

NDDOT Technician Certification Program

Class Descriptions

Introduction to Asphalt

This is an introductory class that covers basic information on asphalt materials and aggregates. It is taught entirely in a classroom. As of the 2010-2011 season, this class is optional. This class is recommended for individuals with little to no experience with materials testing or working on construction projects. (1 day)

Asphalt Inspection

This is a paving and compaction class for the asphalt inspector and the contractor's superintendent and foreman. It is taught entirely in the classroom and covers subjects such as paver and roller types and operations, specification requirements, and agency and industry roles and responsibilities. A written examination is offered at the completion of the class. New for 2010, this is the only class required to obtain Inspection Certification. However, if you do not have working experience in construction, it is recommended that you attend the Introduction to Asphalt class also. (2.5 days)

Aggregate and Asphalt Mix Testing Certification Required Classes

Classes are held at the NDDOT Materials and Research conference room.

Aggregate Testing and Certification

This class is intended for the individual requesting certification as an Aggregate Lab or Field Tester. All tests and procedures included in our aggregate certification are included. Video demonstration of tests and procedures, laboratory demonstration and practice are included. A written exam and performance exam is offered. (2 days)

This class is a pre-requisite to the Asphalt Mix Testing for Testers class if certification as an Asphalt Mix Tester is desired.

Asphalt Mix Testing for Testers

This class is intended for individuals requesting certification as an Asphalt Mix Tester. This class includes the test methods and test procedures ran on the asphalt mix as well as includes discussion on how the test result are used in the process of developing an asphalt mix design. The class includes video demonstration, discussion, and laboratory practice. A written and performance examination is offered at the completion of the class. (2 days)

It is highly recommended that anyone attending either class **and** requesting certification at the completion of the class, have materials testing experience. A performance exam is offered at the completion of class; however, if you are unfamiliar with test procedures, the performance exam may be completed by appointment, at a later date.

All test procedures are available online in the Field Sampling and Testing Manual.

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

Asphalt Mix Controller Certification Required Classes

Aggregate and Asphalt Mix Testing for Mix Controllers

This class covers quality control and quality assurance testing of aggregates and hot mix asphalt. The class will include a video demonstration of all aggregate and asphalt test procedures as will provide discussion on how to interpret the test results and understand how they influence the quality of the asphalt mix. It is taught entirely in the classroom and attendance is required for Asphalt Mix Controller certification. (3 days)

***Note:** This class is intended for individuals that are seeking Asphalt Mix Controller certification but do not need certification as a tester. If you will be requesting certification as a tester, enroll in Aggregate Testing or Asphalt Mix Testing Certification classes. If you are requesting certification as an Aggregate and/or Asphalt Tester **and** an Asphalt Mix Controller, please contact me.*

Asphalt Mix Controller

This class is taught entirely in the classroom and covers mix design requirements and working ranges as specified by NDDOT QC/QA specifications. It also covers subjects such as blending aggregates, detection of data uniformity and numerous other topics. A written examination is offered at the completion of the class. (3 days)

Soil Testing Class

Soil Field Testing

The tests and procedures ran on soils in the field/construction site are covered in this class.

This class is intended for the individual requesting certification as a Soil Field Tester. All tests and procedures included in Soil Field Testing are included. Video demonstration of tests and procedures, laboratory demonstration and practice are included. A written exam and performance exam is offered. (1 day)

Concrete Field Testing

American Concrete Institute, Concrete Field Testing Technician I certification is accepted for contractors and consultants. Classes are held each year and are sponsored by the ND Ready Mix Association and Midwest Testing/Terracon in Fargo, ND. Please contact the Ready Mix Association for additional information. 701-255-7250

Certifications Offered

Please note the changes to the certification requirements. Attending the Introduction to Asphalt Class has been removed. However, it is recommended that individuals with no working experience in materials testing or construction practices should consider attending the Introduction to Asphalt class.

Asphalt Inspector - requires successful completion of Asphalt Inspection.

Asphalt Controller - requires successful completion of Aggregate and Asphalt Mix Testing for Mix Controllers, Asphalt Inspection and Asphalt Mix Controller.

Aggregate Tester - requires successful completion of an Aggregate Testing and Certification class and performance exam of each test or procedure.

Asphalt Mix Tester - requires successful completion of Aggregate Testing and Certification and Asphalt Mix Testing for Testers, plus a performance exam of each test or procedure.

Soils - requires successful completion of the Soils testing class which includes a performance exam of each procedure.

Certification Renewal

Certification Renewal Classes - classes are required every five years after certification is achieved.

Asphalt Pavement Inspection Certification Renewal - This is a half day refresher class for Asphalt Pavement Inspectors. A written exam is offered at the completion of the class.

Aggregate and Asphalt Certification Renewal - This is a one-day certification renewal class that covers the requirements for Aggregate Testers, Asphalt Mix Testers and Asphalt Mix Controllers. A written exam is offered at the completion of the class.

Individuals that are certified as "Testers" will need to complete the hands-on performance exam in addition to this class. That exam may be scheduled by appointment.

Soils – Successful completion of a certification renewal class and a performance exam of each procedure.

For additional information contact Sharon Taylor at the NDDOT, Materials and Research Division, 701-328-6937 or e-mail at staylor@nd.gov

Aggregate Tests

T 2 - Sampling of Aggregates
T 11 - Materials Finer Than No. 200 Sieve in Mineral Aggregate
T 27 - Sieve Analysis of Fine and Coarse Aggregate
T 248 - Reducing Samples of Aggregate to Testing Size
T 255 - Total Moisture Content of Aggregate
T 84 - Specific Gravity and Absorption of Fine Aggregate
T 85 - Specific Gravity and Absorption of Coarse Aggregate
T 89 - Determining the Liquid Limit of Soils
T 90 - Determining the Plastic Limit and Plasticity Index of Soils
T 113 - Lightweight Pieces in Aggregate
T 176 - Sand Equivalent Test
T 304 - Fine Aggregate Angularity
ASTM D 4791 - Flat or Elongated Particles in Coarse Aggregate
NDDOT 3 - Shale, Hard Iron Oxide
NDDOT 4 - Fractured Particles in Coarse Aggregate

Asphalt Mix Tests

T 245 - Resistance to Plastic Flow of Bituminous Mixtures Using Marshall Apparatus
T 166 - Bulk Specific Gravity of Compacted Asphalt Mixtures Using Saturated Surface-Dry Specimens, Method A
T 209 - Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
T 312 - Preparing and Determining Density of Hot Mix Asphalt (HMA) Specimens by Means of the Superpave Gyratory Compactor
NDDOT 5 - Sampling and Splitting Field Verification Hot Mix Asphalt (HMA) Samples

Soils Field Tests

T 99 & 180 Moisture-Density Relations of Soils
T 191 Density In-Place by the Sand Cone Method
T 217 Determination of Moisture in Soil by Means of Calcium Carbide Gas Pressure Moisture Tester (Speedy)
T 265 Laboratory Determination of Moisture Content of Soils
ASTM D 2167 Density of Soil in Place by the Rubber-Balloon Method
ASM D 4643 Microwave Method of Drying Soils

The test procedures are available in the Field Sampling and Testing Manual.

The manual is available at:

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