

Lumber drying for kiln personnel	
	Modules
	Lessons
1	GETTING STARTED
1A	Course introduction
1B	Why wood is dried
1C	Safety
2	WOOD, THE MATERIAL TO BE DRIED
2A	Softwood structure
2B	Hardwood structure (optional)
2C	Moisture content
2D	Oven-dry method (optional)
2E	Moisture content samples (optional)
2F	Wood variability
3	WOOD IN THE KILN ENVIRONMENT
3A	Measuring temperature and humidity
3B	Psychrometrics, EMC
3E	Shrinkage and strength
4	HOW A BOARD DRIES
4A	Water movement in wood
4B	Factors affecting the drying rate
5	STRESS AND DEFECTS
5A	Stress development and relief
5B	Drying defects
6	SCHEDULES
6A	Air drying and predrying (optional)
6B	Types of schedules
6C	Time-based schedules
6D	Moisture-based schedules (optional)
6E	Equalization
6F	Conditioning and cooldown
6G	Selecting an air velocity
6H	Additional schedule considerations
6I	Other schedule considerations
6J	High-temperature drying
6K	Continuous kiln schedules (Optional)

7	HOW KILNS OPERATE
7A	Kiln designs
7B	Steam
7C	Steam-heated kilns, steam delivery
7D	Steam-heated kilns, condensate return
7E	Direct-fired kilns (optional)
7F	Venting and humidification
7G	Fan systems
7H	Baffling
8	PREPARING A CHARGE
8A	Sorting in the sawmill
8B	Stacking
8C	Loading the kiln
8D	Sorting at the planer (optional)
9	DRYING A CHARGE
9A	Preparing to dry
9B	Starting and running the kiln
9C	Moisture meters
9D	MC measurement at the kiln
10	MAINTENANCE
10A	Maintenance, mechanical 1
10B	Maintenance, mechanical 2
10C	How the controller works
10D	Maintenance, control system
10E	Measuring airflow
11	OPERATING EFFICIENTLY
11A	Cost of drying
11B	Energy
11C	Minimizing downtime
12	Continuous improvement
12A	Describing data
12B	Measuring and organizing data
12C	Analysis techniques