

**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.

**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.