Education & the Future of Pavement Preservation Round Table

Pavement Engineering & Science (PES) Program
University of Nevada, Reno

2018 Pavement Preservation Workshop

Hilton Concord, CA
February 6-7, 2018
Pavement Engineering & Science (PES) Program
Key Elements for the Success of PES Program

- Strong & Competitive Research Program
- Robust Teaching Program
- National & International Activities
- Technology Transfer

PESP
## PES Offered Courses

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>UG</td>
<td>CE 377 Construction Materials</td>
</tr>
<tr>
<td>UG/G</td>
<td>CE 431/631 Pavement Analysis &amp; Design</td>
</tr>
<tr>
<td>G</td>
<td>CE 732 Bituminous Materials</td>
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<tr>
<td>G</td>
<td>CE 733 Advanced Asphalt Mixtures</td>
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<tr>
<td>G</td>
<td>CE 734 Pavement Reconstruction, Rehab, &amp; Maintenance</td>
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<tr>
<td>G</td>
<td>CE 735 Pavement Management Systems</td>
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<tr>
<td>G</td>
<td>CE 736 Advanced Modeling &amp; Analysis of Bituminous Materials</td>
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<tr>
<td>G</td>
<td>CE 737 Advanced Pavement Analysis &amp; Design</td>
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<tr>
<td>G</td>
<td>CE 738 Asphalt Pavement Construction</td>
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<td>G</td>
<td>CE 739 Sustainable Transportation Facilities</td>
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</tbody>
</table>

UG = Undergraduate; G = Graduate

### Pavement Preservation/Maintenance/Routine
- Materials
- Mix Designs
- Construction
- Specifications
- QC/QA
- Performance
- Impact on pavement design/life
- Lab Testing (asphalt emulsion & residue, mix design, etc.)
PES Research

• Select Active Projects:
  – Chip Seal, Micro Surfacing, Slurry Seal, & Thin Lift Asphalt Overlay Construction Quality Assurance State-of-the-Practice
    ▪ Tech briefs
  – NDOT Pavement Preservation Program
    ▪ Develop Construction & Inspection Guide & Training for Pavement Preservation Treatments
    ▪ Performance & Cost Analysis of Chip Seal Projects
  – Technical Support for Local Agencies in Nevada
    ▪ Implementation of PMS including pavement maintenance program
    ▪ Help in selecting right treatment for the right pavement at the right time
  – Asphalt Emulsion Research and Development
    ▪ Incorporation of Asphalt Emulsion Technology into Research and Teaching
    ▪ ERGON Asphalt Emulsion Laboratory
PES Technology Transfer

Select Examples

- Hosting & Offering training and workshops for agencies & consultants.

- Organizing a workshop in collaboration with ASCE T&DI Highway Pavement Committee on: “Achieving Pavement Preservation Construction Quality”
  - Full day workshop on Sunday July 15, 2018, during the upcoming International Conference on Transportation & Development in Pittsburg, Pennsylvania (http://www.asce-ictd.org/).
  - Speakers from UNR, NCAT, FHWA, Agencies, & Industry
## Possible Scenarios

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Aware of difference between pavement preservation &amp; maintenance?</th>
<th>Budget Constraints</th>
<th>Immediate Needs</th>
<th>Technologies</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Training &amp; Certification</td>
<td>Preservation &amp; Maintenance Program</td>
</tr>
<tr>
<td>1</td>
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<td>No</td>
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</tr>
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<td>✓</td>
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</tbody>
</table>
Western Region Training & Certification for Pavement Preservation

• **Center for training & certification** for asphalt pavement preservation to serve the states within the Rocky Mountain West Pavement Preservation Partnership.

• Partnership between **WRAPP, ISSA, & PES-UNR**.

• **Board of Directors** made-up of representatives from WRAPP & states and public agencies in the western region.

The PES-UNR has been managing for 20+ years the **Nevada Alliance for Quality Transportation Construction (NAQTC)** which details can be found at [www.naqtc.unr.edu](http://www.naqtc.unr.edu). The main difference is that the NAQTC only handles certifications for Nevada while the Center will handle both training & certification for the entire western region.
Western Region Training & Certification for Pavement Preservation

• The PES-UNR will

  – coordinate the training & certification activities throughout the western region.

  – collaborate with universities, agencies, & industry as needed to meet the demand for training & certification throughout the western region.

  – develop & host a website for the Center where interested parties can find information & register for the training & certification.