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PE (Civil) – NCEES, Seismic Principles and Engineering Surveying

Irvine Institute of Technology is celebrating its 39th year of providing outstanding nationwide PE (Civil) license review seminars. These comprehensive seminars are taught by noted experts and practitioners specializing in subjects they are teaching. The seminars utilize our own 9-volume PE (Civil) Manuals – 9th Edition along with applicable codes and standards as references. Over 30,000 engineers have already taken these seminars or purchased our publications.

All seminars are taught under three options:

- Option 1 - live in our hi-tech auditorium equipped with the latest Audio Visual equipment, including 9 foot by 12 foot viewing screens, a Tablet PC and live video-web-casting hardware and software
- Option 2 – Live for off-site students and
- Option 3 - for students using archived seminars

The seminar fee is same for all options. All past semester seminars are also available in archives and can be viewed at any time, from anywhere with a high-speed internet connection. This is a fantastic opportunity hitherto unavailable for those who are motivated to learn and need more time to study and benefit ahead of the seminar dates. Please register early and get the manuals and start your study. There is a lot of material to study and cover.

These are most comprehensive seminars available anywhere – 84 hours for all five depth areas supported by seven PE (Civil) manuals – for 8.4 CEUs at a price of \$1095.00. This amounts to $\$1095.00/84 \text{ hrs} = \13.04 per hour. The cost of seven manuals with about 3,500 pages, $7 * \$89.95 = \$629.95 * .80 = \$503.72$. The cost of instruction with manuals amounts to only $(\$1095. + 503.72)/84 = \19.03 per hour. Sales tax and shipping are not included. This is amongst the lowest cost per hour of teaching including books. Attend seminars, study well using manuals and archives and pass the exam during the first attempt. For those who register in all modules, we guarantee a pass and free access to archives for one year if you do not pass the first time you take it.

With the current available technology, there is really no excuse for anyone not to take the comprehensive seminars offered by IIT which are now available nationwide 24/7. We do not consider it wise for the candidates who try to 'somehow' pass the exams either with minimum preparation or without listening to experts. The cost for the seminars is very minimal about \$13.00 an hour after subtracting the cost of workbooks when compared to the life-long benefits it provides. It is far better to study well, gain confidence in knowing the material and pass the examination the first time one takes it.

Please refer to the attached schedules and fees for the PE (Civil), Seismic Principles and Engineering Surveying examination Seminars. Further details on registration policies and procedures- please visit our website www.irvine-institute.org and register clicking registration by e-commerce. There is a limit of 40 students in our auditorium, so please register early for those who wish to attend live in person in Irvine.

Dr. C.V. Chelapati, President of Irvine Institute of Technology (IIT), an educator and a professor, has been providing these comprehensive review seminars since 1973 while employed at California State University, Long Beach and later through PEDP, CPEI, CPEE and IIT. IIT programs are approved by Bureau for Private Postsecondary Education (BPPE), State of California. Continuing Education Units (CEU) certificates are awarded to those who complete the seminars.

All volumes of manuals, now in their ninth edition, are based on current code and are designed for the revised NCEES 2008 syllabus and Multiple Choice exams. The sixth edition manuals – older editions are on sale and offered at 50% discounts for those who wish to learn the subject matter while they last. The Table of Contents of the manuals can be seen on our website.

Following are the three seminars for NCEES PECV and CA Seismic and Surveying examinations.

- PE (Civil) License - 84 Hours – All five depth Areas –
 - 8 hour NCEES
- Seismic Principles – New Codes - 18 Hours
 - 2.5 hours California PE (Civil) Exam
- Engineering Surveying –18
 - 2.5 hours California PE (Civil) Exam

If you register early, you can pick-up or have your manuals shipped to you at \$8.00 per first book and \$6.00 for each additional books. Start preparing for the exams immediately by registering and reviewing the manuals and referring to past archived seminars. The more you study, the more you will learn the subject, feel confident and pass the exam during the first time.

Organizational Details

All P.E. (Civil) programs are offered on Saturdays and Sundays from 9:00 am to 4:00 pm live at 8659 Research Drive, Irvine, CA 92618. There are two 15 minute refreshment breaks – one at 10:30 am and one at 2:30 pm. Lunch break is from 12 Noon to 1:00 pm. For those registering to attend 'live', please arrive at 8659 site about 8:30 am on the first day to pick up the manuals. Seismic Principles seminars are offered on Saturdays and Engineering Survey seminars are offered on Sundays.

Webcast Details

Webcast in our terminology means that all live programs offered in Irvine can be seen simultaneously off-site from students' home or office through a high –speed internet connection

(Cable Modem or DSL). The system used is ADOBE Breeze/Connect Pro webcasting system. A sample lecture is shown on our website www.Irvine-Institute.org.

On your computer screen, you will see a large main window and three smaller side windows on the left side. Manual pages are displayed on the main window with the voice transmitted through computer speakers. No additional phone connection is needed. The instructor can write with colored pens on the main screen displaying manual pages or on blank pages. The live annotations during lectures on manual pages are accomplished using a Tablet PC and accessories.

The instructor's live image is seen on the top side window. The middle window shows the names of off-site live students viewing the lecture. The bottom window shows a 'chat box' where off-site live students can send messages to the staff. These messages are viewed by staff at IIT. The instructor normally reviews the messages during breaks and replies or comments as necessary.

All live programs are 'archived' and can be accessed 24/7. Any registrant can view both the current and past programs. Thus, if a registrant misses some points during the lectures, or needs more clarifications he or she can go back and review the lectures on web. The technology used by IIT is very expensive and provides students with the internet access to archived lectures.

For complete details of NCEES PE (Civil), as well as the details on two California PE (Civil) examinations, please refer to the websites of NCEES and BPELS. Some details are shown below.

PE (Civil) License Exam – NCEES (8 hours)

NCEES has changed the exam specifications beginning with the April 2008 examinations with new codes and new options. Please refer to www.ncees.org for complete details. PE (Civil) registrants taking IIT seminars must order the NCEES publications - 2010 PE (Civil) Sample Problems and Solutions'. These are five NCEES publications for PE (Civil) one for each depth area –

- Construction
- Geotechnical
- Structural
- Transportation
- Water Resources and Environmental

Each book has 40 Breadth Problems and solutions and 40 Depth Problems and Solutions. The regulations now require you to specify what depth area you wish to take in the exam. These are copyrighted books and you have to order them from NCEES. We will go over those problems in the seminar. Each of the five modules covers both breadth and depth.

It is a requirement for IIT registrants who are planning to attend our seminars to buy one or more of five manuals since we will be covering both breadth and depth areas in all the five subject areas. Because of strict Copyright issues we cannot print these problems in our manuals but we will be discussing the solution techniques to these problems in our seminars. It is also very difficult for us to delineate what is breadth and what is depth. Perhaps, breadth problems are easier and depth problems more difficult. So we are no longer differentiating between breadth and depth and differentiating only by the five areas.

NCEES PE (Civil) exam

Morning (AM) Breadth Portion: - 40 problems – All required

All examinees during the AM session must answer eight (8) questions from each of the five areas

- Construction (8) Geotechnical (8) Structures (8) Transportation (8) and Water Res and Env (8)

Afternoon (PM) Depth Portion: - 40 problems – Examinees must select one 'primary' depth area only depending on their experience. For the afternoon portion of the exam, there are now more problems than before in each of the primary depth areas. The number of questions for each 'primary' depth area is shown below.

- Construction Area: Construction related – 36 Problems – Other areas – 4 Problems
- Geotechnical Area: Geotechnical Related – 35 Problems – Other areas – 5 Problems
- Structures Area: Structures Related – 35 Problems – Other areas – 5 Problems
- Transportation Area: Transportation Related – 30 Problems – Other areas – 10 Problems
- Water Resources and Environmental: WRE Related – 39 Problems - Other areas – 1 Problem

Although we recommend that all registrants take the full 84 hour seminar, those who do not have funds or time could take at least three areas, study well and pass the first time. For those who wish not to attend the whole seminar can buy the books on others subjects and prepare minimally.

'Design Standards' are lists of publications which the NCEES examiners reference for the examinations. Specific 'Design Standards' are identified for three of the five depth areas.

- Construction
- Structural
- Transportation

As far as the examination goes, it is expected that the examinees are familiar with all the references cited in the design standards. The attendees have to determine themselves on how many of these standards to possess or to how many to take to the exams.

California Seismic Principles Exam: (2 hour 30 minutes) – using IBC 2006 Code

Ever since the Long Beach Earthquake of 1933 awareness of Seismic Damage, International Conference of Building Officials (ICBO), in cooperation with Structural Engineers Association of California (SEAOC), led the development and continuously modified the building codes for seismic resistance of buildings under Uniform Building Code (UBC). These codes are published by ICBO at three year intervals using several empirical formulas and experience gained from recent earthquakes. These were static methods and used to 'represent' the dynamic response under earthquakes. The last code published by ICBO is UBC 1997. In addition to UBC, there were two other regional building codes NBC, SBC. Individual States in USA publish their own codes based on National/Regional codes. Large cities, counties, special agencies like hospital and schools also publish their own codes. Buildings built in any area must follow the rules and regulations of local jurisdictions to receive building permits.

Over the past 50 years - since late fifties - Earthquake and Computer Technologies have significantly advanced Earthquake Resistant Analyses and Designs. Federal Government under NSF, FEMA and NEHRP has funded ATC, Universities and other Laboratories to conduct significant research projects and cast dynamic earthquake behavior using the concepts of Response Spectra. The first comprehensive document under these efforts was ATC-3 published in 1984. The current research results are now embodied into current ASCE-7-05 published in 2005.

Finally, the three Regional Code making bodies in USA (UBC, NBC and SBC) have merged into one National Code making body as International Code Council (ICC) with head quarters in Chicago. ICC began writing Seismic Codes for the whole country (and World also can use) utilizing the most current information as embodied in ASCE – 7 and other Structural Standards as specified by ACI, AISC, NDS and ASTM. ICC codes now 'reference' (not duplicate) these standards/specifications in their publications. As such the engineers must now possess or have access to all the Standards developed by scientific societies in addition to Codes.

The State of California although the first one to suffer and recognize the serious damage due to earthquakes and codify the regulations for earthquake resistant designs, was the last one to accept the changes as codified by ICC. Finally beginning in April 2008, State of California also adapted ICC 2006, ASCE – 7 and other standards into their codes. California PE and SE Examination codes now use the new ICC developed codes and other Standards. Please refer to www.pels.ca.gov for further details since there is always something changing.

For those registered in IIT seminars ICC 2006/ASCE 7-05 combo package (9002SB05) is available at a membership price of \$178.00 (List \$210) Please contact CVC and then Ms. Rosie Ochoa at ICC rochoa@iccsafe.org phone (888) 422-7233 ext 3339 and Fax (866) 891-1695. and identify yourself as one of IIT registered students and send her a copy of your paid invoice which you receive with your registration.

California Engineering Surveying Exam – (2 hour 30 minutes)

Surveying is fundamental to all civil engineering 'built' components. They deal with the construction of all land based buildings and other structures, water resources systems, power and energy systems, transportation structures – roads, bridges, towers etc. There is a significant area of land based surveying in determining the boundaries between land parcels and ownerships. General surveying is the primary area of Land Surveyors and the State of California conducts Land Surveyors (LS) examinations. But Civil Engineers also depend very much on Surveying and they have to know the application of Engineering Surveying and hence this Special Surveying exam is required for PE (Civil) registration.

Prior to the initiation of National PE (Civil) NCEES Examinations, there used to be one required Seismic and one required Engineering Surveying problem in California PE (Civil) examinations. Since NCEES Exam does not have Engineering Surveying Problems, State of California introduced a 2.5 hour Engineering Surveying Exam to test the competency of its PE (Civil) registrants in Engineering Surveying. The exam is also more practice orientated. Seminars conducted by IIT are very much practice orientated with instrument and field demonstrations, practice videos and trial multiple choice class examinations. No significant changes for this portion of the exam since many years. Please refer to www.pels.ca.gov for further details.

Benefits of attending the Seminars

The seminar fee includes not only lectures by experts but also includes a set of 9 volumes of Workbooks totaling 5,000 pages based on ICC 2006 and CBC 2007. These books will also become part of permanent collection for any one taking our seminars. The PE seminars are comprehensive and are of a practical nature, fast moving and cover a vast amount of material. These are in no way be compared to other seminars who present their 'quickie' approaches..

All seminars are Webcast and archived for future reference. Candidates who cannot attend under option 1 - on-site live seminars because of their location or time constraints, can take the seminars under option 2 -off-site live from their home or office. For those who do not have time to sit through on-site or off-site live seminars, can take the archived seminars 24/7 under option 3 from anywhere. Registrants enrolled in 8659 - Live or Off-Site Live can also review the archived video/audio/manuals on file servers at a later date for review before the examinations. Those who purchase manuals also may access archived seminars at \$20.00 per hour. So one has now many ways to profit by attending these seminars and studying the manuals. Learn the subject and also pass the exam during the first time they take it. A sample Webcast is on our website www.irvine-institute.org.

Guarantee to Pass Policy

IIT guarattees that a candidate who takes IIT semianrs and study will pass the exams. They will be allowed to access the archives of the semianrs they have taken free for next 12 months if they do pass the exam. For some of those who wish to attend the new semianrs will pay 50% of the fees for the first time and 25% of the fees for the second time.

Ordering books and Enrollment into Seminars

Please go to www.irvine-institute.org and click the links on PE (Civil) examinations on the left side. Please click Manuals link for detailed table of contents of each manual. Click 'registration by e-commerce' link to register. Pick up the items from lists and add to shopping cart. Also add shipping charges if necessary. Fill the needed information including apartment number or suite number. UPS can not be ship to P.O. box address. You can charge items to Visa or MC or send us a check. Please make sure the address you give on the application matches the one on the credit card. You can give a different shipping address if you are asking us to ship books. We also need phone number and e-mail address to send receipts etc.

Registration Information

- All registrations are processed online through www.irvine-institute.org
- Early registration is highly recommended; classes may close early if filled or get cancelled for low enrollment.
- Seminar fees must be pre-paid by one of the following methods: check, money order, VISA or MasterCard
- A \$50.00 fee will be charged on any checks returned for insufficient funds.
- A \$50.00 Late fee will be charged if enrollment is made less than one week before the classes start.
- Manuals are shipped to registrants at the time their enrollment or order is processed. If there is not enough time to ship before the start of seminars, manuals can either be picked up the first day of seminars or earlier at 8659 Research Drive.
- IIT reserves the right to accept registrations and may reject applications from troublesome candidates.
- Both archived and web-casted classes may be subjected to technical difficulties beyond our control. No refunds will be given for minor technical problems, and IIT will do everything in IIT's power to correct the problems as fast as possible.

Seminar Policies

- **Guaranteed Pass Policy:** IIT guarantees that students will pass the exam if they attend seminars and receive a Certificate of Completion. Students who fail the exam the first time they take it will be given free access to archives for one year. Students may also re-enroll in the same seminar at a reduced rate. Please see the Repeat of Seminar policy for more.
- **Repeat of Seminar Policy:** If you have taken the seminar within a two year window, you may re-enroll in the same seminar for selected sessions for \$60.00 per day on a space available basis. No manuals or Certificate of Completion will be given to those who repeat the seminar.
- **Cancellation Policy:** Any cancellation of a seminar must be made, in writing, before the first class meeting and is subject to a 25% processing charge that will be deducted from the refund of the seminar fee.

- Refunds: No refunds will be issued after the manuals have been distributed and the seminar has begun. Students can choose to attend the same seminar the following semester it is offered if they are unable to attend the initial seminar they registered for. No refunds will be processed 30 days past the registration date.
- Low enrollment seminars may be cancelled.
- Changes to Schedule: Although it is not our desire to change schedules, due to circumstances beyond our control, there exists a possibility of a schedule change. In the event of such a change, we will make every effort to notify participants in advance.
- Registrants assume the responsibility of calling the office, if they are absent for a session, to find out if changes have occurred.
- Certificate of Completion: Participants are required to sign the attendance record for every class session to document their participation in the course.
- A Certificate of Completion will be awarded at the end of the seminar. Each registrant must attend the required number of class meetings as shown below, and must return a completed class evaluation at the end of the seminar in order to receive the certificate.

Seminar Days:	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Required Days:	10	10	9	8	7	7	6	6	5	4	4	3	2	2	1

Book Return Policy

- Any book returns must be claimed within 15 days of shipment arrival. Claims for shortages or damage must be made within 5 days of receipt of merchandise.
- All books must be returned (either brought back directly to IIT or shipped back prepaid) in new, resalable condition within 15 days. No refunds will be given for books already opened from the original packaging, damaged, used, or marked up in any way.
- A copy of a sales receipt, paid invoice, or other proof of purchase must accompany the shipment of all returns. Unauthorized returns will result in processing delays and may not be accepted for credit and/or may get returned to the customer.
- All book returns are subject to a restocking fee of 25% of the original selling price.

Privacy Statement

- All information supplied by participants will be maintained for a period of seven years. No release of any information will be done without the expressed written consent of the participant.

Classroom Rules

- "Loaner" manuals are not available.
- Videotaping and/or audio recording are prohibited.

Hours of Operation

- All weekend classes are from 9:00 a.m. to 12:00 noon and 1:00 p.m. to 4:00 p.m. unless otherwise noted. All weekday classes are from 6:30-9:30pm.
- Complimentary coffee breaks are from 10:30 a.m. to 10:45 a.m. and from 2:30 p.m. to 2:45 p.m. Lunch breaks are from 12 noon to 1 p.m.

Parking

- Parking is allowed only in designated spaces around the office of the Irvine Institute of Technology. Cars parked illegally in other spaces will be towed at the owner's expense.

General Information & Disclaimer

- The lectures presented in the series, as well as the manuals and lecture materials provided, represent the opinions of various professionals as a resource for those taking examinations and so do not represent the official position taken by the agencies that administer and grade the examinations. The professionals who lecture, or those who prepare the solutions, or the editor, or the publisher are in no way responsible for the failure of registrants in the exam, or liable for errors or omissions in the solutions, or in the way they are interpreted by the registrants or others.

Seminar Location

- All seminars are held at the Irvine Institute of Technology: 8659 Research Dr., Suite 200, Irvine, CA 92618.