## Intermediate Nonwovens Training Course

**AGENDA**

Instructor: Ed Thomas  
Head of Research and Product Development,  
First Quality, Fiberweb, (retired)

### Day 1: Tuesday

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker/Instructor</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>Matt O’Sickey, INDA</td>
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<tr>
<td>9:10 am</td>
<td>Welcome</td>
<td>Behnam Pourdeyhimi, NWI</td>
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<tr>
<td>9:20 am</td>
<td>Program Preview</td>
<td>Ed Thomas, Instructor</td>
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<td>Video overview, nonwoven markets and product</td>
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<td>applications, information sources.</td>
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<td></td>
<td><strong>The World of Nonwovens</strong></td>
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<td>“Hands-on” examination of nonwoven fabric and</td>
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<td>end-use product samples as a means to illustrate</td>
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<td>the wide range of nonwoven usage.</td>
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<td>Establishment of “Analysis Teams and Tasks.”</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>Ed Thomas, Instructor</td>
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<td>Definitions of nonwovens, short history of the</td>
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<td>technical evolution of the industry. Description</td>
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<td>of basic nonwoven manufacturing principles and</td>
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<td>systems.</td>
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<td><strong>Fiber Fundamentals</strong></td>
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<td>Generic types and characteristics, property</td>
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<td>comparisons, raw material-fabric property</td>
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<td>relationships.</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

Analysis Team Work and Discussion Session

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

Web Forming Technologies – Wetlaid & Short Fiber Airlaid Nonwovens

11:15 am  Travel to Nonwovens Institute

11:45 am  Nonwoven Institute Welcome

11:55 am  Web Forming & Bonding Technologies – “Polymer to Fabric” Nonwovens
Basic principles associated with spunbond, meltblown and film-based nonwovens and the polymers used in their production.

12:45 pm  Lunch

1:30 pm  Web Forming and Bonding Technologies (con’t)
Systems for Spunlaced/ Hydro-entangled nonwovens.

3:15 pm  Staple & Polymer Lab Discussion, Tours & Demonstrations

5:25 pm  Adjournment (evening on your own)
Day 3: Thursday

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

9:00 am  Web Bonding Technologies I
Mechanical bonding principles and systems.
Ed Thomas, Instructor

Web Bonding Technologies II
Chemical and thermal bonding principles and systems.

Nonwoven Fabric Finishing & Converting
Principles, processes, and methods used to treat nonwoven fabrics to obtain enhanced physical and aesthetic properties for specific end-use.

12:15 pm  Travel to Nonwovens Institute

12:45 pm  Lunch
NWI

1:30 pm  Nonwoven Fabric Test Methods & Procedures
Amy Minton, NWI

2:15 pm  Test Methods
Overview of nonwoven test methods and standardization of test procedures.

3:15 pm  Test Lab Tours and Demonstrations
Amy Minton, NWI

5:25 pm  Adjournment (evening on your own)
Day 4: Friday

8:15 am  Continental Breakfast  INDA

8:45 am  Future Trends
           Projection of future applications and developments in manufacturing materials, processes and products.
           Behnam Pourdeyhimi, NWI

9:30 am  Analysis Team Presentations
           Ed Thomas, Instructor

10:30 am Break

10:45 am Hot Topics
           “Wipes Issues & Flushability and Plastics in the Environment”
           Matt O’Sickey, INDA

11:15 am Nonwovens Markets Statistics, Trends & Directions
           INDA

12:15 pm Lunch/Course Adjournment
           Please exchange a completed evaluation for your certificate.
           INDA