

# ACPA

## Concrete Pavement Seminar Series



2010

Program and Course Guide  
March 30 | March 31 | April 1  
Lake Buena Vista/Orlando, Florida



The American Concrete Pavement Association's (ACPA) Concrete Pavement Seminar Series is returns this year with an updated program for this modular series, formerly known as "Concrete Pavements 101."

Now offered in modular format, this series of one-day seminars presents the theory and practice of designing, constructing, and rehabilitating concrete pavements. The new format allows the choice of one, two, or three days of training.

#### Who Should Attend?

The seminars are intended for engineers, technicians, inspectors, laboratory personnel, and others with a need for in-depth knowledge of concrete pavement technology.

As with the original course, the seminars are well-suited for state agencies to participate in just prior to ramping up their concrete pavement program. The program also is ideal for those who want a just-in-time refresher prior to large scale projects.

#### About the ACPA Concrete Pavement Seminars

Both theory and practice are covered in these seminars and the discussion ranges from basic definitions to the latest innovations in design, construction and rehabilitation.

Here is an overview of the three modules:

Design Seminar—The design seminar focuses heavily on the Mechanistic-Empirical Pavement Design Guide (M-E PDG), which was recently adopted by the American Association of State Highway and Transportation Officials (AASHTO) as an official interim design procedure.

The M-E PDG is a drastic departure from the empirically-based AASHTO procedure currently used by most agencies in both the level of required inputs and the complexity of the calculations. This seminar will present the fundamentals of the M-E PDG approach, development of inputs, running the software and interpreting the results.

Note that the M-E PDG is not well suited to the design of low volume roads, so the second design methodology featured in the seminar will be StreetPave, ACPA's mechanistic-empirical pavement design procedure, which is well suited to low volume through heavily trafficked roadways. The historical development of this procedure, selecting appropriate input values, running the software and choosing the optimal design will be covered in depth.

Sensitivity of the most critical variables and tips on design optimization will also be featured for both design approaches. You are strongly encouraged to bring a laptop computer for the in-class exercises.

The "ACPA Concrete Pavement Seminar Series" and all its associated materials, including this program—as well as actual presentations and any other associated collateral materials—are copyrighted information and may not be reproduced or redistributed electronically or mechanically without the expressed, written permission of its owner and author, the American Concrete Pavement Association (ACPA). For authorization to reproduce or redistribute this or other ACPA webinar materials, please contact ACPA, 5420 Old Orchard Road, Suite A-100, Skokie, Illinois (USA) 60077. Phone: 847-966-2272. Fax: 847-966-9970. Email: [acpa@pavement.com](mailto:acpa@pavement.com). © 2010, American Concrete Pavement Association. All rights reserved.

**Materials and Construction Seminar**—The materials portion of the seminar presents the most important aspects of concrete mix design and proportioning (including optimized gradation), appropriate testing procedures, mix adjustments and material specifications. The Federal Highway Administration (FHWA) new mix design and analysis software (COMPASS) will be demonstrated and discussed.

The construction portion of the seminar will present the best practices for constructing concrete pavement using either slipform or fixed form paving techniques. Establishing line and grade, building a stable platform (subgrade and subbase), concrete batching and delivery, placement, consolidation, texturing and curing, and other pertinent topics will be discussed in detail. Development of a comprehensive quality control/quality assurance (QC/QA) program will be highlighted as well as innovations in materials, equipment and construction processes. The FHWA computer program for

predicting stress development in new pavements (HIPERPAV) and providing useful information on optimal placement time, when to saw contraction joints and so on will be demonstrated.

**Rehabilitation, Restoration and Overlay Seminar**—

This seminar will feature the most up-to-date information on evaluating existing pavements and selecting the most feasible rehabilitation option. Restoration procedures— including full-depth repairs, partial-depth repairs, dowel bar retrofit, and diamond grinding—will be discussed in terms of their appropriate use and current construction practices. The use of precast panels for full-depth repairs will also be presented.

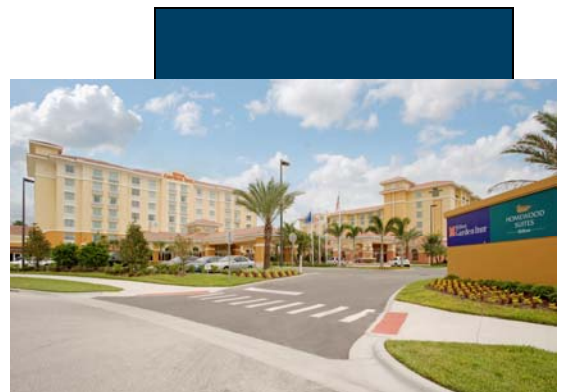
Overlays including concrete overlays of existing concrete pavements and concrete overlays of existing asphalt and composite pavements are the focus of this portion of the seminar. Current design and construction practices will be highlighted along with

## Seminar Location/Hotel Registration

The course will be held at the Homewood Suites by Hilton®-LBV , part of the “The Midtown Hiltons Lake Buena Vista complex. Located just one mile from Downtown Disney, and the entrance to Sea World, the properties offer easy access to restaurants, shops, entertainment and theme parks.

Room rates begin at \$109/night per person. The hotel is located at:

11400 Marbella Palm Ct., Orlando, FL 32836  
 Phone: 407.239.8500 | Fax: 407.239.8540  
 Toll Free: 888-LBV.SUITES or 1.888.528.7848  
[www.lakebuenavistaorlando.homewoodsuites.com](http://www.lakebuenavistaorlando.homewoodsuites.com)



case histories to illustrate critical issues.

Sustainability is an increasingly important aspect of pavement type selection and environmental stewardship on the part of the agencies. A recently completed report dealing with the recycling of concrete will be discussed.

**Register Online**

You can now register for these seminars online! Registration is fast and easy. To get started visit ACPA’s registration site at [www.acpa.org](http://www.acpa.org).

Follow the links to ACPA’s Education & Training program, and then, scroll down on the E&T page to the Concrete Pavement Seminar Series.



Completing a quick profile will enable future registrations to be completed easily and quickly.

The course fee for the design seminar includes copies of both WinPAS and StreetPave software, copies of the presentations, and selected ACPA publications covering all aspects of concrete pavement design technology. The course fee for the materials/construction and rehabilitation/overlay seminars includes copies of the presentations as well as selected ACPA publications.

**Registration Deadline**

Our course size is extremely limited. Only the first 20 registrants will be accepted for each seminar.

Please note that the registration rates apply only

**APPLICATION & REGISTRATION**

**Registration is fast and easy. To get started, visit [www.acpa.org](http://www.acpa.org). Follow the link to “education & training,” to register online. For additional information or assistance, contact ACPA at 847.966.2272 or [acpa@acpa.org](mailto:acpa@acpa.org).**

through March 22, 2009. All registrations received after 12:01 a.m. on March 22 are subject to the higher rates.

Also, please note: This program is subject to change without prior notice. Occasionally, circumstances beyond our control may require our cancellation of the program. For more information, see the ACPA refund policy.

**ACPA Refund Policy**

Substitutions are accepted at any time. If your substitute qualifies at a different registration fee, a credit or surcharge may apply.

If you cannot attend the seminar, please notify ACPA immediately. A cancellation fee of \$50 will be charged if notice is received in writing before 5 p.m. (CST) March 22, 2010. No refunds or adjustments will be available for registrations after March 22.

Confirmed participants who do not attend are liable for the entire fee unless we are notified in advance of the seminar date that you cannot attend.

Schedule of Fees		
Fee Type	Member Fee	Non-Member Fee
Full 3 day course:	\$650	\$900
Any 2 days	\$475	\$650
Any 1 day	\$250	\$350

hour of instruction or approximately 8 PDH credits per seminar, or 24 PDH for all three days.

Every registered engineer has a personal responsibility to assess the applicability of each element of the program attended to their particular professional development need, and, if appropriate, to maintain a record of qualifying PDH's for license renewal documentation.

If it becomes necessary for ACPA to cancel the program for any reason, course registration fees will be refunded completely. In those cases, participants are still required to cancel their hotel sleeping rooms.

Payment is due at the time of registration. Payment may be made online by credit card or PayPal.® Payment also may be made in advance by either by check or credit card.

**Award of Professional Development Hours**

Conference participants who complete the three-day training will receive a certificate of completion for their professional level continuing education activity.

For payment instructions, please contact ACPA at 847.966.2272 for more information.



The American Concrete Pavement Association offers 1 professional development hour (PDH) credit per

**Get the resources you need when you need them**

ACPA now offers a wide range of technical resources in commercially-printed and downloadable PDF formats.

To get started, please visit [www.acpa.org](http://www.acpa.org). Click on the bookstore tab at the top of the home page. Find products and services by keyword, topic, or product code.

**[www.acpa.org](http://www.acpa.org) | 847.966.2272**





## Preliminary Course Outline *(Subject to change without notice.)*

### — Tuesday, March 30 —

<b><u>Time</u></b>	<b><u>Topic</u></b>
8:00 – 8:15 a.m.	Introductions and Course Overview
8:15 – 9:15 a.m.	Overview of the AASHTO 1993 Pavement Design Method and Development of Input Values
9:15 – 10:00 a.m.	WinPAS Software Group Exercise
10:00 – 10:15 a.m.	Break
10:15 – 11:15 a.m.	Overview of the Mechanistic-Empirical Pavement Design Guide (M-E PDG)
11:15 – Noon	Introduction to the M-E PDG Software and Development of Input Values
Noon – 1:00 p.m.	Lunch
1:00 – 2:30 p.m.	M-E PDG Software Group Exercise
2:30 -3:00 p.m.	Sensitivity of Key M-E PDG Variables
3:00 – 3:15 p.m.	Break
3:15 – 4:00 p.m.	Overview of the StreetPave Design Method and Development of Inputs
4:00 – 4:30 p.m.	StreetPave Software Group Exercise
4:30 – 5:00 p.m.	Comparison of Design Methods

### — Wednesday, March 31 —

<b><u>Time</u></b>	<b><u>Topic</u></b>
8:00 – 8:15 a.m.	Introductions and Course Overview
8:15 – 9:15 a.m.	Concrete Mix Design and Mix Proportioning
9:15 – 10:00 a.m.	Concrete Testing
10:00 – 10:15 a.m.	Break
10:15 – 10:45 a.m.	Overview of the FHWA Compass Software
10:45 – 11:30 a.m.	Establishing a Comprehensive Quality Control/Quality Assurance Testing Program
11:30 a.m. – Noon	Diagnosing and Correcting Materials-Related Problems
Noon – 1:00 p.m.	Lunch
1:00 – 2:30 p.m.	Construction Operations <ul style="list-style-type: none"> <li>• Fixed Form</li> <li>• Slipform Paving</li> </ul>

*Schedule continues on page 6*



## Preliminary Course Outline *(Subject to change without notice.)*

### — Wednesday, March 31 *(continued)* —

<b><u>Time</u></b>	<b><u>Topic</u></b>
2:30 – 3:00 p.m.	Additional Construction Considerations <ul style="list-style-type: none"> <li>• Finishing</li> <li>• Curing</li> <li>• Texturing</li> <li>• Jointing</li> </ul>
3:00 – 3:15 p.m.	Break
3:15 – 3:45 p.m.	Additional Construction Considerations <i>(continued)</i>
3:45 – 5:00 p.m.	HIPERPAV Software Demonstration

### — Thursday, April 1 —

<b><u>Time</u></b>	<b><u>Topic</u></b>
8:00 – 8:15 a.m.	Introductions and Course Overview
8:15 – 9:15 a.m.	Concrete Pavement Evaluation
9:15 – 10:00 a.m.	Rehabilitation Strategy Selection
10:00 – 10:15 a.m.	Break
10:15 a.m. – Noon	Concrete Pavement Restoration Procedures <ul style="list-style-type: none"> <li>• Full-Depth Repairs</li> <li>• Partial-Depth Repairs</li> <li>• Dowel Bar Retrofit</li> <li>• Diamond Grinding</li> <li>• Others</li> </ul>
Noon – 1:00 p.m.	Lunch
1:00 – 2:00 p.m.	Overview and Application of Concrete Overlays <ul style="list-style-type: none"> <li>• Bonded Overlays</li> <li>• Unbonded Overlays</li> </ul>
2:00 -3:00 p.m.	Concrete Overlay Design Considerations <ul style="list-style-type: none"> <li>• AASHTO 1993 Design Procedure</li> <li>• M-E PDG Procedure</li> </ul>
3:00 – 3:15 p.m.	Break
3:15 – 4:30 p.m.	Best Practices for Concrete Overlay Construction
4:30 – 5:00 p.m.	Concrete Pavement Recycling