School of Advanced Structures Hosting LEED and “Bridges” Seminars
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The School of Advanced Structures is offering seminars on Leadership in Energy and Environmental Design (LEED) on July 11-13, 2012 and the American Association of State Highway and Transportation Officials’ Loading and Analysis of Bridges for Load and Resistance Factor Design and Rating (AASHTO-LRFD) on July 24, 2012. Both seminars are being held on UC’s Clifton Campus.

The LEED Green Preparation Courses are designed to assist professionals who wish to pass the LEED credentialing exam(s). Courses encompass a detailed review of the LEED requirements and more than 200 test sample questions. The first two days cover information vital to passing the Green Associate Exam. The participants should also attend the third day of courses in order to pass the LEED BD&C exam. Additionally, those who need to pass the LEED EBOM exam should attend the fourth day’s courses.

Industry professionals such as architects, contractors, designers, developers, engineers, manufacturers, and owners, who seek to take and pass the aforementioned LEED exams and are looking to incorporate green strategies into their building projects, are the program’s prospective students. Students will gain knowledge in all LEED recognized areas including:

- Sustainable Site Development
- Water Efficiency
- Energy and Atmosphere
- Materials and Resources
- Indoor Environment Quality
- Innovation in Design

LEED® is an internationally accepted guide for the design, construction, and operation of green buildings. LEED has been adopted by USA, Canada, Italy, United Arab Emirates, Mexico, China and India. Owners and developers are demanding green buildings to save money while protecting occupants’ health and the environment. More than 10,000 owners of buildings are currently seeking LEED certification.

Hazem Elzarka, PhD, UC CEAS professor in construction engineering and management and Program Chair of Construction Management, is the course presenter. He previously taught at the College of Business, University of Denver. He is a registered professional engineer in the State of Ohio, a LEED Accredited Professional, a Green Building Engineer, a Certified Measurement and Verification Professional, a Certified Energy Manager and a Certified Carbon Reduction Manager. Elzarka has also consulted for major US and international construction firms including
Turner, Centex Rooney, Stone & Webster, and Fluor Daniel. His consulting work primarily focuses on sustainability, energy conservation, green buildings, Total Quality Management and LEED certification. Elzarka has more than 50 publications in refereed journals and conference proceedings.

The American Association of State Highway and Transportation Officials’ Loading and Analysis of Bridges for Load and Resistance Factor Design and Rating (AASHTO-LRFD) course covers the background, development, and application of AASHTO-LRFD loading and analysis provisions, now required for designs in Ohio and most other states.

This course is tailored for practicing engineers who are familiar with the AASHTO-LRFD Standard Specification and engineers who are new to bridge engineering. Each session of this short-course qualifies as 4 Continuing Professional Development (CPD) hours in Ohio, at least 4 Professional Development Hours (PDHs) in Kentucky, and at least 4 Continuing Education (CE) hours in Indiana. The course provides detailed guidance through the determination of permanent gravity loads, transient live loads and environmental loads such as wind. Also included in course content is detailed instruction on the analysis of bridge systems needed to determine member forces and moments for design.

Topics to be covered in the course include Fundamentals of the LRFD Philosophy, Background of Trucks and Bridge Loadings, Development of the AASHTO-LRFD Live Load, Review of Influence Line Analysis Methods, Transverse Load Distribution, Limit States and Load Combinations, Application of the AASHTO-LRFD Live Load, Analysis Methods of Bridges to Obtain Member Forces for Design or Rating, Line Girder Analysis Methods, and Introduction to FE Modeling Girder Bridges.

James A. Swanson, PhD, UC CEAS associate professor in structural engineering, is set to instruct the course. He has served on the faculty at UC for 14 years in support of the graduate and undergraduate curriculum and serves on numerous committees for the American Institute of Steel Construction, Transportation Research Board, American Society of Civil Engineers, and Research Council on Structural Connections. Swanson has conducted research and consulted in the areas of steel bridge engineering and steel building design and performance. Additionally, Swanson has conducted workshop series for the Ohio Department of Transportation in the area bridge analysis, design, and rating, and has taught short courses on seismic design of steel structures abroad.
For more information on both seminars or to register, contact Ms. Raena Hoskins at urraena.hoskins@uc.edu.