

**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
MATERIALS AND TESTS UNIT
SOILS LABORATORY**

**CERTIFICATION POLICIES: QMS NUCLEAR DENSITY ASPHALT SCHOOL
(MAT 380)**

Course Description: This course is part of the QMS program for asphalt and is designed to instruct technicians and engineers in performing nuclear density acceptance testing for asphalt mixes. Prior to performing density acceptance tests, the technician must be certified by the Department. This requirement applies to either NCDOT contract or design-build projects. ", Ugg'pqv'dgny , "

Prerequisites: NCDOT personnel – Nuclear Safety and Hazardous Materials Course (MAT 250)
Industry personnel - Nuclear Safety and Hazardous Materials Course (submit copy of certificate with registration form unless attending for re-certification)

PDH's: 6

Length of Class: 1 day

Course Materials: Pencil, pen, highlighter, notepad, and calculator

Provided Materials: QMS Nuclear Gauge Operator's Manual

Fees: \$100.00 (nonrefundable)

Fee policies:

1. If the technician can not attend the class, the Soils Laboratory must be notified at least 24 hours prior to class starting. Upon notification the technician can attend class at another date (no additional fees apply).
2. If the technician fails to attend the class, he or she can not attend a class at a later date. The technician must re-register for the next class and pay another registration fee.
3. If a technician is registered for a class and leaves the company prior to class, another technician may attend in their place.
4. No one may attend a class unless he/she has been registered and paid the registration fee.

If the technician attends a class and fails the test, he/she may attend ONE additional class at no charge. When re-taking the class make a note at the top of the enrollment form as "RE-TEST" and include the date the technician originally attended the class. If the

technician fails the test a second time, the registration fee will be charged to retake the class a third time.

5. The NCDOT will accept the required nuclear safety-training certificate as long as the Radiation Protection Section (NCDENR) has approved the training course.

Certification Process: Must attend class and pass a written exam. The exam is open book and the minimum passing grade is 80. Once the technician successfully completes the class he/she will be entered into HiCAMs with a “pending” status. To become a certified QMS nuclear gauge operator, a Technical Trainer must perform the necessary field training with the technician. Call the Soils Laboratory at least two weeks prior to needing the technician certified.

For NCDOT personnel a film badge will have to be ordered unless the technician is already receiving one. Once the film badge arrives (allow two weeks from the day of ordering) the Technical Trainer will call to schedule an appointment for field training. The Technical Trainer will perform the necessary training including the following items: nuclear gauge handling, operation, transportation, radiation safety, and storage. Once the Technical Trainer judges that the technician can properly perform the density acceptance testing and operate, handle, transport, store a nuclear device according to our nuclear license regulations, the Trainer will issue the card(s) and certificate(s).

For industry personnel a Technical Trainer will not perform any field training unless the technician has met the minimum requirements for nuclear gauge operation. The technician’s status will be changed in HiCAMs from “pending” to “active” and he/she will remain certified for 3 years after receiving the field training. The technician must receive an annual review in the field each year by a Technical Trainer, and if warranted, the Technical Trainer can revoke a certification at anytime.

***Note:**

Course Material

- Since non-nuclear gauges will be allowed for density acceptance testing on surface mixes, the class manual and presentation have been modified to include testing procedures for nuclear and non-nuclear gauges.

Full Training Course

- All classes will be held from 8:30 a.m. to 4:30 p.m. As part of the certification process once a technician has satisfactorily completed the QMS Density Gauge Class for the first time, a Technical Trainer will be required to visit with the technician in the field to observe testing procedures and provide any additional training. During this visit Contractor personnel who are being certified for the first time to operate a nuclear density gauge must show proof to the Technical Trainer of satisfactorily completing a Nuclear Safety Training Course with a certified agency. Proof of completing the Nuclear Safety training will not be required if the technician is being certified as a non-nuclear density gauge operator. Department personnel must complete the Nuclear Safety & Hazardous Material Training class to become a nuclear gauge operator.

On-Line Self Study Course (new option)

- In order to increase efficiency for the Department and the private industry, the Soils Laboratory is offering the QMS Density Gauge course as a Self-Study Program. The On-line Self-Study Course is available, as an option, to Department and private industry technicians who have previously passed the course and are re-taking the class to maintain their certification. Course material such as the manual and powerpoint presentation will be provided at the Materials and Tests website.

Under this program it is the student's responsibility to visit the website for reviewing and/or studying the class material in preparation for the written examination. No review of course material will be provided by a Technical Trainer, however course manual will be provided if requested. Exams will be open book and will be administered by Technical Trainers in regional locations. A one hour period of time will be provided to complete the examination. This option will not be available to technicians who are attempting to receive a certification for the first time or technicians whose certification has expired by more than twelve (12) months. The examination will begin at 8:30 am.

Registration

- Important – Prior to a student attending class or taking the written examination for a recertification we must have received the appropriate enrollment form and application fee. A class confirmation letter will be sent for each student attending the training class and the confirmation letter must be presented to the Technical Trainer at the beginning of class. Any technician that has not submitted the proper enrollment form, applicable course fee(s), or fails to provide a copy of the course confirmation letter will not be allowed to attend. **NO EXCEPTIONS.**

All applications (including preferred dates and locations) must be submitted to Mehdi Haeri of the Soils Laboratory at least six weeks prior to the preferred class date (see the bottom of the application for the mailing address). Applications may also be completed and submitted electronically utilizing our website.

For contractor applicants, a non-refundable application fee of US \$100.00 for attending the Full Training Course payable to the NCDOT Materials and Tests Unit shall be sent in with the application form. NCDOT applicants need not send in this fee because the appropriate Division will be charged. For contractor applicants, a non-refundable application fee of US \$25.00 for attending the On-line Self Study course payable to the NCDOT Materials and Tests Unit shall be sent in with the application form. NCDOT applicants need not send in this fee because the appropriate Division will be charged.