



MoDOT Technician Certification Program

Certification Courses Rev:08/20/2020

Figure 2

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TCP Courses Given by State Technical College of Missouri (STC)

Aggregate Technician (AT)

Cost: \$550.00 First Time, \$275.00 Renewal

PDH hours 9

(First Time Only)

No Prerequisite Location: State Tech. College, Linn MO 2 Days - First Time, ½ Day – Renewal

AASHTO R90	Sampling of Aggregates
AASHTO R76/ASTM C 702	Reducing Samples of Aggregate to Testing Size
AASHTO T 11/ASTM C 117	Materials Finer than No. 200 by Washing
AASHTO T 27/ASTM C 136	Sieve Analysis of Fine and Course Aggregates
AASHTO T 255/ASTM C 566	Total Moisture Content of Aggregates by Drying
MoDOT TM 71	Deleterious Content of Aggregate
ASTM D 4791	Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregates
AASHTO T 85/ASTM C 127	Specific Gravity and Absorption of Coarse Aggregate <i>with Emphasis on Absorption</i>

Bituminous Technician (BT)

Cost: \$550.00 First Time, \$275.00 Renewal

PDH hours 9

(First Time Only)

No Prerequisite Location: State Tech. College, Linn MO 2 Days - First Time, ½ Day – Renewal

AASHTO R66	Sampling Asphaltic Materials
AASHTO R97	Sampling Asphaltic Paving Mixtures
AASHTO R 47	Reducing Samples of Asphalt Mixtures to Testing Size
AASHTO T 329	Moisture Content of Asphalt Mixtures by Oven Method
MoDOT TM 54	Determining Asphalt Content of a Bituminous Mixture by Nuclear Method
AASHTO T 166 & T 331	Bulk Specific Gravity of Compacted Bituminous Material
AASHTO T 269/ASTM D 3203	Percent Air voids in Compacted Dense and Open Bituminous Paving Mixtures
MoDOT TM 20	Measurement of Air, Surface or Bituminous Mixture Temperature

Soil Density (SD)

Cost: \$550.00 First Time, \$275.00 Renewal

PDH hours 9

(First Time Only)

No Prerequisite Location: State Tech. College, Linn MO 2 Days - First Time, ½ Day – Renewal

AASHTO T 265	Laboratory Determination of Moisture Content of Soils
AASHTO T 99	Moisture-Density Relations of Soils
MoDOT TM 40	A One-Point Moisture-Density Relations Test for Soils
AASHTO T 310	Density and Moisture Content of Soil and Soil Aggregate by Nuclear Methods (Shallow Depth)
MoDOT TM 35	Moisture Offset Factor for a Nuclear Gauge

Concrete Field/*Advanced Concrete (CF/AC) Cost: \$550.00 First Time, \$375.00 Renewal – (\$375 till 2022)

PDH hours 9

(First Time Only)

No Prerequisite Location: State Tech. College, Linn MO Day 1 of 2 - First Time, ½ Day – Renewal

MoDOT TM20	Measurement of Air, Surface or Bituminous Mixture Temperature
AASHTO R60/ASTM C 172	Sampling of Freshly-Mixed Concrete
ASTM C 1064	Temperature of Freshly-Mixed Portland Cement Concrete
AASHTO T 119/ASTM C 143	Slump of Hydraulic Cement Concrete
AASHTO T 152/ASTM C 231	Air Content of Freshly-Mixed Concrete by the Pressure Method
AASHTO T 23/ASTM C 31	Making and Curing of Concrete Cylinder Specimens in the Field

*Advanced Concrete

(*Prerequisite Concrete Field) Location: State Tech. College, Linn MO Day 2 of 2 - First Time, ½ Day – Renewal

AASHTO T121M/ASTM C138	Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
AASHTO T196M/ASTM C173	Test for Air Content of Freshly Mixed Concrete by the Volumetric Method
AASHTO T 23/ASTM C 31	Making and Curing of Concrete Beam Specimens in the Field

Concrete Strength (CS)

Cost: \$275.00 First Time, \$275.00 Renewal

PDH hours 4

(First Time Only)

No Prerequisite Location: State Tech. College, Linn MO 1 Day - First Time, ½ Day – Renewal

AASHTO T 24/ASTM C 42	Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
AASHTO T 148/ASTM C 174	Measuring Length of Drilled Concrete Cores
AASHTO T 231/ASTM C 617	Capping Cylindrical Concrete Specimens
ASTM C1231	Use of Unbounded Caps in Determination of Compressive Strength of Hardened Cylindrical Concrete Specimens
AASHTO T 22/ASTM C 39	Compressive Strength of Cylindrical Concrete Test Specimens
AASHTO T97/C78	Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)



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Plasticity Index (PI)

Cost: \$275.00 First Time, \$275.00 Renewal

PDH hours 4

No Prerequisite Location: State Tech. College, Linn MO 1 Day - First Time, ½ Day – Renewal (First Time Only)

MoDOT TM 79 Dry Preparation of Disturbed Soil and Soil Aggregate Samples for Test Particle Size Analysis of Soils (Aggregate Specific)

AASHTO T 89 Determining the Liquid Limit of Soils (Aggregate Specific)

AASHTO T90 Determining the Plastic Limit and Plastic Index of Soils (Aggregate Specific)

International Roughness Index (IRI) Profile

Cost: \$275.00

PDH hours 4

No Prerequisite Location: State Tech. College, Linn MO 1 Day (First Time Only)

MoDOT TM 59 Determination of the Surface Profile using the International Roughness Index

TCP Courses Given by Missouri University of Science & Technology

Superpave QC/QA (SP)

Location: S&T Rolla MO

Cost: \$1100.00 First Time, \$625.00 Renewal

PDH hours 36

Prerequisite requirements: Aggregate Technician & Bituminous Technician 5 Days - First Time, 2 Day – Renewal (First Time Only)

AASHTO T 209 Theoretical Maximum Specific Gravity and Density of Hot Mix Asphalt (HMA)

AASHTO T 312 Preparing and Determining the Density of HMA Specimens by Means of the Superpave Gyratory Compactor

AASHTO T 308 Determining the Asphalt Binder Content of HMA by the Ignition Method

AASHTO R 30 Standard Practice for Mixture Conditioning of HMA

Practice for Superpave Volumetric Design for HMA

Standard Specification for Superpave Volumetric Mix Design

Plant Operation

Intro to Superpave

Temperature-Viscosity Relations

Field Verification

Job Mix Formula (JMF) Interpretation

Volumetrics

HMA QC Plan

Pay Factor Theory, QC/QA

Record Keeping, QC/QA

Contract Administration

Random Sampling

HMA Aggregate (Consensus Tests) (HMA)

Cost: \$300.00

PDH hours 4

Prerequisite requirements: Aggregate Technician Location: S&T Rolla MO 1 Day

AASHTO T 176 Plastic Fines in Graded Aggregates and Soils by the Use of the Sand Equivalent Test

AASHTO T 304 Un-compacted Void Content of Fine Aggregate

ASTM D 5821 Standard Test Method for Determining the Percentage of Fractured Particles in Course Aggregates

TSR

Cost: \$300.00

PDH hours 4

Prerequisite requirements: Superpave QC/QA Location: S&T Rolla MO 1 Day

AASHTO T 283 Resistance of Compacted Asphaltic Mixtures to Moisture Induced Damage

Binder Ignition (BI)

Cost: \$300.00

PDH hours 4

Prerequisite requirements: Aggregate Technician & Bituminous Technician Location: S&T Rolla MO 1 Day

AASHTO T 308 Determining the Asphalt Binder Content of Asphalt Mixtures by the Ignition Method



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TCP Courses Given by MoDOT Central Lab

Aggregate Specific Gravity (ASG) Location: MODOT Central Lab Jefferson City Cost: \$250.00 PDH hours 4

- Prerequisite requirements: Aggregate Technician 1 Day
- AASHTO T 84/ASTM C 128 Specific Gravity and Absorption of Fine Aggregate
- AASHTO T 85/ASTM C 127 Specific Gravity and Absorption of Coarse Aggregate
- MoDOT TM 81 Specific Gravity and Absorption of Aggregate Using Automatic Vacuum Sealing Method (Informational Only)

T 85 Absorption (ABS) Location: MODOT Central Lab Jefferson City and on the road Cost: \$100.00 PDH hours 2

- Prerequisite requirements: Aggregate Technician ½ Day
- AASHTO T 85/ASTM C 127 Specific Gravity and Absorption of Coarse Aggregate *with Emphasis on Absorption*

Low Slump (Currently not available) Location: MODOT Central Lab Jefferson City Cost: \$250.00 PDH hours 4

- Prerequisite requirements: Concrete Field 1 Day
- MoDOT TM 36 Nuclear Density of Concrete Overlays
- Volumetric Batched and Continuous Mixed Concrete Plant Calibration

Field Density (FD) (Note: FD is the 2nd half of Soil Density – Field work only) Cost: \$250.00 PDH hours 2

- No Prerequisite Location: MODOT Central Lab Jefferson City 1 Day
- AASHTO T310 Density and Moisture Content of soil and Soil Aggregate by Nuclear Methods (Shallow Depth)
- AASHTO TM 35 Moisture Offset Factor for a Nuclear Gauge
- Gauge Operation: Principles, Safety, Security & Emergency Procedures

***Compressive Strength (CM)** Location: MODOT Central Lab Jefferson City Cost: \$100.00 PDH hours 2

- No Prerequisite ½ Day
- AASHTO T 231/ASTM C 617 Capping Cylindrical Concrete Specimens
- ASTM C1231 Use of Unbounded Caps in Determination of Compressive Strength of Hardened Cylindrical Concrete Specimens
- AASHTO T 22/ASTM C 39 Compressive Strength of Cylindrical Concrete Test Specimens
- (*Prestress/Precast personnel only)