

NCCA VS – Short Course Program

REGISTRATION/LOCATION INFORMATION:

Clarion Hotel San Francisco Airport
401 E. Millbrae Ave.
Millbrae, CA 94030

Course Room "TBD"

All Students must check in at the Short Course registration desk to collect their course materials and badges.

REGISTRATION HOURS:

Monday-Tuesday, May 3-4, 2010
7:30 a.m. - 9:30 a.m.

CLASS HOURS:

8:30 a.m. – 4:30 p.m.

BREAK/LUNCH SCHEDULE:

10:00 a.m. -- Coffee/Tea/Snacks

Lunch is from 12:00 noon to 1:00 p.m. (lunch is on your own)

2:30 p.m. -- Soft Drinks/Snacks

DRESS CODE:

Casual business attire. However since room temperatures fluctuate, please bring a light sweater or jacket so that you may be more comfortable.

CANCELLATION/SUBSTITUTION:

Cancellation: If notice of cancellation is received on or before **Friday, April 23**, fees will be fully refunded. After April 23, refunds will be given, minus a \$100 processing fee. No refunds/course credit for individuals who do not show up for their course(s).

Substitution: You may make a substitution if you cannot attend, but you must notify the office by Friday, April 23, (this is due to badge/certificate changes). After that date, the substitute may make replacement arrangements on site.

ACCOMODATIONS:

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401 E. Millbrae Ave.
Millbrae, CA 94030

To make your reservations please call or e-mail Tom Chisena, 650-777-7784, thomas.chisena@starwoodhotels.com and provide your arrival/departure dates and mention that you are with the NCCA VS Short Course program May 3-6, 2010. Special rate of \$59/night plus tax.

PAYMENT INFORMATION

For payment by check, please mail the completed registration form and payment or letter of commitment to:

NCCA VS

110 Yellowstone Dr., Suite 120
Chico, CA 95973
AVS tax ID# 04-2392373

Please contact Heather Korff at 530-896-0477 or heather@avs.org if you have any questions.

Course Description: Fundamentals of Vacuum Technology

Course Objectives

- Understand vacuum fundamentals essential to operating, maintaining, designing, or using vacuum systems.
- Know the working principles and limitations of pumps, gauges, and other vacuum system components.
- Understand the procedures for operating and performing preventive maintenance on vacuum systems, including analyzing and troubleshooting malfunctioning vacuum systems and leak detection.
- Learn the design concepts involved in matching equipment and instrumentation to applications.

Course Description

This extensive four day course provides a working knowledge of vacuum equipment and the technology associated with its use. It includes enough theory to provide a basis for the material covered; however, the major emphasis is on practical applications.

The working principles of the pumps and gauges used on vacuum systems are discussed, followed by a description of the characteristics of pumps and gauges in current use. Characteristics required of components such as valves, connecting lines, flanges, and seals that connect pumps to process chambers are described next, especially with regard to the application (i.e., medium-, high-, or ultrahigh vacuum conditions). The materials normally used for vacuum systems are discussed, especially with regard to handling, fabrication, and cleaning procedures.

Procedures for system operation, preventive maintenance, and leak detection are covered with emphasis on practical applications. In addition, techniques used to troubleshoot systems operating at less than optimum levels are provided. System design concepts for matching equipment and instrumentation to the intended application are also covered.

Instructor Biography: Timothy Gessert

Timothy Gessert is a Senior Scientist and leader of the CdTe Research Team at the National Renewable Energy Laboratory (NREL) in Golden, Colorado. He received degrees in physics from the University of Wisconsin-River Falls (B.S.), Colorado School of Mines (M.S.), and University of Wales-College of Cardiff (Ph.D.) His more than 15 years of research experience at NREL have involved development of vacuum and photolithographic processes for the fabrication of transparent-conducting oxides, photovoltaic absorber layers, and electrical contact. He is currently working toward development of environmentally stable contacting systems for thin-film CdTe-based photovoltaic devices. He has published more than 70 papers and currently serves on the board of the Rocky Mountain Chapter of the AVS.