University-Based Asphalt Materials and Flexible Pavement Education

Fall 2017 Update

Expert Task Group (ETG) on Asphalt Mixtures
Bozeman, Montana
September 21, 2017
Our Chat Today...

• The pavement education landscape
• Actions since May 2017
• Getting a start on curriculum
• Next Steps
The Landscape

- Academia
- Industry
- Agency

Academy of Pavement Science and Engineering
asphalt institute
NAPA
National Center for Asphalt Technology
NCAT at Auburn University

Expert Task Groups
Asphalt Mix & Asphalt Binder
www.AsphaltETGs.org
Actions

• Ad-hoc task group: Education Outreach
  Kevin Hall (Univ of Ark)  Rebecca McDaniel (NCSC / Purdue)
  Dave Newcomb (TTI/Tx A&M)  Louay Mohammed (LSU / LTRC)
  Mark Blow (AI)  Erv Dukatz (Mathy)
  Stacy Glidden (Payne & Dolan)  Adam Hand (UNR)
  Frank Fee (Consultant)  Shane Buchanan (Oldcastle)

• Asphalt Institute Pilot Program: Instructional Materials
  – MS-2; MS-4; MS-22

• Oldcastle National Mix Design Competition
  – Pilot run: 2018-19 Academic Year
Curriculum:
The BOK at the Undergraduate Level

• First taste, *mix design*: 2 weeks in “materials” class

• First taste, *pavements*: 2 weeks in “transportation” class

• Undergraduate elective: “pavement engineering”
Curriculum: The BOK at the Undergraduate Level

First taste, *mix design*: 2 weeks in “materials” class

**LECTURE**
6 contact hours

1: Mix types; materials; terminology
2: Volumetric properties; volumetric analysis
3: Gradation specifications; aggregate quality
4: Binder specifications; Binder selection
5: Gyratory compaction; Determination of design binder content
6: Moisture susceptibility; performance testing

**LAB**
2 sessions (6 hours)

1: Mixing and compaction *if equipment available* (no aging) (rapid cooling)
   Gmb & Gmm testing
2: Demo tests: *if equipment available*
   moisture damage cracking / rutting binder content
Curriculum: Next Steps
The BOK at the Undergraduate Level

3 Teams:
- First taste, *mix design*: 2 weeks in “materials”
- First taste, *pavements*: 2 weeks in “transportation”
- Undergraduate elective: “pavement engineering”

Process:
- Collect examples of curricula (syllabi, etc.)
- Draft curriculum; circulate to larger group
  - Respond to comments; modify as needed
- Identify classroom / lab needs
- Identify possible resources to meet needs

Target Draft delivery: January 2018
Still to come...

- Graduate curriculum / Body of Knowledge
- Faculty Development
- Open-Access Instructional Materials
- Bringing the Lab to All

KEY: Coordinating with Other Efforts / Groups!!!