Interdisciplinary STEM Seminar (I-STEM)
(Remote/Online version of EST)

Background: Year 2020 has changed the way the world functions completely including education: one of the significant changes is a role of remote/online instruction. It is not too much to say that a role of remote/online education will continue to play a much bigger role even after the COVID-19 pandemic passes. To respond to the future prediction, or trend, UC Davis CPE-I is excited to announce the launch of new "Interdisciplinary STEM Seminar (I-STEM) via remote/online instruction.

Length of the program: 3 weeks: synchronous sessions – 58.5 hours
asynchronous workload – 45 hours' worth of workload
Seminar Dates: February 15 – March 5 (actual instruction dates) – Japan Time
Orientation Day: February 12 (Friday) from 9 am – 10:30 am – Japan Time
Delivery Method: remote/online

Seminar Fee: $1,350

Target Audience: International undergraduate students majoring in science, engineering and/or technology who wish to learn what it takes to be scientists and engineers for the future society of the 21st century.

Target English Level: CEFR A-2 or above

Curriculum: Hot Topics in STEM (16 hours/synchronous)
Introduction to Entrepreneurship (20 hours/synchronous)
Listening Comprehension & Pronunciation (12 hours/synchronous)
3 Special Lectures (4.5 hours/synchronous)
3 Discussion Sections (3 hours/synchronous)
3 Conversation Clubs (3 hours/synchronous)
3 Discussion Leaders (3 hours/synchronous embedded in Hot Topics)

*Students are expected to spend 1 hour to do homework or assignments on CANVAS every day per class; therefore, they will have approximately 45 hours' worth of workload outside synchronous sessions.

Seminar Description:

This course approaches science and technology from a perspective of how modern developments in science and technology continue to affect the entire world in a complex, interdisciplinary way: the recent fast-changing advancement of science and technology has been altering the way people live and connect with each other, which has been contributing to both the convenience and complexity of modern life. It is necessary for students as future scientists and engineers to be equipped with both professional expertise and essential soft skills, or innate human capabilities such as interpersonal skills, communication skills, and social skills which will help them become balanced professionals that the future job market expects. This course also helps students understand the importance of being open-minded for their future career choices: it has been the case for most countries that science or engineering-major students often limit their career choices to academia as faculty or industry as employed researchers or engineers. Through this program, students will be introduced to an idea that they have the power to change the entire world as entrepreneurs. Entrepreneurship is one of the most powerful driving forces in the U.S. economy – students will also learn what significant roles they can play as scientists and engineers in the world of global business.

Course Objectives:

- Discuss various scientific and technological topics
- Develop critical thinking and analytical skills
- Study new businesses in emerging technologies
- Nurture entrepreneurship
- Realize the power of R & D (i.e., research and development) in science and technology through studying entrepreneurship
- Feel the spirit of entrepreneurship that has advanced science and technology and changed the way people live in recent years
- Reflect on soft skills, or innate human capabilities such as interpersonal skills, communication skills, and social skills
- Gain awareness of current issues in applied science and technology
- Learn about ethics and leadership in science & technology
- Improve linguistic (English) skills

Student Learning Outcomes:
- Improve analytical skills by reading articles, listening to lectures, watching audiovisual programs and discussing current research
- Develop technical English vocabulary
- Develop literacy skills
- Improve discussion skills
- Enhance understanding of the power of ideas in science and technology that are changing people's lives and the world
- Expand knowledge about future career choices

Seminar Structure:

a) Remote Component (synchronous instruction – 58.5 hours in total)
   Delivery Platform: Zoom

b) Online Component (asynchronous instruction – 45 hours' worth workload in total)
   Delivery Method: Instructors will use CANVAS as a main tool of class management. Students will engage in homework, assignments, and discussion sessions through Discussion Board on the platform, and students are expected to spend 1 hour to do homework on CANVAS per class each day.

Sample Synchronous Daily Calendar

Week 1

Japan Time	Mon 2/15	Tues 2/16	Wed 2/17	Thurs 2/18	Fri 2/19	Sat 2/20	Sun 2/21
8 – 8:50 (am)	Lis Comp	Lis Comp	Lis Comp	Lis Comp	**8:30 - 10** Special Lecture 1		
9 – 10:50 (am)	Hot Topics	Hot Topics Discussion Leaders (9 -10)	Hot Topics	Hot Topics	**10:30 – 11:20** Discussion Session with SAs		
11 – 11:50 (am)	Intro to Entrep	Intro to Entrep	Intro to Entrep	Intro to Entrep			
12:30 – 1:20 (pm)			Conv. Club				

Week 2

Japan Time	Mon 2/22	Tues 2/23	Wed 2/24	Thurs 2/25	Fri 2/26	Sat 2/27	Sun 2/28
8 – 8:50 (am)	Lis Comp	Lis Comp	Lis Comp	Lis Comp	**8:30 - 10** Special Lecture 2		
9 – 9:50 (am)	Hot Topics	Hot Topics Discussion Leaders	Hot Topics	Hot Topics			
10 – 11:50 (am)	Intro to Entrep	Intro to Entrep	Intro to Entrep	Intro to Entrep	**10:30 – 11:20** Discussion Session with SAs		
12:30 – 1:20 (pm)			Conv. Club				

Week 3

Japan Time	Mon 3/1	Tues 3/2	Wed 3/3	Thurs 3/4	Fir 3/5	Sat 3/6	Sun 3/7
8 – 8:50 (am)	Lis Comp	Lis Comp	Lis Comp	Lis Comp	**8:30 – 10** Special Lecture 3		
9 – 9:50 (am)	Hot Topics	Hot Topics Discussion Leaders	Hot Topics	Hot Topics	**10:30 – 11:20** Discussion Session with SAs		
10 – 11:50 (am)	Intro to Entrep	Intro to Entrep	Intro to Entrep	Intro to Entrep	**11:40 – 12:10** Graduation		
12:30 – 1:20 (pm)			Conv. Club				