Studying for the Civil Engineering License Exam? We just made it easier!

The National Society of Professional Engineers is now offering instructor-led PE Exam review courses, using textbooks from the leader in exam preparation, Kaplan AEC Education. These courses combine quality instruction with thorough materials to help you earn your Professional Engineer License. In class, you will:

- Study the Principles and Practice of Civil Engineering for the PE Exam
- Review example problems with step-by-step solutions
- Complete practice exams
- Learn dos and don'ts for taking the test
- Get personalized coaching from a qualified instructor

Classes are forming now with the Professional Engineers of Colorado. Please see the application and information enclosed for more details.

SEH, Inc., Denver, Colorado (Colorado Blvd & I-25)
Saturdays, March 7, 2009 through Saturday, April 18, 2009
NSPE member: $595 (includes textbooks)
Non-member: $795 (includes textbooks)
For more information please contact:
Professional Engineers of Colorado: Erin Erickson
(303) 480-1160 or eerickson@imigroup.com

Professional Engineers of Colorado

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P.E. Exam Review - Student Application

If you are planning to take the P.E. Civil Breadth Exam on April 24, 2009 and are interested in participating in a 6-week review session, taught by a P.E., please complete the student application below. Once your application has been received, the exam review materials will be ordered by the PEC office and shipped to the address listed below. Additionally, PEC will provide you a P.E. Mentor, should you have questions and need outside assistance.

Review Session Date:	Time:	Discipline:
Saturday, March 7, 2009	8:00 a.m. - 5:00 p.m.	Construction (Parts 1 & 2)
Saturday, March 14, 2009	8:00 a.m. - 5:00 p.m.	Geotechnical (Parts 1 & 2)
Saturday, March 21, 2009	8:00 a.m. - 5:00 p.m.	Structural (Parts 1 & 2)
Saturday, March 28, 2009	8:00 a.m. - 5:00 p.m.	Transportation
Saturday, April 4, 2009	8:00 a.m. - 5:00 p.m.	Water Resources (Parts 1 & 2)
Saturday, April 18, 2009	8:00 a.m. - 5:00 p.m.	Water Resources (Parts 2 & 3)

All Exam Review Sessions will be located at:
SEH, Inc.
2000 S Colorado Blvd #6000
Denver, CO 80222
(I-25 & Colorado Blvd.)

Registration Information:
Please select from the following registration fee options. Please include the application with a check made payable to "Professional Engineers of Colorado" no later than ***February 20, 2009.***

- ❑ **NSPE Member Fee - $595 (Includes textbooks)**
- ❑ **Non-Member Fee - $795 (Includes textbooks)**

Student Civil Review Materials Include: (New Editions 1-2008)

- Civil Engineering PE License Review 17/e - $76.97
- Civil Engineering Problem-Solving Flowcharts for the PE Exam - $31.47

Name: _____

Company: _____

Shipping Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Email: _____

Please submit application to:
Professional Engineers of Colorado
3030 W. 81st Avenue, Westminster, CO 80031
Phone: 303-480-1160; Fax: 303-458-0002, www.pec.org

National Council of Examiners for Engineering and Surveying
Principles and Practice of Engineering Civil BREADTH Exam Specifications
Effective Beginning with the April 2008 Examinations

I. CONSTRUCTION 20%

A. Earthwork Construction and Layout
   i. Excavation and embankment (cut and fill)
   ii. Borrow pit volumes
   iii. Site layout & control
B. Estimating Quantities and Costs
   i. Quantity take-off methods
   ii. Cost estimating
C. Scheduling
   i. Construction sequencing
   ii. Resource scheduling
   iii. Time-cost trade-off
D. Material Quality Control and Production
   i. Material testing (e.g., concrete, soil, asphalt
E. Temporary Structures
   i. Construction loads

II. GEOTECHNICAL 20%

A. Subsurface Exploration and Sampling
   i. Soil classification
   ii. Boring log interpretation (e.g., soil profile)
B. Engineering Properties of Soils and Materials
   i. Permeability
   ii. Pavement design criteria
C. Soil Mechanics Analysis
   i. Pressure distribution
   ii. Lateral earth pressure
   iii. Consolidation
   iv. Compaction
   v. Effective and total stresses
D. Earth Structures
   i. Slope stability
   ii. Slabs-on-grade
E. Shallow Foundations
   i. Bearing capacity
   ii. Settlement
F. Earth Retaining Structures
   i. Gravity walls
   ii. Cantilever walls
   iii. Stability analysis
   iv. Braced and anchored excavations

III. STRUCTURAL 20%

A. Loadings
   i. Dead loads
   ii. Live loads
   iii. Construction loads
B. Analysis
   i. Determinate analysis
C. Mechanics of Materials
   i. Shear diagrams
   ii. Moment diagrams
   iii. Flexure
   iv. Shear
   v. Tension
   vi. Compression
   vii. Combined stresses

viii. Deflection

D. Materials
   i. Concrete (plain, reinforced)
   ii. Structural steel (structural, light gage, reinforcing)

E. Member Design
   i. Beams
   ii. Slabs
   iii. Footings

IV. TRANSPORTATION 20%

A. Geometric Design
   i. Horizontal curves
   ii. Vertical curves
   iii. Sight distance
   iv. Superelevation
   v. Vertical and/or horizontal clearances
   vi. Acceleration and deceleration

V. WATER RESOURCES AND ENVIRONMENTAL 20%

A. Hydraulics – Closed Conduit
   i. Energy and/or continuity equation (e.g., Bernoulli)
   ii. Pressure conduit (e.g., single pipe, force mains)
   iii. Closed pipe flow equations including Hazen-Williams, Darcy-Weisbach Equation
   iv. Friction and/or minor losses
   v. Pipe network analysis (e.g., pipeline design, branch networks, loop networks)
   vi. Pump application and analysis

B. Hydraulics – Open Channel
   i. Open-channel flow (e.g., Manning's equation)
   ii. Culvert design
   iii. Spillway capacity
   iv. Energy dissipation (e.g., hydraulic jump, velocity control)
   v. Stormwater collection (e.g., stormwater inlets, gutter flow, street flow, storm sewer pipes.)
   vi. Flood plains/floodways
   vii. Flow measurement – open channel

C. Hydrology
   i. Storm characterization (e.g., rainfall measurement and distribution)
   ii. Storm frequency
   iii. Hydrographs application
   iv. Rainfall intensity, duration, and frequency (IDF) curves
   v. Time of concentration
   vi. Runoff analysis including Rational and SCS methods
   vii. Erosion
   viii. Detention/retention ponds

D. Wastewater Treatment
   i. Collection systems (e.g., list stations, sewer networks, infiltration, inflow)

E. Water Treatment
   i. Hydraulic loading
   ii. Distribution systems

TOTAL: 100%