

ND Technical Certification Program (TCP)

Suggested (and Required) Online Training Courses

The goal of this document is to create a resource list of recommended courses related to highway construction related training. This list will be updated regularly so please check back.

To those of you that would have attended a certification class that was canceled, required modules are now listed. Certification will be on a per-project basis only. Email notifications will be sent to individuals that were registered for the March 2020 Aggregate and Asphalt Mix Testing course.

This list is **not** meant to be all-inclusive for general training. Many other courses are available. If you know of any that you feel should be added to the list, please let me know. I am also interested in relevant YouTube videos to create a video resource section.

Some courses on the list are new and feedback on content is appreciated dotmaterials@nd.gov

The courses are from a variety of locations but primarily from AASHTO Transportation Curriculum Coordination Council (TC3). The same courses are also available from the Upper Great Plains Transportation Institute (UGPTI) Learning Management System (LMS). Some courses were created by the NDDOT and are self-paced modules on aggregate and soil testing. Some courses were created by other states so they may not be an exact match with the changes the NDDOT made to published AASHTO test methods. **Always refer to the ND specifications for your project and the Field Sampling and Testing Manual.** North Dakota test methods are titled with “ND” at the beginning of the label.

The courses listed on the following pages will be helpful to both inspectors and testers. Many other courses for engineer training are also available. *Employees of NDDOT can access the AASHTO TC3 courses directly through the TC3 site or through the TLN.*

Manuals Used on Construction Projects

TCP Class Manuals

<http://www.dot.nd.gov/divisions/materials/docs/manuals.pdf>

Field Sampling and Testing Manual

<http://www.dot.nd.gov/divisions/materials/testingmanual.htm>

ND Standard Specifications for Roads and Bridges

<http://www.dot.nd.gov/dotnet/supplspecs/StandardSpecs.aspx>

Construction Records Manual

<http://www.dot.nd.gov/manuals/construction/constr-records/constructionmanual.htm>

Materials and Construction Training Course Suggestions
4.15.2020

Transportation Learning Network (TLN)

<https://www.translearning.org/resources/lms-help.php>

TC3 Website - this offers a very easy way to browse courses and descriptions. Courses can be completed on the TLN site or here if you are a NDDOT employee.

<https://tc3.transportation.org/>

You Tube Channel for Test Videos

<https://www.youtube.com/channel/UCpsELE5FYuwvmri0ZZTzU1Q>

Other YouTube Videos

ASTEC Pulse Jet Baghouse: Construction and Operation

<https://www.youtube.com/watch?v=GKR9pMB3fQ>

ASTESC Six Pack

<https://www.youtube.com/watch?v=zBZNbZHop0o>

Double Barrel Drum Mixer

<https://www.youtube.com/watch?v=v6PrPTpXKDY>

Asphalt Batching Plant - animated video, computer audio

https://www.youtube.com/watch?v=Re6bT_uY5KU

Other Links

FHWA Bulletin - Independent Assurance

<https://www.fhwa.dot.gov/pavement/materials/hif12001.pdf>

Transportation Research Circular Glossary of Transportation Construction Quality Assurance Terms

<http://onlinepubs.trb.org/onlinepubs/circulars/ec173.pdf>

Course Title	Subject	Test Method	Origin	Website	Focus	Required for Cert
<i>(Aggregate Temp any or all/Aggregate Field Lab - all)</i>						
Aggregate Sampling Basics (1 hr)	Aggregates	T 2	TC3	TLN/TC3	Testing	Agg Test
Reducing Aggregate Samples (1 hr)	Aggregates	T 248	NDDOT	TLN	Testing	Agg Test
Total Moisture Content of Aggregate, <i>not available in video or module format, review written procedure</i>	Aggregates	T 255	NDDOT		Testing	Agg Test
Sieve Analysis / Gradation (1 hr)	Aggregates	T 27	NDDOT	TLN	Testing	Agg Test
Aggregate Wash Test (1 hr)	Aggregates	T 11	NDDOT	TLN	Testing	Agg Test
<i>(Aggregate Field Lab- all required)</i>						
Lightweight Pieces in Aggregate (1 hr)	Aggregates	T 113	NDDOT	TLN	Testing	Agg Test
Sand Equivalent - <i>not available in module format, YouTube available</i>	Aggregates	T 176	NDDOT	TLN	Testing	Agg Test
Fine Aggregate Angularity - <i>not available in module format, YouTube available</i>	Aggregates	T 304	NDDOT	TLN	Testing	Agg Test
Fractured Faces, <i>not available in video or module format, review written procedure</i>	Aggregates	NDDOT 4	NDDOT		Testing	Agg Test
Flat and Elongated, <i>not available in video or module format, review written procedure</i>	Aggregates	D 4791	NDDOT		Testing	Agg Test
<i>(Asphalt Mix Tester)</i>						
QA: Collecting Data Through Sampling (1 hr)	Asphalt		TC3	TLN/TC3	General	Asphalt Test
QA: Introduction to Quality Assurance Programs (1 hr)	Asphalt		TC3	TLN/TC3	General	Asphalt Test
NDDOT 5 Sampling Asphalt Mixtures, <i>not available in module format, Video available, review written procedure</i>	Asphalt	NDDOT 5			Testing	Asphalt Test
Bulk Specific Gravity of Compacted HMA (1 hr)	Asphalt	T 166	TC3	TLN/TC3	Testing	Asphalt Test
Preparing & Determining the Density of Asphalt Mixture Specimens by Gyratory (1-2 hr)	Asphalt	T 312	TC3	TLN/TC3	Testing	Asphalt Test
Theoretical Maximum Specific Gravity & Density of Asphalt Mix (1-2 hr)	Asphalt	T 209	TC3	TLN/TC3	Testing	Asphalt Test
<i>(Asphalt – other)</i>						
Asphalt Coring, <i>not available in video or module format, review written procedure in Spec Book and Field Sampling and Testing Manual Sections 430</i>	Asphalt	NDDOT			Testing	Informational

Course Title	Subject	Test			Focus	Required for Cert
		Method	Origin	Website		
<i>(Soil Field Tester)</i>						
Microwave Oven Drying Soils (1 hr)	Soils	D 4643	NDDOT	TLN	Testing	Soil Test
Proctor Test (1 hr)	Soils	T 99 T 180	NDDOT	TLN	Testing	Soil Test
Rubber Balloon Test (1 hr)	Soils	D 2167	NDDOT	TLN	Testing	Soil Test
Sand Cone Test (1 hr)	Soils	T 191	NDDOT	TLN	Testing	Soil Test
Soil Moisture Density Test (Intro)	Soils		NDDOT	TLN	Testing	Soil Test
Speedy Moisture Test (1 hr)	Soils	T 217	NDDOT	TLN	Testing	Soil Test

Course Title	Subject	Test		Website	Focus
		Method	Origin		
<i>Other Courses Available</i>					
Superpave Mix Design Process and Analysis	Asphalt		TC3	TLN/TC3	General
HMA Paving Inspection 4.5 Hr	Asphalt		TC3	TLN/TC3	Inspection
Intelligent Compaction (2 hr)	Asphalt		TC3	TLN/TC3	Inspection
Asphalt Binder Content of HMA by Ignition Method (1-2 hr)	Asphalt	T 308	TC3	TLN/TC3	Testing
In-Place Density of Asphalt Mixtures by Nuclear Methods (0.5 hr)	Asphalt	T 355	TC3	TLN/TC3	Testing
In-Place Density of Soil and Soil-Aggregate by Nuclear Methods (0.5 hr)	Asphalt	T 310	TC3	TLN/TC3	Testing
Mechanical Analysis of Extracted Aggregate (1 hr)	Asphalt	T 30	TC3	TLN/TC3	Testing
Resistance of Compacted Asphalt Mixtures to Moisture-Induced Damage (1-2 hr)	Asphalt	T 283	TC3	TLN/TC3	Testing
Construction of PCC Pavement Series (6 hr)	Concrete		TC3	TLN/TC3	Inspection
Inspection of Concrete Pavement Repair, Jointed and CRCP (2.5 hr)	Concrete		TC3	TLN/TC3	Inspection
Air Content of Freshly Mixed Concrete by Pressure Method (1 hr)	Concrete	T 152	TC3	TLN/TC3	Testing
Concrete Making and Curing Test Specimens (0.5 hr)	Concrete	T 23	TC3	TLN/TC3	Testing
Density, Unit Weight, Yield, Air Content of Concrete (1 hr)	Concrete	T 121	TC3	TLN/TC3	Testing
Sampling Freshly Mixed Concrete (0.5 hr)	Concrete	R 60	TC3	TLN/TC3	Testing
Slump of Hydraulic Cement Concrete (0.5 hr)	Concrete	T 119	TC3	TLN/TC3	Testing
Temperature of Freshly Mixed Concrete (0.5 hr)	Concrete	T 309	TC3	TLN/TC3	Testing
Construction Safety: Personal Protective Equipment (1 hr)	Construction		TC3	TLN/TC3	General
Ethics Awareness (3.5 hr)	Construction		TC3	TLN/TC3	General
Geosynthetic Materials: Fundamentals (4 hr)	Construction		TC3	TLN/TC3	General
High Visibility Garments (1 hr)	Construction		TC3	TLN/TC3	General
Highway and Structure Construction: Basic Materials (3 hr)	Construction		TC3	TLN/TC3	General
Math Basics (series)	Construction		TC3	TLN/TC3	General
Plan Reading Basics (1 hr)	Construction		TC3	TLN/TC3	General
PPE Personal Protective Equipment (1 hr)	Construction		TC3	TLN/TC3	General
Safety Orientation (2 hr)	Construction		TC3	TLN/TC3	General
Change Orders, Claims, and Dispute Resolutions (1 hr)	Construction		TC3	TLN/TC3	Inspection
Improving the Daily Diary Basics (1 hr)	Construction		TC3	TLN/TC3	Inspection

Pipe Installation, Inspection and Quality (7 hr)	Construction	TC3	TLN/TC3	Inspection
Materials Testing for Inspectors (5 hr)	Construction	TC3	TLN/TC3	Inspection
Surveying: Construction Basics (3 hr)	Construction	TC3	TLN/TC3	Inspection
Earthwork Series (13 hr)	Soils	TC3	TLN/TC3	General
Compaction Technician Basics (1 hr)	Soils	TC3	TLN/TC3	Inspection