PURPOSE: This course is designed to help Environmental Health Specialists determine soil mineralogy while conducting soil evaluations for on-site wastewater systems. Attendees should leave the course with a better knowledge of soil mineralogy and expansive clays.

TARGET AUDIENCE: Environmental Health Specialists, Supervisors, Program Specialists, Coordinators, and Soil Scientists working at local health departments.

CREDIT:
Environmental Health Specialists (EHS): Application has been made to the N.C. State Board of Environmental Health Specialist Examiners for 6.25 hours of continuing education credit.

REGISTRATION INFORMATION:
http://ncehsop.org

Fees: $50

Course limited to 30 registrants!

All registrations and payments must be postmarked at least 7 calendar days from the first day of the course in order to be registered.
AGENDA

April 29, 2016 (6.25 hours)

8:00 - 8:30 a.m.  Registration

8:30 – 9:30 a.m.  Soil Mineralogy  Alan Clapp

- Mineral structures overview
- 1:1 clay mineralogy systems
- 2:1 clay mineralogy systems
- Mixed mineralogy systems
- Shrinking and swelling of soils
- Influence of weathering on occurrence and distribution of various clay mineral systems
- Parent material relationships to mineralogy

X-Ray Diffraction of Basic Structural Properties of Clay Minerals

- X-ray diffraction as an analytical tool
- Clay mineral structures related to x-ray diffraction patterns
- Basic interpretation of x-ray diffraction patterns

9:30 – 10:15 a.m.  Methods to Characterize Soil expansive Characteristics  Neal Floyd

- COLE (Coefficient of Linear Expansibility)
- Apparent CEC (Cation Exchange Capacity)
- Atterberg limits
- Plasticity, stickiness and moist consistence

10:15 – 10:30 a.m.  Break

10:30 – 11:00 a.m.  Mineralogy and the On-Site Wastewater Rules  Kevin Neal

11:00 – 12:00 p.m.  Classroom Practicum  Group activity

- Evaluation of known samples
- Moist consistence
- Wet consistence
- Determination of expansive characteristics from field morphology

12:00 – 1:30 p.m.  Lunch

1:30 – 2:30 p.m.  Taxonomic Classification of Mineralogy  Staff

- Soil Taxonomy overview
- Control section defined
- Mineralogy classes and criteria to define these classes
- Using Field Book for Describing and Sampling Soils
- Soil series of North Carolina

2:30 – 3:30 p.m.  Evaluate four soils for morphology and expansive clay  Group activity

3:30 – 3:45 p.m.  Break

3:45 – 4:45 p.m.  Evaluate four soils for morphology and expansive clay (continued)

4:45 p.m.  Adjourn/Evaluations

Evaluating Clay Mineralogy for On-Site Wastewater Systems

April 29, 2016

NC Cooperative Extension/Orange County Center
306-E Revere Rd.
Hillsborough, NC 27278
http://ncehsop.org/

Registration Form

Course Title & Date: ______________________________________________________________________

First & Last Name: ______________________________________________________________________

E-mail: ________________________________________________________________________________

Contact Number: _______________________________________________________________________

County of Employment: ___________________ REHS/Intern Number:__________

Supervisor Name: ______________________________________________________________________

Emergency Contact:

Name: ___________________________ Relationship:____________________

Address:____________________________ Telephone:________________________

***Please specify if special accommodations are needed***

____________________________________________________________________________________

All information must be completed and returned to:

NCEHSOP - PO BOX 316 - Wentworth, NC 27375

With payment of check or money order made out to NCEHSOP for the total of: $50.00; must be postmarked at least 7 calendar days from the first day of the course in order to be registered.

Upon payment approval your registration will be confirmed.