## Course Agenda

### Day 1  
**Tuesday**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Instructor(s)</th>
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<tbody>
<tr>
<td>8:30 am</td>
<td>Continental Breakfast</td>
<td>INDA</td>
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<tr>
<td>9:00 am</td>
<td>Introduction</td>
<td>Dave Rousse, INDA</td>
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<td>9:10 am</td>
<td>Welcome</td>
<td>Dave Nelson, NCSU</td>
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<td>9:20 am</td>
<td>Program Preview</td>
<td>Edward Thomas, Instructor</td>
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<td>Video overview, nonwoven markets and product applications, information sources.</td>
<td>Edward Thomas, Instructor</td>
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<td>The World of Nonwovens</td>
<td>Edward Thomas, Instructor</td>
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<td>“Hands-on” examination of nonwoven fabric and end-use product samples as a means to illustrate the wide range of nonwoven usage.</td>
<td>Edward Thomas, Instructor</td>
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<td>Establishment of &quot;Analysis Teams and Tasks.&quot;</td>
<td>Edward Thomas, Instructor</td>
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<td>12:00 pm</td>
<td>LUNCH</td>
<td>INDA</td>
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<td>1:00 pm</td>
<td>Nonwovens Technology Primer</td>
<td>Edward Thomas, Instructor</td>
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<td>Definitions of nonwovens, short history of the technical evolution of the industry.</td>
<td>Edward Thomas, Instructor</td>
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<td>Description of basic nonwoven manufacturing principles and systems.</td>
<td>Edward Thomas, Instructor</td>
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<td>Fiber Fundamentals</td>
<td>Edward Thomas, Instructor</td>
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<td>Generic types and characteristics, property comparisons, raw material-fabric property relationships.</td>
<td>Edward Thomas, Instructor</td>
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<td>5:00 pm</td>
<td>Reception and “Analysis Team Bonding”</td>
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<td>6:00 pm</td>
<td>Adjournment (EVENING ON YOUR OWN)</td>
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Day 2  Wednesday

8:30 am  Continental Breakfast  INDA
Analysis Team Work and Discussion Session

9:00 am  Web Forming Technologies – Drylaid Nonwovens  EDWARD THOMAS, Instructor
Analysis of carding and staple fiber airlaid systems. Review of background, process
technologies and recent developments.

Web Forming Technologies – Wetlaid and Short Fiber Airlaid Nonwovens  EDWARD THOMAS, Instructor
Development of wetlaid nonwovens based on paper technology. Unique
characteristics of cellulose fibers in wetlaid technology. Development of short
fiber airlaid nonwovens and comparison of short fiber airlaid nonwovens
technology with wetlaid nonwovens technology.

11:00 am  Travel to Nonwovens Institute

11:30 am  Nonwoven Institute Welcome  DAVE NELSON, Instructor
Web Forming and Bonding Technologies – “Polymer to Fabric” Nonwovens  BEHNAM POURDEYHIMI, Instructor
Basic principles associated with spunbond, meltblown and film-based nonwovens
and the polymers used in their production.

12:30 pm  LUNCH  NONWOVENS INSTITUTE

1:15 pm  Web Forming and Bonding Technologies (continued)  BEHNAM POURDEYHIMI, Instructor
Systems for Spunlaced/ Hydro-entangled nonwovens.

3:00 pm  Staple and Polymer Lab Discussion  STEVE SHARP/DAVE NELSON
3:20 pm  Staple and Polymer Lab Tours and Demonstrations  STEVE SHARP/DAVE NELSON

5:00 pm  Adjournment (EVENING ON YOUR OWN)
Day 3  Thursday

8:30 am  Continental Breakfast  
Analysis Team Work and Discussion Session  
Edward Thomas, Instructor

9:00 am  Web Bonding Technologies I  
Mechanical bonding principles and systems.  
Edward Thomas, Instructor
Web Bonding Technologies II  
Chemical and thermal bonding principles and systems.  
Edward Thomas, Instructor
Nonwoven Fabric Finishing & Converting  
Edward Thomas, Instructor
Principles, processes, and methods used to treat nonwoven fabrics to obtain enhanced physical and aesthetic properties for specific end-use.

12:00 pm  Travel to Nonwovens Institute
12:30 pm  LUNCH  
Nonwovens Institute

1:15 pm  Nonwoven Fabric Test Methods and Procedures  
Behnam Pourdeyhimi, Instructor
Overview of nonwoven test methods and standardization of test procedures.

3:00 pm  Test Lab Tours and Demonstrations  
Dave Nelson
5:00 pm  Adjournment (EVENING ON YOUR OWN)

Day 4  Friday

9:00 am  Continental Breakfast  
Edward Thomas, Instructor

9:30 am  Analysis Team Presentations  
Edward Thomas, Instructor
HOT ITEM UPDATE(S)  
James E. Loftus, INDA
Discussion on the Flushability Threat  
Brad Kalil, INDA
Worldwide Nonwoven Statistics and Trends  
Brad Kalil, INDA
Overview of nonwoven fabric trends.

12:00 pm  LUNCH  
INDA

12:45 pm  Future Directions  
Dave Rousse, INDA
Behnam Pourdeyhimi, Instructor
Projection of future applications and developments in manufacturing materials, processes and products.

2:30 pm  Adjournment - Please exchange a complete evaluation form for your certificate.