Rheobit™ Course Schedule (Provisional)

November 4th to 8th, 2019

Course Instructors – Dr. David A. Anderson, Dr. Geoffrey M. Rowe

Day 1 Monday – 1:00 to 5:00pm

Historical Perspectives on Characterization

1. Introduction to Rheobit
2. Nature of Asphalt Binders - Overview
3. Rheological Concepts

Day 2 Tuesday – 8:00 to 5:00pm

Basic Testing Concepts

4. Pre-1990 Characterization of Asphalt Binders
5. Characterization - Viscosity
6. Characterization - Oscillatory shear
7. Characterization - Creep

LUNCH (12:00 to 1:00)

8. Characterization – Extensional and Glass transition
9. Presentation of Data from Oscillatory Measurments

Sources of Test Variability

10. Sources of Measurement Error

Day 3 Wednesday – 8:00 to 5:00pm

Laboratory Sessions – BBR and DSR

Practicum #1 BBR Group 1, DSR Group 2
Practicum #2 BBR Group 2, DSR Group 1

LUNCH (12:00 to 1:00)

Master Curve Principles

11. Time-Temperature superposition

Practicum #3 – Time-temp shifting (using EXCEL software) and introduction to RHEA software

Day 4 Thursday – 8:00 to 5:00pm

Models and Inter-conversions

12. Models
13. Interconversion – Oscillatory and Creep Measurements

Practicum #4 – The RHEA Software – Overview, demonstration and use

LUNCH (12:00 to 1:00)

Ultimate Properties – Measurement and Characterization

14. Fracture
15. Fatigue
16. Important Implicationsof t-T Equivalency

Day 5 Friday – 8:00 to 12:00pm

Rheology and Specifications

17. Effect of Modification on Properties of Asphalt Binders
18. Recent Trends in Binder Specifications and Characteriztation

Closure

19. Discussion and Closure

Notes:

*Examples will be provided in **MS EXCEL** format. Other software will be installed – **make sure you have administrative permission to install software on your laptop**.*

Handouts will be provided in PDF format.

Copies will also be made available online for use during and after the course with Apple or Android systems.