



## INTERMEDIATE NONWOVENS TRAINING COURSE

Instructor, Ed Thomas

Head of Research and Product Development  
First Quality, Fiberweb, (retired)

### COURSE AGENDA

#### Day 1

#### Tuesday

8:30 am  
9:00 am  
9:10 am  
9:20 am

CONTINENTAL BREAKFAST  
Introduction  
Welcome  
Program Preview  
*Video overview, nonwoven markets and product applications, information sources.*  
The World of Nonwovens  
*"Hands-on" examination of nonwoven fabric and end-use product samples as a means to illustrate the wide range of nonwoven usage.*  
Establishment of "Analysis Teams and Tasks."

INDA  
JIM LOFTUS, INDA  
DAVE NELSON, NCSU  
EDWARD THOMAS, INSTRUCTOR

EDWARD THOMAS, INSTRUCTOR

12:00 pm

LUNCH

INDA

1:00 pm

Nonwovens Technology Primer  
*Definitions of nonwovens, short history of the technical evolution of the industry. Description of basic nonwoven manufacturing principles and systems.*

EDWARD THOMAS, INSTRUCTOR

Fiber Fundamentals  
*Generic types and characteristics, property comparisons, raw material-fabric property relationships.*

EDWARD THOMAS, INSTRUCTOR

5:00 pm

Reception and "Analysis Team Bonding"

6:00 pm

ADJOURNMENT (evening on your own)

**Day 2**

**Wednesday**

8:30 am	CONTINENTAL BREAKFAST Analysis Team Work and Discussion Session	INDA
9:00 am	Web Forming Technologies – Drylaid Nonwovens <i>Analysis of carding and staple fiber airlaid systems. Review of background, process technologies and recent developments.</i>	DAVE NELSON, INSTRUCTOR
	Web Forming Technologies - Wetlaid and Short Fiber Airlaid Nonwovens <i>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.</i>	EDWARD THOMAS, INSTRUCTOR
11:00 am	Travel to Nonwovens Institute	
11:30 am	Nonwoven Institute Welcome	DAVE NELSON, INSTRUCTOR
11:40 am	Web Forming and Bonding Technologies - “Polymer to Fabric” Nonwovens <i>Basic principles associated with spunbond, meltblown and film-based nonwovens and the polymers used in their production.</i>	DAVE NELSON, INSTRUCTOR
12:30 pm	LUNCH	NONWOVENS INSTITUTE
1:15 pm	Web Forming and Bonding Technologies (continued) Systems for Spunlaced/ Hydro-entangled nonwovens.	BENOIT MAZE, INSTRUCTOR
3:00 pm	Staple and Polymer Lab Discussion	DAVE NELSON, INSTRUCTOR
3:20 pm	Staple and Polymer Lab Tours and Demonstrations	DAVE NELSON, INSTRUCTOR
5:25 pm	ADJOURNMENT (evening on your own)	



**Day 3**

**Thursday**

8:30 am	CONTINENTAL BREAKFAST	INDA
	Analysis Team Work and Discussion Session	
9:00 am	WEB BONDING TECHNOLOGIES I	EDWARD THOMAS, INSTRUCTOR
	<i>Mechanical bonding principles and systems.</i>	
	WEB BONDING TECHNOLOGIES II	JIM LOFTUS, INDA
	<i>Chemical and thermal bonding principles and systems.</i>	
	NONWOVEN FABRIC FINISHING & CONVERTING	EDWARD THOMAS, INSTRUCTOR
	<i>Principles, processes, and methods used to treat nonwoven fabrics to obtain.</i>	
12:00 pm	TRAVEL TO NONWOVENS INSTITUTE	
12:30 pm	LUNCH	NONWOVENS INSTITUTE
1:15 pm	NONWOVEN FABRIC TEST METHODS AND PROCEDURES	AMY MINTON, LAB MANAGER
2:00 pm	TEST METHODS	AMY MINTON, LAB MANAGER
	<i>Overview of nonwoven test methods and standardization of test procedures.</i>	
3:00 pm	TEST LAB TOURS AND DEMONSTRATIONS	AMY MINTON, LAB MANAGER
5:25 pm	ADJOURNMENT (evening on your own)	

**Day 4**

**Friday**

8:15 am	CONTINENTAL BREAKFAST	INDA
8:45 am	FUTURE TRENDS	DAVE NELSON, INSTRUCTOR
	<i>Projection of future applications and developments in manufacturing materials, processes and products.</i>	
9:30 am	ANALYSIS TEAM PRESENTATIONS	EDWARD THOMAS, INSTRUCTOR
10:30 am	BREAK	
10:45 am	FUTURE DIRECTIONS	JIM LOFTUS, INDA
11:15 am	WORLDWIDE NONWOVEN STATISTICS AND TRENDS	BRAD KALIL, INDA
12:00 pm	LUNCH	INDA
12:30 pm	HOT ITEM UPDATE(S)	JIM LOFTUS, INDA
	<i>Discussion on the Wet Wipe Flushability Threat</i>	
1:30 pm	ADJOURNMENT	
	<i>Please exchange a completed evaluation for your certificate.</i>	