



**CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DISTRICT 4**

PRESENTS

**THE 5TH SUMMER
ENGINEERING
INSTITUTE**

FOR HIGH SCHOOL STUDENTS

JUNE 15 – 27, 2008

HOSTED BY

CALTRANS – DISTRICT 4

IN CONJUNCTION WITH

**SAN FRANCISCO STATE UNIVERSITY
SCHOOL OF ENGINEERING
MESA PROGRAM**

WHAT IS THE CALTRANS SUMMER ENGINEERING INSTITUTE PROGRAM?

The Caltrans Summer Engineering Institute (Caltrans SEI) is a unique program in District 04, which consists of a two-week residential program at a university campus, where the students are exposed to science, math and engineering. The purpose of the institute is to expose students to the engineering profession early on in their education and encourage them to make engineering their career of choice. The program accommodates fifty (50) high school students and will be held at the San Francisco State University - School of Engineering from Sunday, June 15, 2008 through Friday, June 27, 2008.

During the Caltrans SEI, participants will gain insight into the academic program they will encounter as college students in an engineering program.

Certainly, there are many questions regarding a career in Engineering. What are the admissions criteria to college engineering programs? Which courses should be taken in high school? What does a college level engineering program encompass? How much do engineers make and what do they do? These and many other questions will be addressed during this Caltrans SEI.

High school students, at the sophomore and junior level are invited to participate.

The California Department of Transportation (Caltrans) and the San Francisco State University (SFSU) - School of Engineering, MESA Program, presents the Summer Engineering Institute 2008.

WHAT IS CALTRANS?

Caltrans, the California Department of Transportation, is the State agency responsible for managing more than 45,000 miles of California's highway and freeway lanes, providing inter-city rail services, for permitting more than 400 public-use airports and special-use hospital heliports, and for working with local agencies. Caltrans carries out its mission of improving mobility across California with six primary programs: Aeronautics, Highway Transportation, Mass Transportation, Transportation Planning, Administration and the Equipment Service Center.

The department has been active in moving the people and commerce of California for more than 100 years from a loosely connected web of footpaths and rutted wagon routes to the sophisticated system that today serves the transportation needs of more than 30 million residents.

The Department is divided into twelve (12) Districts throughout California. District 4 is the San Francisco Bay Area District responsible for the nine Bay Area counties. Caltrans Engineers design and oversee the construction and renovation of California's highways, bridges, and other facilities that are a part of the State's growing mass transportation system.

WHY CONDUCT AN INSTITUTE?

The California Department of Transportation is concerned about the significant shortfall of engineers throughout the nation. The demand for engineers continues to increase with the workload produced by current and upcoming engineering projects, while the number of graduating engineers is not sufficient to supply such workload. Caltrans developed the SEI to attract students from communities that have traditionally been under-represented in the engineering professions and help them pursue a career in engineering.

The SEI is an effort by Caltrans and SFSU - School of Engineering MESA Program to assist you with your career decisions and encourage you to become an engineer. Decisions about engineering should be based on sound, complete, and reliable information. Information that you could obtain by participating in the Caltrans SEI.

PROGRAM DESCRIPTION

Participants will engage in studies of mathematics, surveying, drafting, and basic fundamentals of civil engineering

The 50 participants will be divided into groups and each group will be responsible for completing an engineering project. All materials and instructions will be provided. Participants will present their final transportation engineering project (report and plans) in written and oral form to an Evaluation Committee. Awards recognizing student efforts will be presented at the end of the Institute.

Daily activities will consist of classroom instruction, group and individual study. Other activities include speakers, company tours, construction project tours, and recreational activities.

Participants will be given a tour of San Francisco State University's campus and will have access to educational and recreational facilities. The Institute will be staffed with Engineering Professionals who will provide guidance and assistance.

ROOM AND BOARD

During the two-week period, participants will be housed at San Francisco State University's residential apartments. Living quarters will be appropriately designated for male and female students. Adult supervision will be provided at all times.

Transportation to SFSU at the beginning of the program and from SFSU at the end of the program will be the responsibility of the participant.

All meals will be provided.

WHO SHOULD APPLY?

Motivated high school students who are seeking a challenge and who are planning for their educational future, and students interested in learning about engineering.

Student applicant should meet the following criteria:

1. Be currently enrolled in a high school.
2. Have sophomore or junior status in the Spring semester of 2008
3. Have completed at a minimum the first year of algebra and geometry.

WHAT IS THE COST PER STUDENT?

Only the desire to learn and challenge yourself. Students will be provided with room and board during the two-week Summer Engineering Institute.

Notification of acceptance to the Summer Engineering Institute will be mailed to you in writing.

HOW TO APPLY:

Download the application form from the web site www.dot.ca.gov/dist4/sei2008 and complete and mail the following information:

1. Application form
2. One page statement "describing your aspirations"
3. Letter of recommendation from a high school teacher, counselor or member of the community
4. School transcripts for the last two years showing the math courses completed.

Deadline to submit applications: April 4, 2008

For further information please visit our web site www.dot.ca.gov/dist4/sei2008 or call (510) 286-6108 and leave a message.

ALL CORRESPONDENCE SHOULD BE SUBMITTED TO:

Caltrans - District 4
Public Information Office
Summer Engineering Institute 2008
111 Grand Avenue
Oakland, CA 94612