory	Concentration	Capstone
• Keyboarding • Computer Applications	• Advanced Computer Operations • Network Systems I	• Network Systems II
Education Level and Sample Occupations		
High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• Network Systems Assistant • Network Systems Technician	• Software/Hardware Installer • Telecommunications Specialist • Network Administrator • Data Communications Specialist	• Network Administrator • Network Engineer • Network Manager/ Director • Project Manager • Computer Security Specialist

Programming & Systems Development Pathway

Programming & Systems Development Pathway Sample CTE Courses		
Introductory	Concentration	Capstone
• Computer Applications • Exploratory Business • Introduction to Programming	• Computer Programming • Programming and Software Development • Java Programming • Visual Basic Programming	• Advanced Programming • AP Computer Science • Game Programming

INFORMATION TECHNOLOGY

Programming & Systems Development Pathway

Education Level and Sample Occupations		
High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• Programmer • Software Applications Support • Software Technician	• Programmer • Software Applications Reporting • Software Documentation Specialist	• Chief Software Architect • Computer Software/ Hardware Engineer • Manager of Software Development • Operating Systems Designer • Software Architect

INFORMATION TECHNOLOGY

STEAM Night Speaker Bios

Ron Laughton

Entrepreneur CEO
Ron@ReviewInc.com
Table # 17

Ron spent over 15 years handling mission critical financial systems for the trillion dollar investment firm – The Capital Group. He co-Authored "FIX" (Financial Information Exchange Protocol) that interconnects financial institutions around the world. In 2009, Ron became a full time Entrepreneur, creating ReviewInc's highly scalable and enterprise ready SaaS platform.

Scott Meyer

Technical Solutions Architect
sameyer@cisco.com
Table # 18

Scott Meyer is a 20 year Cisco veteran who works as a Technical Solutions Architect (TSA) for the Solutions & Software Innovation Partner Organization. In his current role, Scott works with Independent Software Vendors (ISVs) across the Americas on developing software applications that connect to Cisco Architectures. His primary focus is driving large scale, Internet of Things (IoT) architectures for industries such as Oil & Gas, Energy, Manufacturing and Smart & Connected Cities. IoT is an emerging, multi-trillion dollar market that will connect billions of devices to the Internet. Prior to his current role, Scott was the lead Collaboration TSA for the Architecture Partner Organization working with Cisco's top Collaboration partners (multi-billion dollar operations). Scott has driven global programs for Cisco around Collaboration, Data Center Virtualization and partner training programs. Prior to Cisco, Scott was a lead Principal Software Engineer developing applications for the largest, global Service Providers (such as AT&T). Scott speaks regularly at large Cisco and industry events. Scott has achieved the top IT industry certification as a Voice CCIE #14649, one of the first 130 in the world. He has a Master of Science degree from Columbia University in Computer Science and Electrical Engineering.

Christopher Schafer

Information Security Specialist
chrisp.schafer@gmail.com
Table # 19

I started learning about Information Security in college, participating in the Collegiate Cyber Defense Competition. During that time, I also helped teach at the high school level, called Cyber Patriot, and helped lead many teams to the national finals. From there, I went on to work at a large Financial institution, doing security monitoring and alerting.

Exit to Parking Lot

Entrance to MCMS Gym

1- Program Guide

2   3   4   5

Finance and Business

Building Trades and Construction

6

7

8

Health Science and Medical Technology

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Career and Technical Pathway (CTE) Information

D

A

Bleachers

STAGE

C

B

9

Engineering and Design

19

Computer Science and IT

18

17

10

11

12

Arts, Media, and Entertainment

16   15   14   13

Restrooms

Hydration Station

Hydration Station