



College: Here we come!



This workshop is presented by the **MATH CEO** team, in collaboration with the **Department of Mathematics at UCI** and the **Office of Financial Aid and Scholarships.**



Preparing for college and STEM careers



Preparing for college and STEM careers

- **Various systems of higher education in California**
- **Requirements to be admitted to college**
- **Costs of college, and financial aid resources**
- **Getting ready for college:**
 - **The student's role**
 - **The parent's role**
- **College as a step to great careers**
- **Jobs in STEM**
- **Importance of learning math**



College
Just Ahead



Let's talk about...

- **Various systems of higher education in California**
- **Requirements to be admitted to college**

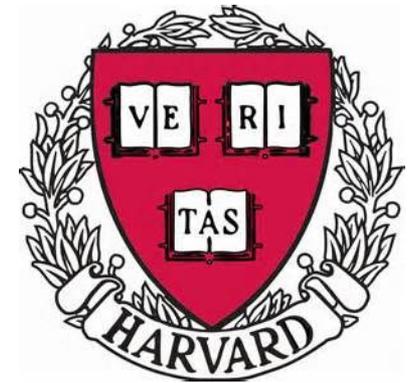


Let's Learn About College...

Disclaimer: All requirements discussed today, apply only *today*. It is your responsibility to remain aware.



4 Systems of Higher Education



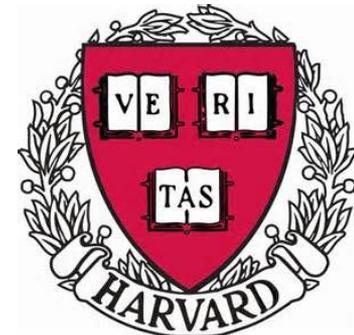
Higher Education in California



- ✧ California Community Colleges (CCC)
- ✧ California State University (CSU)
- ✧ University of California (UC)
- ✧ Private/ Independent Colleges and Universities

*Colleges
and
universities*

We'll focus on these....



Higher Education in California

✧ Community Colleges

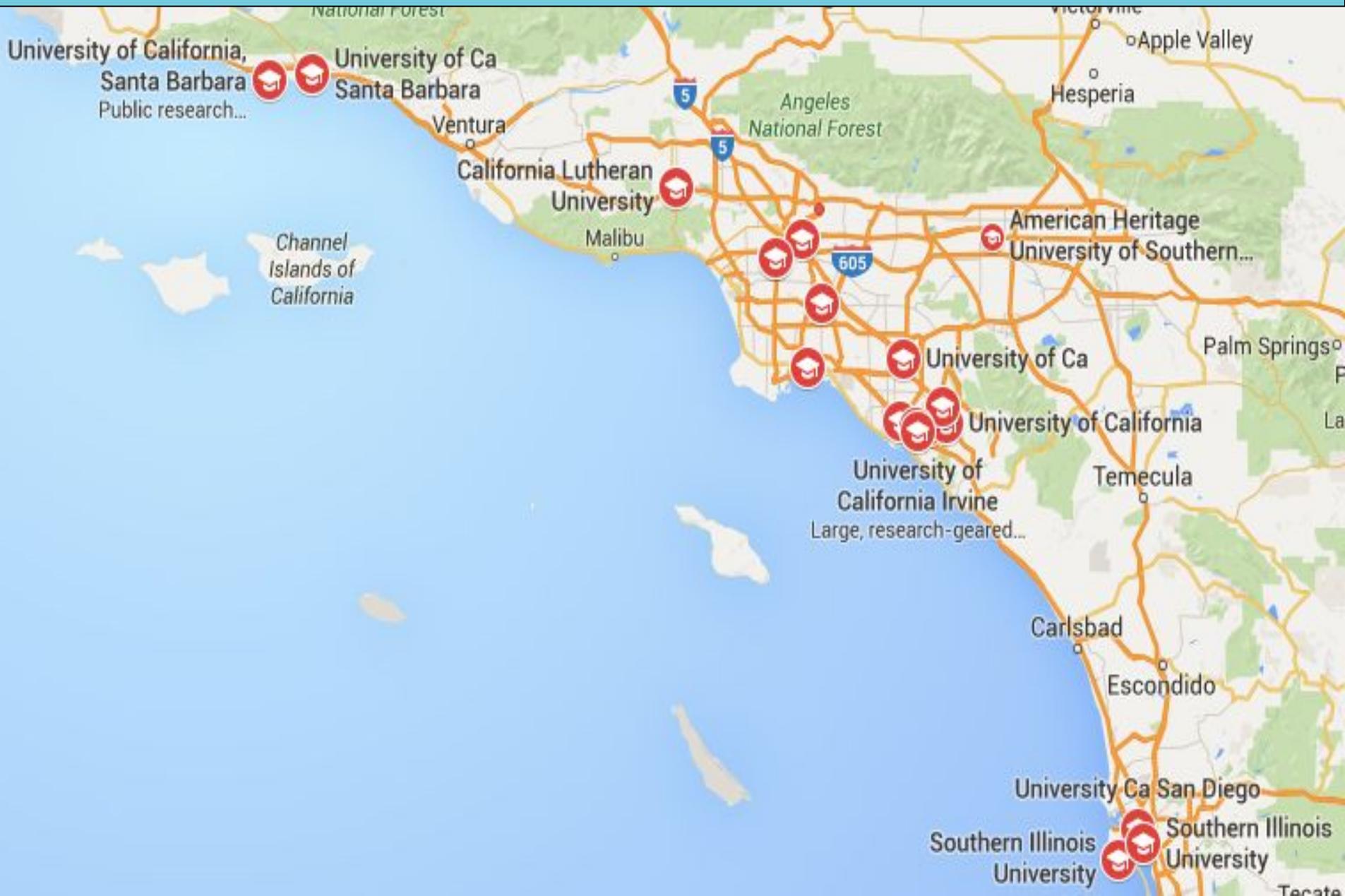
- ✧ Almost everyone who applies is accepted
- ✧ Only earn a **two-year** “associate degree” (not what most people call a “college degree”)
- ✧ No class requirements. Can take classes your HS did not offer.
- ✧ Inexpensive

✧ Colleges and Universities

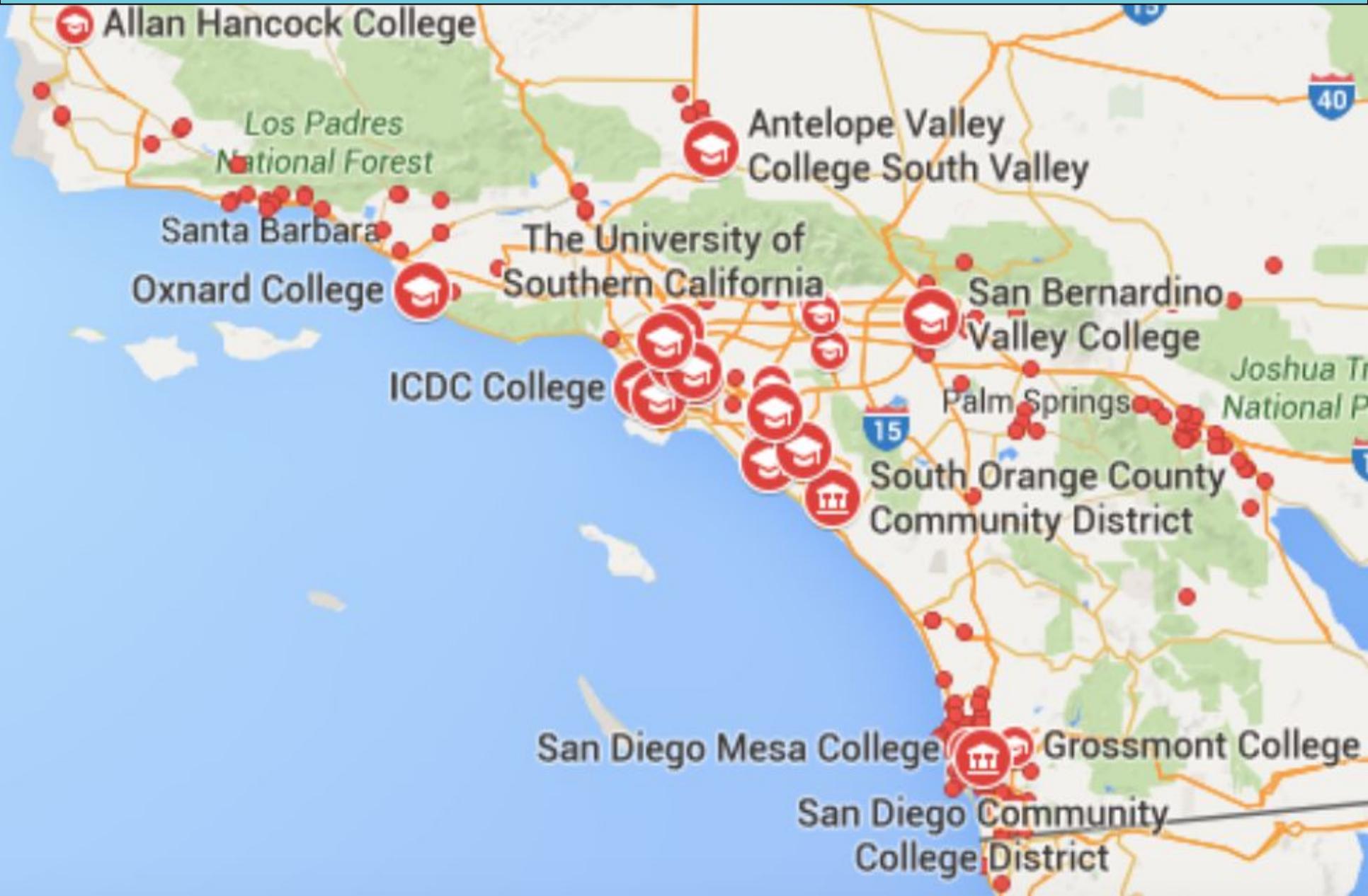
- ✧ Harder to get into (GPA minimum requirement)
- ✧ Earn a **4-year** “college degree”
- ✧ Must take enough math in HS (or community college) before applying
- ✧ More expensive

May take first two years in community college, then transfer to a university

Colleges & Universities in Southern California



Community Colleges in the South of California



California Community Colleges

- ✧ (114) two-year colleges
- ✧ Preparation for
 - ❖ Technical professions/short careers
 - ❖ Transfer to a 4-year school
- ✧ Most students live at home and commute to school



California Community Colleges

Programs of Studies

- ✧ Short Degrees
- ✧ Transferable Classes
- ✧ Degree
 - ❖ Bachelor of Arts/Sciences
 - ❖ Vocational Certificates
- ✧ Locations
 - ❖ Santa Ana College
 - ❖ Fullerton College
 - ❖ Orange Coast College
 - ❖ Irvine Valley College

Cost

- ✧ \$46/ per unit
- ✧ Full time: 12 units per semester (\$552)
- ✧ \$1200 - \$1600/ per year

Requirements

- ✧ No previous courses
- ✧ High School Diploma or equivalent (GED)

California State Universities (CSU)

- ✧ (23) 4-year institutions
- ✧ Offering liberal arts and sciences programs for a large variety of professional careers
- ✧ Admitted students are in the **top 33% of their class**
- ✧ Students live at home, at dorms or apartments
- ✧ It is possible to transfer after completing community college requirements



California State Universities (CSU)

Programs of Studies

- ✧ 4 year programs
 - ❖ Several study choices
- ✧ Degree
 - ❖ Bachelor of Arts or Bachelor of Science
 - ❖ Master
 - ❖ Teaching credentials

Cost

- ✧ Fee costs per year:
 - ❖ Fee = \$5,472
 - ❖ Average Misc. = \$1,306

Requirements

- ❖ A-G courses in HS
- ❖ Average grade of at least 2.0
- ❖ SAT or ACT exams unless GPA > 3.00

SAT and ACT

These are entrance exam (on math and English) used by most colleges and universities to make admissions decisions. The higher the score your kids gets, the more likely they are to be admitted to a 4-year college or university.

Take only one of these exams (perhaps 2-3 times to improve score) in junior year = 3rd year of HS = 11th grade

Requirements

- ❖ A-G courses in HS
- ❖ Average grade of at least 2.0
- ❖ **SAT or ACT exams unless GPA > 3.00**

When should I take the exams?

Spring of 11th Grade SAT and ACT

Last day to take the exam:
December, in 12th grade

<http://www.collegeboard.com>

(Note: for the SAT you need **Algebra II**)

Academic Requirements A-G



Requirements

- ❖ **A-G courses in HS**
- ❖ Average grade of at least 2.0
- ❖ SAT or ACT exams unless GPA > 3.00

Academic Requirements A-G

The **A-G** / College Entrance **Requirements** are a sequence of **15 high school courses** that students must complete (with a grade of C or better) to be minimally eligible for admission to the University of California (UC) and California State University (CSU).

- History/social science (“a”)
- English (“b”)
- Mathematics (“c”)
- Laboratory science (“d”)
- Language other than English (“e”)
- Visual and performing arts (“f”)
- College-preparatory elective (“g”)

*e.g., biology,
chemistry
physics*

*e.g., dance,
music, theater
or the visual
arts.*

Academic Requirements A-G

Only certain courses count!

Check with school counselors to make sure your children are taking the right classes

- History/social science ("a")
- English ("b")
- **Mathematics ("c")**
- Laboratory science ("d")
- Language other than English ("e")
- Visual and performing arts ("f")
- College-preparatory elective ("g")

*Must include geometry,
elementary and advanced
algebra*

*Pre-algebra in
9th grade will
not count!*

Academic Requirements A-G

The **A-G** / College Entrance **Requirements** are a sequence of **15 high school courses** that students must complete (with a grade of C or better) to be minimally eligible for admission to the University of California (UC) and California State University (CSU).

You cannot be admitted to UC or CSU without these classes

TIP

Because admission to college is competitive, convince your kid to take MORE classes and MORE ADVANCED classes than the minimum requirement

Academic Requirements A-G

What is the difference between a competitive applicant and a minimally eligible candidate?

Minimally Eligible

- ✧ 2 years of history / natural sciences
- ✧ 4 years English grammar
- ✧ 3 years of mathematics
- ✧ 2 year of lab science
- ✧ 2 years in foreign language
- ✧ 1 year in visual arts
- ✧ 1 year of electives

Competitively Eligible

- ✧ 3 years of history / natural sciences
- ✧ 4 years of English grammar
- ✧ 4 years of mathematics
- ✧ 3 years of lab science
- ✧ 3-4 years in foreign language
- ✧ 1 year of visual arts
- ✧ 1 year of electives

University of California (UC)



University of California (UC)

- ✧ 9 Schools offering a large variety of 4-year programs
- ✧ Admitted students are among **the top 12.5%** of their class
- ✧ Dorms are guaranteed for all first-year students
- ✧ It is possible to transfer after completing community college requirements



University of California (UC)

Programs of Studies

- ✧ 4 year programs
 - ❖ Several study choices
- ✧ Degree
 - ❖ Bachelor of Arts or Bachelor of Science
 - ❖ Master
 - ❖ Doctorates
 - ❖ Professionals

Cost

- ✧ Cost of fees, per year:
 - approximately = \$13,900
 - Avg. Misc. (living on campus)
= \$17,700

Requirements

- ✧ Academic courses A-G
- ✧ Minimum average of 3.0
- ✧ SAT and ACT exam
- ✧ 2 SAT subject tests are recommended

Quick comparison

- **CC:** Community College
- **CSU:** Cal State University
- **UC:** University of California

Degree:

- **CC** – 2 year
- **CSU** – 4 year
- **UC** – 4 year

Competitive admission:

- **CC** – everyone gets in
- **CSU** – top 33%
- **UC** – top 12.5%

Cost:

- **CC** – \$1,200-1,600/yr
- **CSU** – ~ \$5,472 + \$1,308 miscellaneous /yr
- **UC** – \$13,500+ \$20,500 miscellaneous /yr

Quick comparison

- **CC:** Community College
- **CSU:** Cal State University
- **UC:** University of California

GPA requirement:

- **CC** – none
- **CSU** – minimum 2.0
- **UC** – minimum 3.0

Course prerequisite:

- **CC** – none
- **CSU** – A-G courses in HS
- **UC** – A-G courses in HS

Exam requirement:

- **CC** – none
- **CSU** – SAT/ACT (unless GPA>3.0)
- **UC** – SAT/ACT (+2 SAT subject recommended)

Stories to be heard

**Rumbo a
la
universidad**



**On my
way to
college**



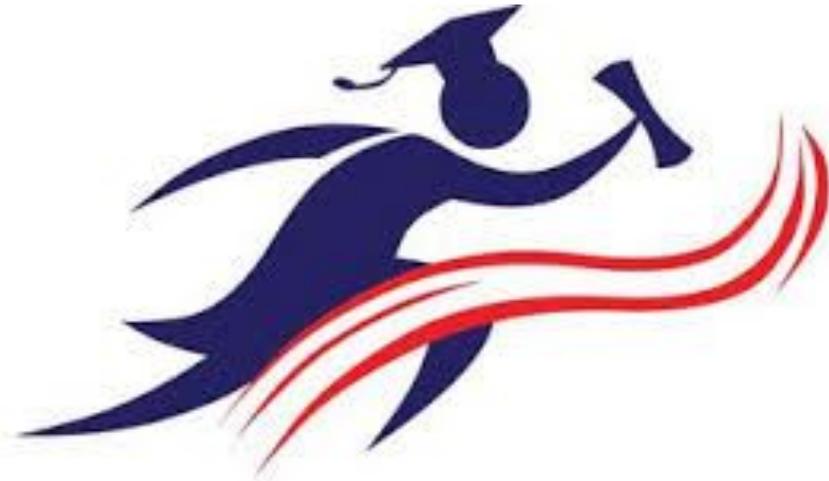
Department of Mathematics, UCI

**UC IRVINE MATH CEO
Community Educational Outreach**



Let's talk about...

- **Costs of college, and financial aid resources**



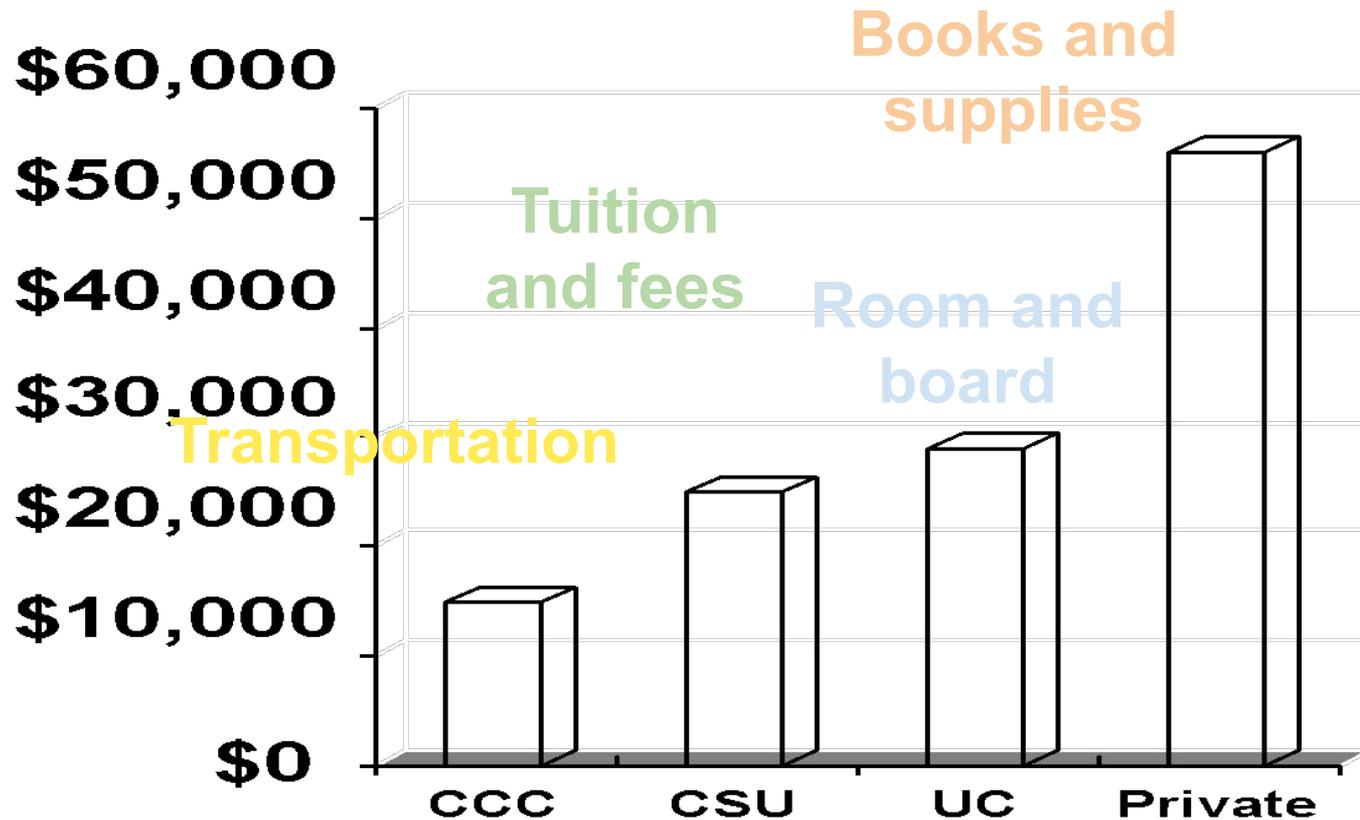


How to ask for
financial help
2018-2019



Cost of education

Varies depending on Institution



*CCC: Cost estimated for living at home

*CSU, UC, Private: Cost estimated for living on campus

Sources of Financial Help



- ✦ Federal Government
- ✦ State Government
- ✦ Colleges and Universities
- ✦ Private agencies, organizations, foundations and employers

Types of Financial Aid



- **Grants** – money that does not need to be returned
- **Work and Study**– Money earned by the student in exchange for work inside or outside the school
- **Loans** – Money that the student borrows; needs to be paid back with interest to the borrower

Example of maximal Cal Grants and Pell Grants

Cal Grant* (From \$547 to \$12,570)

- FAFSA or Dream Act Application (if applicable)**
- GPA Verification Form**
- Application sent by 3/02/2019**

+

Federal Pell Grant (up to \$6,095)

- FAFSA**

= up to \$18,665

**annually depending on the college/university attended
and on financial need**

*Must verify college eligibility at: www.csac.ca.gov

Cal Grants

❖ **Cal Grant A –**

- ❖ **Minimum grade point average (GPA) 3.0+**
- ❖ **Family income and assets lower than state maximum**
- ❖ **Must prove financial need**

❖ **Cal Grant B Entitlement Awards –**

- ❖ **Minimum grade point average (GPA) 2.0+**
- ❖ **Coming from a low income family**
- ❖ **Family income and assets lower than state maximum**
- ❖ **Must prove financial need**

❖ **Cal Grant C -**

for low income students pursuing vocational study programs



2018-19 Cal Grant Income and Asset Ceilings

CALIFORNIA STUDENT AID COMMISSION
FOR NEW CAL GRANT APPLICANTS
and
RENEWING CAL GRANT RECIPIENTS

2018-19 CAL GRANT PROGRAM INCOME CEILINGS

	Cal Grant A and C	Cal Grant B
Dependent students and Independent students with dependents other than a spouse		
<u>Family size:</u>		
Six or more	\$114,300	\$62,800
Five	\$106,000	\$58,200
Four	\$98,900	\$52,000
Three	\$91,000	\$46,700
Two	\$88,900	\$41,500
Independent students		
Single, no dependents	\$36,300	\$36,300
Married, no other dependents	\$41,500	\$41,500

2018-19 CAL GRANT PROGRAM ASSET CEILINGS

Dependent students ¹	\$76,500
Independent students	\$36,400

¹ This ceiling also applies to independent students with dependents other than a spouse.



Blue + Gold Opportunity Plan

- ✦ Covered 2018-19 system-wide fees (\$12,570) for California residents whose families earned less than \$80,000 a year and student qualified for financial aid.
- ✦ Qualified students must be in their first four years of attendance (first two years for transfer students).
- ✦ Complete information available at www.universityofcalifornia.edu/blueandgold/

Types of Aid: Federal Stafford Loans

- ✦ **No credit check required**
- ✦ **Subsidized Direct Loans: The government pays the interest while a student is enrolled at least half-time.**
 - ✦ **Students must demonstrate \$200+ of financial need.**
 - ✦ **Interest Rate is 5.04% for 2018-19**
 - ✦ **Origination fee of 1.066%**
- ✦ **Unsubsidized Direct Loans: Students are responsible for paying the interest during enrollment.**
 - ✦ **Interest Rate is 5.04% for 2018-19**
 - ✦ **Origination fee of 1.066%**

Annual Limits	Subsidized Dependent Students	Unsubsidized Dependent Students	Combined Sub & Unsub Dependent Students
Freshman	\$3,500	\$2,000	\$5,500
Sophomore	\$4,500	\$2,000	\$6,500
Junior/Senior	\$5,500	\$2,000	\$7,500

* In addition to any unused subsidized eligibility

Federal Verification

- ✧ Some students may be required to verify the information reported to FAFSA
- ✧ If you are selected for verification, tax information will be verified by
 - ❖ IRS data Retrieval Process
 - ❖ IRS Tax Transcripts
- ✧ People who don't declare taxes can be selected for:
 - ❖ A declaration confirming that they did not present Federal Taxes in 2018 and were not obligated to do so by the IRS
 - ❖ Copy of W2 form and other documentation of income, if the income was obtained through work
- ✧ The educational institution has the authority to communicate with you and solicit documents confirming the information that you declared, such as:
 - ❖ Household size and number

Summary of Financial Help Process

- ✧ Submit all forms, including FAFSA, by the date that each school/university requires (complete everything by March 2)
- ✧ Before March 2, submit the Cal Grant GPA Verification Form
- ✧ Keep records of all the forms that you submit
- ✧ Students and parent(s) must submit SAR and CAR for data verification
- ✧ Evaluate all offers of financial help from each school where you have been admitted
- ✧ Make sure to solicit financial help every year as soon as possible to receive priority for free money.

Do ask questions!



If you need help at any time

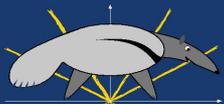
- The U.S. Department of Education is always willing to provide assistance to students and families completing the FAFSA and to answer questions relating to federal financial aid.
- The FOTW has help buttons right on the electronic form as you go through the application.
-
- In addition, you can use the following:
 - FAFSA on the Web – Live Help;
 - Phone 1-800-4-FED-AID (that's 1-800-433-3243); or
 - E-mail the U.S. Department of Education at:
FederalStudentAidCustomerService@ed.gov

Stories to be heard

**Rumbo a
la
universidad**



**On my
way to
college**



Department of Mathematics, UCI

UC IRVINE MATH CEO
Community Educational Outreach



Let's talk about

- **Getting ready for college:**
 - The student's role
 - The parent's role
- **Personal experiences from UCI students**



Preparing For College



The College Team



- ✧ **The student**
- ✧ **The family:** parents/guardians, siblings, extended family
- ✧ **Good friends**– *with shared goals*
- ✧ **School staff:** teachers, counselors
- ✧ **Local outreach organizations...**

College Tips for Parents

- ❖ **Prioritize your kids education**
- ❖ **Schedule time for homework everyday**
- ❖ **Promote good study habits**
- ❖ **Be aware of school deadlines**
- ❖ **Encourage your kid academically**
- ❖ **Celebrate strong effort and good grades**
- ❖ **Set high academic standards for your kids**
- ❖ ***Be involved!* Help your kids choose interesting activities outside of class. Meet (and monitor) their friends...**
- ❖ **Talk to your kids about college and careers**
- ❖ **Look for school and community resources about college**
- ❖ **Keep motivating your kids**



College Tips for Your Children

- ❖ Middle school is the time to learn study/time management skills
- ❖ **Be serious about your grades**
- ❖ **Set your goals! Think about college and careers**
- ❖ **Do your research (online, counselors, parents)**
- ❖ **Make a plan!!**
- ❖ **Talk to your parents about HS, college, careers**
- ❖ **Meet with your counselor annually**
- ❖ **Stay motivated (friends with similar interests help!)**
- ❖ **Attend tutoring regularly, if needed**
- ❖ **Participate in extracurricular activities**



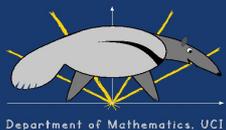
Join an after school program that supports a college-going culture, such as **THE UCI MATH CEO**

Stories to be heard

**Rumbo a
la
universidad**



**On my
way to
college**



Department of Mathematics, UCI

UC IRVINE MATH CEO
Community Educational Outreach



Let's talk about...

- **College as a step to great careers**
- **Jobs in STEM**
- **Importance of learning math**



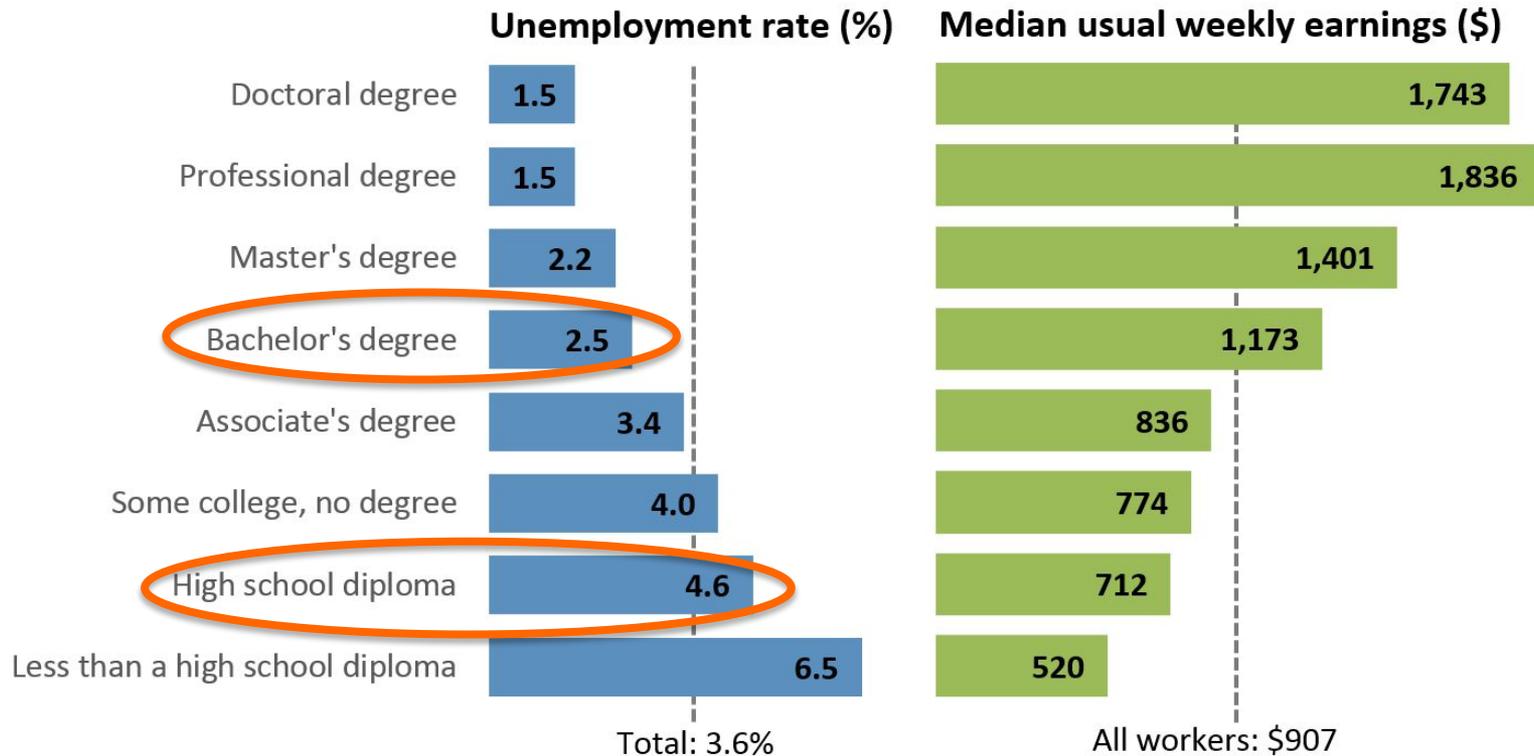
Why Should Your Child Go To College?

- Greater and more diverse **career options**
- Personal and educational **growth**
- **It pays off...**



The Cost of NOT Going To College

Unemployment rates and earnings by educational attainment, 2017



Note: Data are for persons age 25 and over. Earnings are for full-time wage and salary workers.

Source: U.S. Bureau of Labor Statistics, Current Population Survey.





NATIONAL
MATH + SCIENCE
INITIATIVE

**Over 50 percent of the
fastest growing jobs in the
U.S. are math, science or
technology related.**

@NMS

STEM Careers



 Science

 Technology

 Engineering

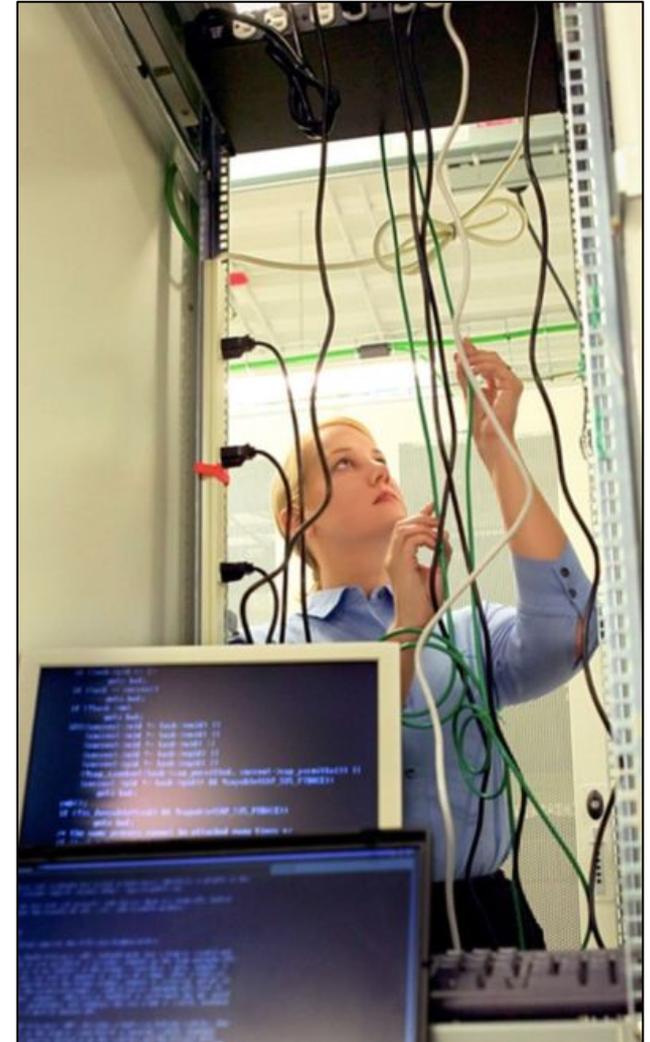
 Mathematics

STEM Careers



STEM Science, Technology,
Engineering, Mathematics

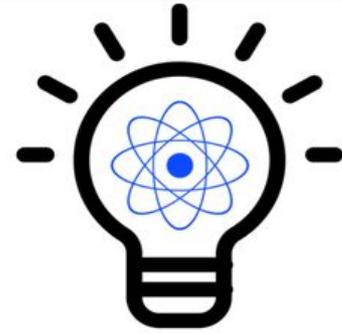
ANALYTICS MANAGER	INDUSTRIAL ENGINEER
APPLICATIONS ENGINEER	INFORMATION SECURITY ENGINEER
ARCHITECTURAL ENGINEER	INFORMATION TECHNOLOGIST
BIG DATA ANALYST	LOGISTICS MANAGER
BIOMEDICAL ENGINEER	MANUFACTURING ENGINEER
CLINICAL ANALYST	MATERIALS MANAGER
CLINICAL INFORMATICS ANALYST	MECHANICAL DESIGN ENGINEER
COMPUTER HARDWARE ENGINEER	OPERATIONS ANALYST
COMPUTER NETWORK ARCHITECT	PROCESS ENGINEER
COMPUTER PROGRAMMER	QUALITY ASSURANCE MANAGER
COMPUTER SUPPORT SPECIALIST	QUALITY ENGINEER
COMPUTER SYSTEMS ADMINISTRATOR	RESEARCH & DEVELOPMENT ENGINEERS
COST ESTIMATOR	RESEARCH SCIENTIST
DATA ARCHITECT	SEMICONDUCTOR ENGINEER
DATA ENGINEER	SIMULATION SYSTEMS ENGINEER
DATABASE ADMINISTRATOR	SOFTWARE ARCHITECT
ELECTRICAL ENGINEER	SOFTWARE DEVELOPER
ELECTROMAGNETIC ENGINEER	SOLUTIONS ARCHITECT
GAMING ENGINEER	STATISTICAL ENGINEER
HEALTH INFORMATION TECHNICIAN	SUPPLY CHAIN MANAGER
HEALTH INFORMATION TECHNOLOGIST	UX DESIGNER



Many jobs!

Why STEM Skills Matter

get.stemskills.online



Job Market Trends

STEM employees are in very high demand; the U.S. has a projected 2.4 million unfilled STEM jobs



- Computer fields
- Engineering fields
- Physical & Life Sciences
- Business fields
- Cyber Security

- Problem Solving
- Critical Thinking
- Data Analysis
- Adaptability
- Technical Proficiency



Desired Skills

STEM employers are looking for workers with a combination of technical and social skills

Earnings gap

STEM professionals on average earn 26% more than non-STEM workers in all educational attainment categories



- High School Graduates
- Associates Degrees
- Bachelor's
- Masters'
- Ph.D.

STEM jobs are growing fast in California

Between 2017 and 2027 in California

STEM jobs will grow

15%

▲ 17% Computing

▲ 5% Engineering

▲ 12% Advanced Manufacturing

All other jobs will grow

11%

SOURCE: Economic Modeling Specialists International, 2017

What is STEM?

S = Science

T = Technology

E = Engineering

M = Mathematics

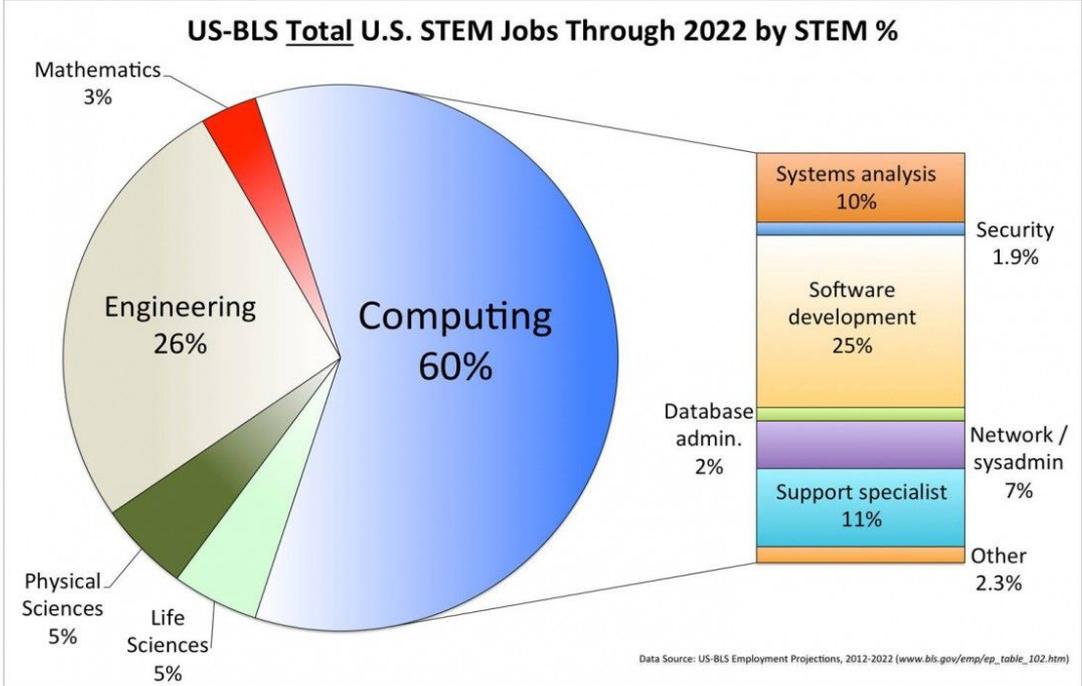




Percentage of New STEM Jobs by Area Through 2022

What is STEM?

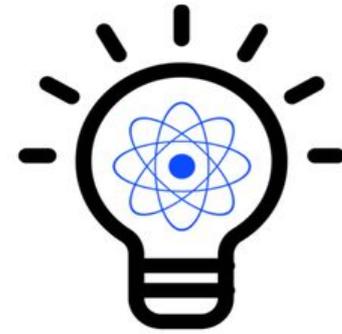
- S = Science
- T = Technology
- E = Engineering
- M = Mathematics



Well paid jobs!

Why STEM Skills Matter

get.stemskills.online



Job Market Trends

STEM employees are in very high demand; the U.S. has a projected 2.4 million unfilled STEM jobs



- Computer fields
- Engineering fields
- Physical & Life Sciences
- Business fields
- Cyber Security

- Problem Solving
- Critical Thinking
- Data Analysis
- Adaptability
- Technical Proficiency



Desired Skills

STEM employers are looking for workers with a combination of technical and social skills

Earnings gap

STEM professionals on average earn 26% more than non-STEM workers in all educational attainment categories



- High School Graduates
- Associates Degrees
- Bachelor's
- Masters'
- Ph.D.

STEM Jobs Pay More

S = Science

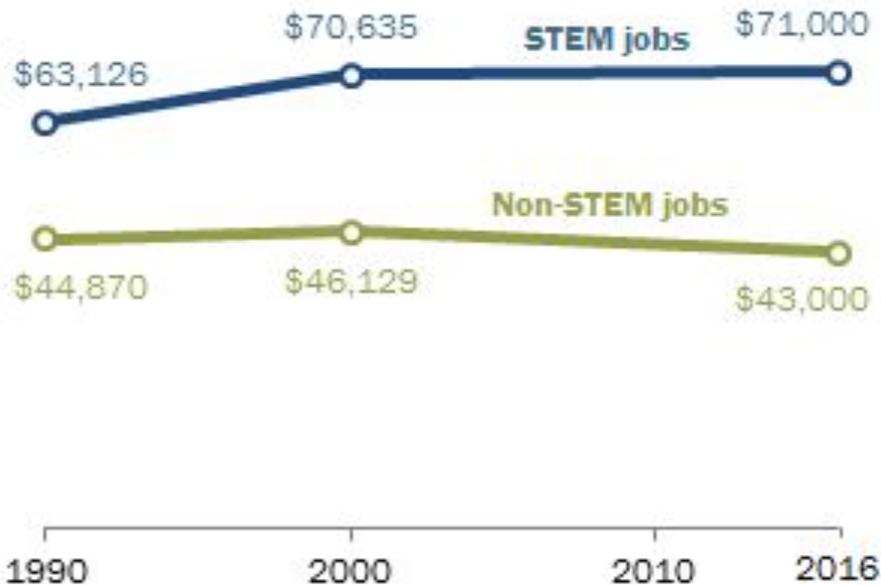
T = Technology

E = Engineering

M = Mathematics

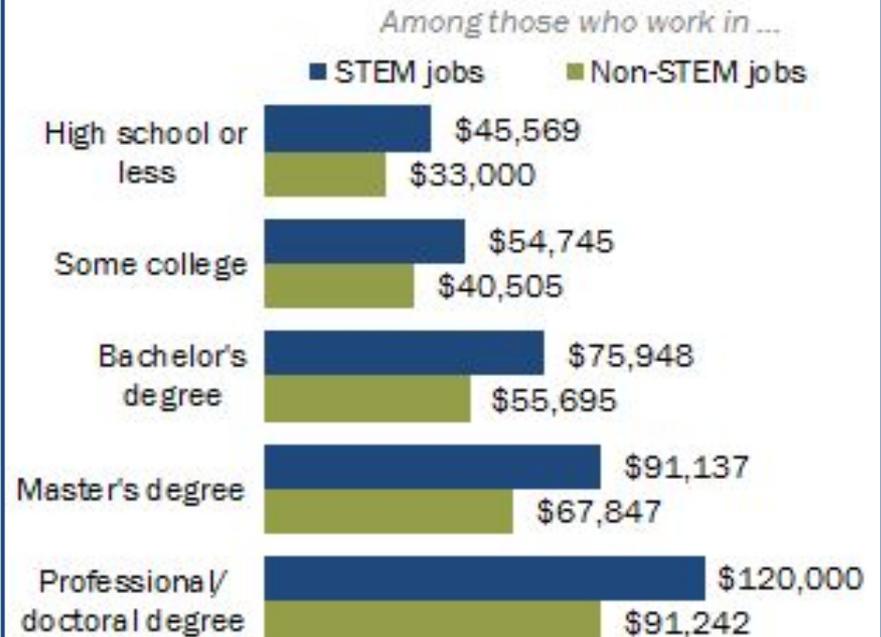
The typical STEM worker now earns two-thirds more than non-STEM workers

Median annual earnings of full-time, year-round workers ages 25 and older, in 2016 dollars

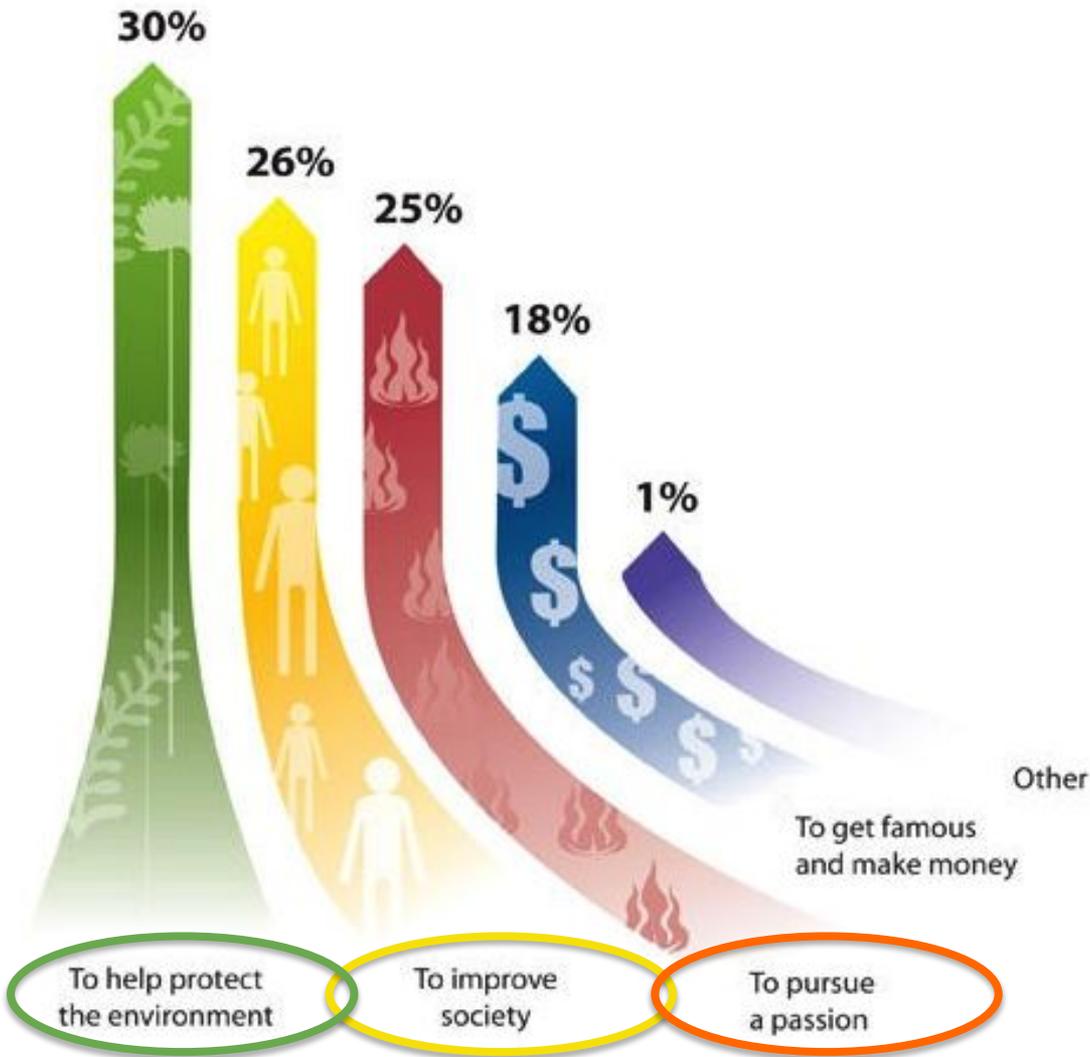


STEM workers tend to earn more than similarly educated non-STEM workers

Median annual earnings of full-time, year-round workers ages 25 and older with positive earnings

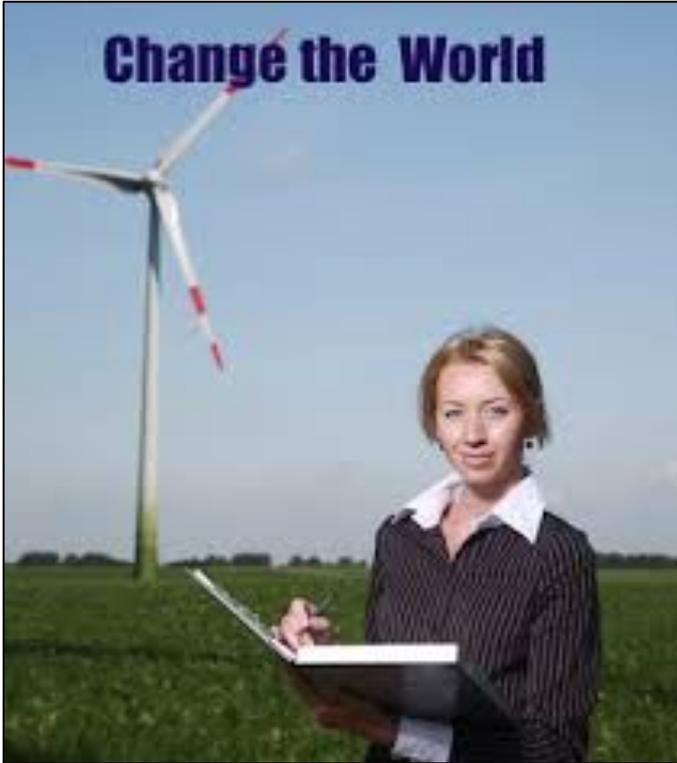


Why people choose STEM Jobs?



What is STEM?

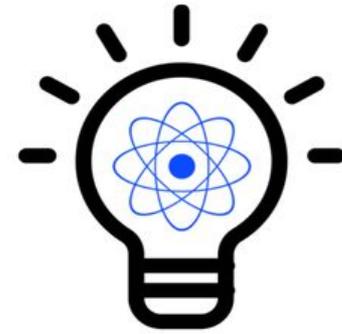
- S = Science
- T = Technology
- E = Engineering
- M = Mathematics



Skills needed...

Why STEM Skills Matter

get.stemskills.online



Job Market Trends

STEM employees are in very high demand; the U.S. has a projected 2.4 million unfilled STEM jobs



- Computer fields
- Engineering fields
- Physical & Life Sciences
- Business fields
- Cyber Security

- Problem Solving
- Critical Thinking
- Data Analysis
- Adaptability
- Technical Proficiency



Desired Skills

STEM employers are looking for workers with a combination of technical and social skills

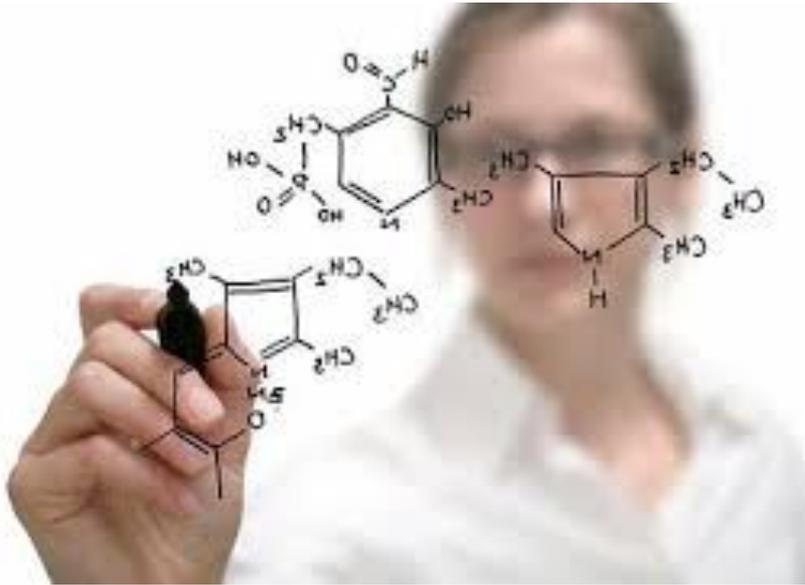
Earnings gap

STEM professionals on average earn 26% more than non-STEM workers in all educational attainment categories



- High School Graduates
- Associates Degrees
- Bachelor's
- Masters'
- Ph.D.

TO SUCCEED IN STEM



Thinking skills



Technical ability



Hands-on experience

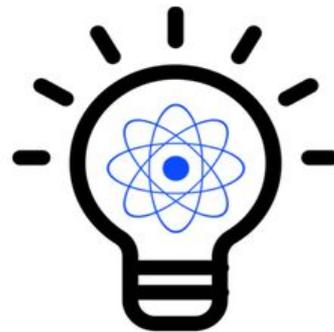


Communication skills

More than anything you need Math!!

Why STEM Skills Matter

get.stemskills.online



Job Market Trends

STEM employees are in very high demand; the U.S. has a projected 2.4 million unfilled STEM jobs



- Computer fields
- Engineering fields
- Physical & Life Sciences
- Business fields
- Cyber Security

- Problem Solving
- Critical Thinking
- Data Analysis
- Adaptability
- Technical Proficiency



Desired Skills

STEM employers are looking for workers with a combination of technical and social skills

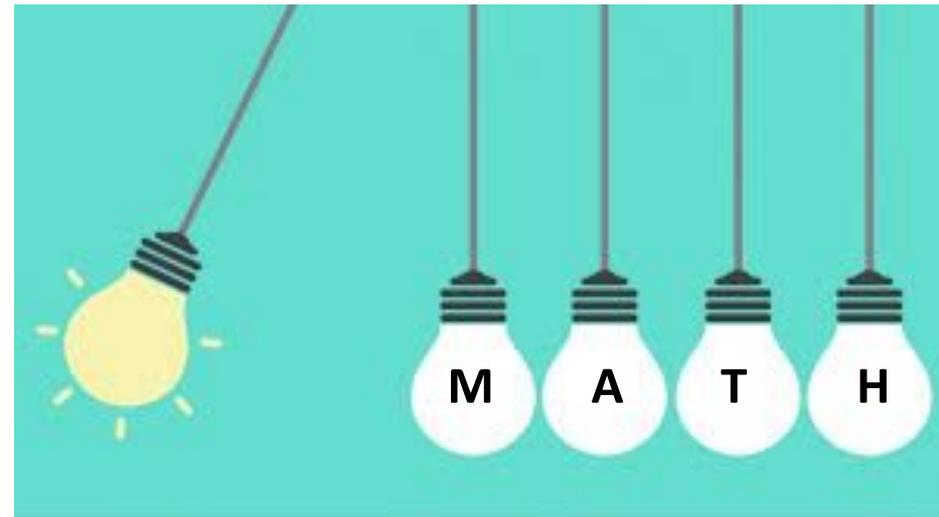
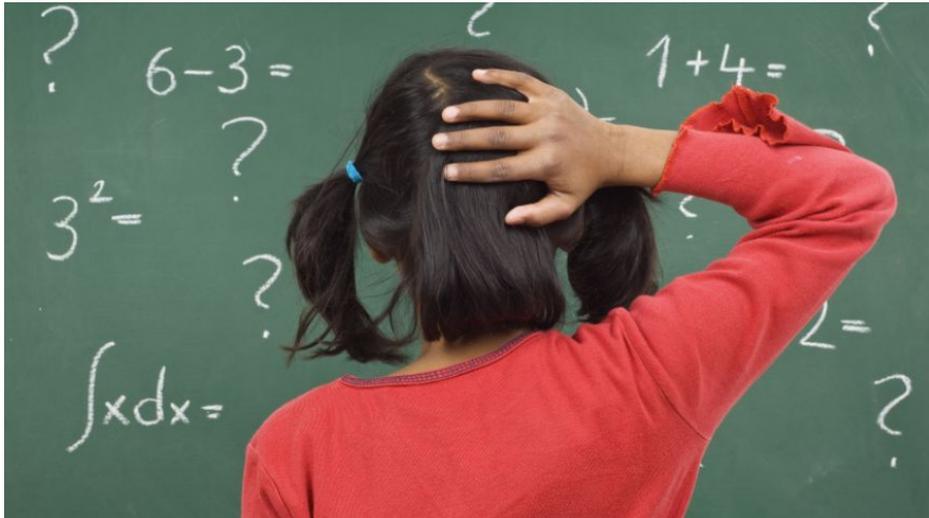
Earnings gap

STEM professionals on average earn 26% more than non-STEM workers in all educational attainment categories



- High School Graduates
- Associates Degrees
- Bachelor's
- Masters'
- Ph.D.

STEM SUCCESS STARTS HERE



MATH APPRENTICE

Math is the path to anything you want to be.

BICYCLE DESIGNER

BIOLOGIST

MECHANIC

ARTIST

INVENTOR

ENGINEER

SPORTSCASTER

ASTRONOMER

ARCHITECT

ENGINEER

GAME DESIGNER

PROGRAMMER

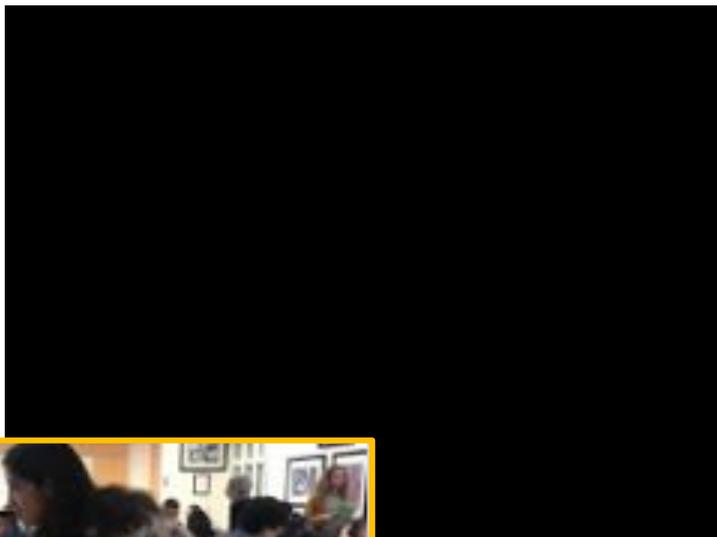
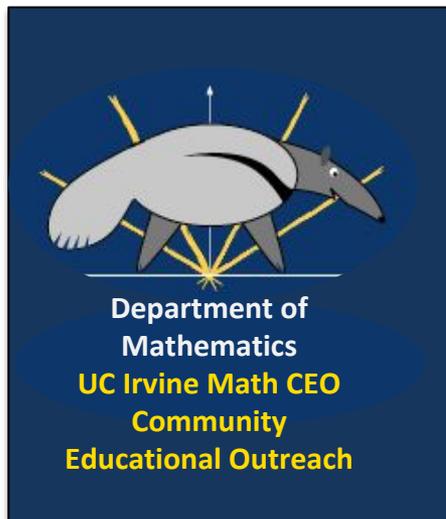
VETERINARIAN

CHEF

DOCTOR

METEOROLOGIST

The UCI Math CEO



The UCI Math CEO

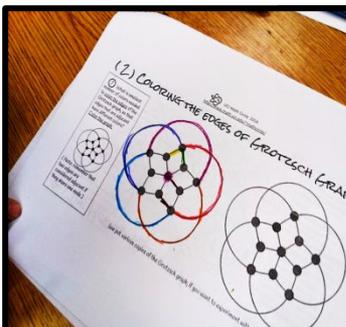
Upcoming Meetings: Feb 12, 19, 26; March 5, 13; April 9, 16, 23, 30; May 7, 14, 21



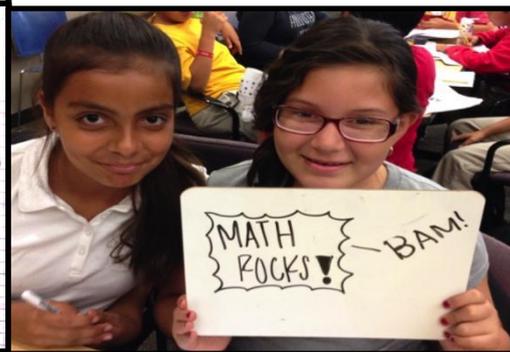
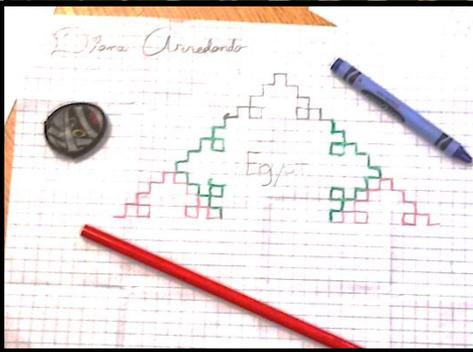
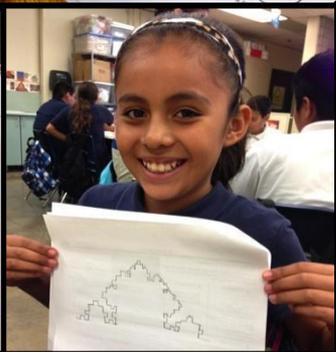
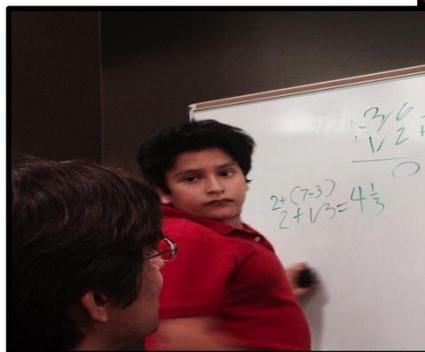
A bus will pick up the students at 1:25 from the school, and bring them to UCI



We will do some interesting math with the students for about 90 minutes



Then a bus will take the students back to school (expect them back by 4.30pm)



The UCI Math CEO waiting list



**Ask your Math teacher
to add you
to the waiting list**

Thanks for your attention!

We wish your child will be a UCI student some day!



A special thank to Roman Cardona (UCI, Office of financial aid and scholarship), Linda Doughty (Cal-Soap, UCSD) & Kika Friend (UCI, CAMP) for their help preparing this presentation.

Questions?



Thank
you

