

# UC Davis STEM-Coding Program Summer 2019

For students aged 10-17

1st intake: 2019.7.14 - 7.27

2nd intake: 2019.7.28 - 8.10

Rare opportunity for students to join a STEM program at a top U.S. university, with access to laboratories and technology centers

Comprehensive course encompassing both multi-science subjects and coding

Specially arranged workshops with FIRST Robotics world champion team mentors and students

Classes taught in English, in an interactive, discussion-based manner, but with teaching assistants supporting students at all times

Live in a top 10, beautiful college town that is nearby exciting San Francisco and Silicon Valley

Receive an official certification from University of California

## What you will earn from this 2-week program

- **Advantages of a world-class university program.** University-developed academic program with daily first-hand learning at university laboratories, technology and design centers. Students receive a certification from University of California, Davis.
- **Unique dual-track course.** Covers a range of popular science topics, from the environment to physics, helping reinforce a student's core subject knowledge. Students also have daily coding classes in Scratch, Python or VEX, depending on one's coding experience and learning preference.
- **Exposure to championship-level robotics.** FIRST Robotics world champion team mentors and students from nearby Davis Senior High School teach coding and share their strategies and experience.
- **Importance of STEM English.** Regardless of whether students will continue their studies in China or overseas, building a solid foundation in STEM English is important for one's academic and general knowledge. All our classes are taught in English by university faculty and supported by teaching assistants.
- **Experiencing everyday university life.** Students have access to UC Davis' extensive recreational and athletic centers and eat at the over 20 campus cafeterias. Some students also enjoy reading at our libraries!
- **Experiencing the best of America.** Living in quaint Davis, but only an hour or so away from San Francisco – in one program, students visit cultural landmarks, popular sightseeing spots, beaches, universities and museums.

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## The course

Offers students a STEM-coding dual approach program that emphasizes critical thinking and discussion while promoting cross-discipline understanding and problem-solving.

- Multi-science curriculum covering topics ranging from the environment to AI, with both classroom and first-hand learning at university laboratories, centers and museums.
- Daily coding classes that allow students to establish a firm foundation or further their knowledge of this important language of today. Students work on daily individual and group projects – from APPs to robotics – often linked to what they are studying in their multi-science class (e.g., creating an APP to help the environment).



### Multi-Science Disciplines

Earth Science/Environment,  
Technology, Physics, Math



### Coding Instruction

Scratch, Python or VEX

## COURSE COMPONENTS



### UC Davis Laboratories, Centers & Museums

Engineering Design Center + 3D  
Printing Lab  
Bohart Entomology Museum  
Haagen-Dazs Bee Haven  
Mondavi Food Science Institute  
UC Davis Student Farm ... & more



### Science Museums in the Greater San Francisco Area

Davis Explorit Natural Science  
Museum  
San Francisco Exploratorium  
Museum  
Intel History of Computer Science  
Museum



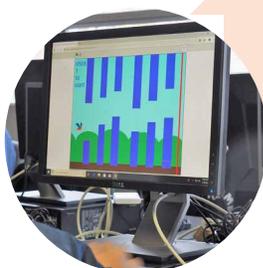
### Davis High School Champion Robotics Team, 1678 Citrus Circuits

Tour robotics production facilities  
Workshop on coding & competition  
strategies

## OUTSIDE CLASSROOM EXPERIENCES



Daily mini-coding projects



Coding "Flappy bird"  
computer game and/or APPs



Building physics-based  
roller coaster



Programming  
robots

## INDIVIDUAL & GROUP PROJECTS

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More than ever, STEM permeates throughout our lives and its knowledge is critical for the success of our younger generation

## Highlights of UC Davis

- 2018 U.S. News & World Report #38 national university
- Top 10 public university in the U.S.
- STEM departments are generally ranked top 20 nationally
- Animal science, food science and agriculture departments are ranked #1 in the U.S.
- #1 environmentally-friendly university by GreenMetric
- One of the safest UCs by Niche
- Top 10 college town. Most public art per square mile of any city in the U.S. and 2nd most educated city in the U.S. according to CNN



## Interested in robotics competitions?

Students participating our program will learn from the FIRST Robotics world champion team, 1678 Citrus Circuits. Students have an opportunity to improve their coding as well as teamwork and organizational skills, moving one step towards preparing for the following international robotics competitions.

- FIRST Robotics Competition/FIRST LEGO League
- VEX Robotics Competition - IQ/EDR
- Robocup/RobocupJunior (RCJ)
- China Robot Competition (CRC)
- RoboMaster Robotics Competition ... etc.

Date	Activities
Day 1	Arrive in San Francisco, Getting Settled
Day 2	Program Orientation, UC Davis Tour
Day 3	Scientific Methods & Processes, UC Davis Herbarium, Coding
Day 4	Environmental Issues, Bohart Entomology Museum, Coding, Davis Downtown
Day 5	Technology/AI, Mondavi Food Science Institute, Coding, Multi-Cultural Night
Day 6	FIRST Robotics Championship Team Workshops, Coding, Bowling, Stargazing at Night
Day 7	<b>Trip to San Francisco.</b> Golden Gate Bridge, Fisherman's Wharf, the Exploratorium

Date	Activities
Day 8	<b>Trip to Silicon Valley.</b> Stanford University, Intel Computer History Museum, Santa Cruz Beach & Boardwalk
Day 9	Technology/AI, Manetti Shrem Museum of Art, Roller Coaster Build, Coding, Final Project
Day 10	Engineering, Engineering Design Center and Student Startup Center, Roller Coaster Build, Coding, Final Project
Day 11	Engineering, Explorit Natural Science Museum, Roller Coaster Build, Coding, Final Project
Day 12	Math, Coding, Final Project
Day 13	Student Presentation, Certificate Ceremony, Farewell Party
Day 14	Departure

Note: The above schedule may be subject to slight changes.

# UC Davis STEM-Coding Program Summer 2019

## Universities Visit & Nearby Excursions

In just 2 weeks, students will see the main attractions of the Greater San Francisco area. From the prestigious Stanford University to the hip and fun Exploratorium Museum to dipping in the Pacific Ocean at the sunny Santa Cruz Beach & Boardwalk – students will experience the best of America. All the trips are led by experienced, bilingual tour guides.

## Comfortable Accommodations

Davis benefits from a confluence of unique qualities that make homestay a great choice. Well-educated families, a strong art & culture environment, new and tidy homes and an open Californian mindset – our students are often moved by our homestay families' warmth and hospitality. Davis homestay families make great effort to share their American culture with students and in return, our students gain an enriching, first-hand look into every day American life.

Homestay families send and pick-up our students to and from the university every day. During the day, students experience university life and eat at university cafeterias (including university food trucks!). In the evening, they dine with their homestay families. For those who prefer, dorm and campus hotel options are also available.

## UC Davis Activities Leaders

We know that many students may be in the U.S. for the first time and if not, often studying in the U.S. for the first time. Providing continuous guidance and support to international students is of paramount importance to us.

In the classroom, our bilingual teachers help students with their English comprehension skills, if needed by the student. Outside the classroom, all activities are accompanied by our activities leaders – from group excursions to after-class games to personal errands. Even when students are at homestays, we maintain close communications.



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STEM program video



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+852 2730 7121 | [info@golearnworld.com](mailto:info@golearnworld.com) |  moreinfo

Gowell Education  
13/F, Tung Che Commercial Centre  
246 Des Voeux Road West, Hong Kong

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