



**Intermediate Nonwovens Training Course
AGENDA**

Ed Thomas
Head of Research and Product Development,
DuPont, Fiberweb, & First Quality (retired)
het852@gmail.com

Behnam Pourdeyhimi, PhD
Professor & Executive Director of The
Nonwovens Institute (NWI) at NC State
University
nonwovens@ncsu.edu

Amy Minton
Physical Testing Lab Manager,
The Nonwovens Institute
nonwovens@ncsu.edu

Benoit Maze, PhD
Director of Education and
Administration, NWI
nonwovens@ncsu.edu

Matt O'Sickey, PhD
Director Education, Technical
Affairs & Events, INDA
mosickey@inda.org

Day 1: Tuesday

8:30 am	Coffee & Pastries	INDA
9:00 am	Introduction	Matt O'Sickey, INDA
9:10 am	Welcome	Ed Thomas, Instructor
9:20 am	Program Preview Video overview, nonwoven markets and product applications, information sources.	Ed Thomas, Instructor
	The World of Nonwovens Hands-on examination of nonwoven fabrics and end-use products illustrating the wide usage of nonwovens. Establishment of "Analysis Teams and Tasks."	Ed Thomas, Instructor
12:00 pm	Lunch	INDA
12:45 pm	Fiber Fundamentals Generic types and characteristics, property comparisons, raw material-fabric property relationships.	Ed Thomas, Instructor
	Nonwovens Technology Primer Definitions of nonwovens, short history of the technical evolution of the industry. Description of basic nonwoven manufacturing principles and systems.	Ed Thomas, Instructor
5:30 pm	Questions and Review of Day 1	Ed Thomas, Instructor
6:00 pm	Adjournment (evening on your own)	



Day 2: Wednesday

8:30 am	Coffee & Pastries	INDA
	Analysis Team Work and Discussion Session	
9:00 am	Web Forming Technologies – Drylaid Nonwovens, Carding, and Crosslapping Analysis of carding and staple fiber airlaid systems. Review of background, process technologies and recent developments.	Behnam Pourdeyhimi, NWI
	Web Forming Technologies – Wetlaid & Short Fiber Airlaid Nonwovens 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.	Ed Thomas, Instructor
11:45 am	Travel to Nonwovens Institute	
12:15 pm	Lunch	Nonwovens Institute
1:00 pm	Nonwoven Institute Welcome	Behnam Pourdeyhimi, NWI
1:10 pm	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.	Behnam Pourdeyhimi, NWI
1:30 pm	Web Forming and Bonding Technologies (con’t) Systems for Spunlaced / Hydro-entangled nonwovens.	Behnam Pourdeyhimi, NWI
3:45 pm	Staple & Polymer Lab Discussion, Tours & Demonstrations	Benoit Maze, NWI
5:00 pm	Networking Reception and Team Project Time	
7:00 pm	Travel Back to INDA	



Day 3: Thursday

8:30 am	Coffee & Pastries	INDA
	Analysis Team Work and Discussion Session	
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	Nonwovens Institute
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.	Amy Minton, NWI
3:15 pm	Test Lab Tours and Demonstrations	Amy Minton, NWI
5:00 pm	Travel back to INDA	
5:25 pm	Adjournment (evening on your own)	



Day 4: Friday

8:15 am	Coffee & Pastries	INDA
8:45 am	<p>Future Trends Projection of future applications and developments in manufacturing materials, processes and products. (This section may move to Thursday afternoon pending how much time is taken for lab tours and demos)</p>	Behnam Pourdeyhimi, NWI
9:30 am	Analysis Team Presentations	Ed Thomas, Instructor
10:30 am	Break	
10:45 am	“New Normals, Newer Normals, and Next Normals” Impacts of Sustainability on Nonwoven Markets	Matt O’Sickey, INDA
11:15 am	“Overview of Nonwoven Markets and Outlook for Nonwoven Filter Media”	Matt O’Sickey, INDA
12:15 pm	<p>Lunch/Course Adjournment Please exchange a completed evaluation for your certificate.</p>	INDA