The Connections Course

QSP Track Syllabus

Lesson 1: Erosion and Sediment Theory and Hydrology

Learning Objectives: Learn the basic principles of erosion and sedimentation theory, understand how the hydrologic cycle affects the hydrology of a construction site, learn how to convert rainfall volume data to runoff values, and calculate soil loss for a variety of surface conditions at a project site.

Learning Activity	Format	Estimated contact time	Learning evaluation method
Read the online course instructions and introduction and watch an introductory video about erosion and sediment theory.	Online independent study	0.25 hours	Online learning quiz 30 minutes
Read Chapters 1, 2, and *Do Your Homework First* and *Crunch the Numbers* sections in Chapter 5 of The Raindrop Connection textbook.	Independent reading	1.5 hours	
Watch WGR's Grand Canyon video series on erosion theory.	Video series	1.25 hours	
In-Person Class: *Hydrology 101:* *The hydrologic cycle, runoff coefficients, runoff curve numbers, the rational equation, and the RUSLE*	In-person class with PowerPoint slides, videos, and example problems worked out on a white board	2 hours	Participation with instructor and evaluation by the instructor
Homework Assignment: *Math Practice Problems: calculating average runoff coefficients; runoff using runoff curve numbers, land cover, and soil type; the rational equation; and RUSLE*	Homework assignment handed out at the in-person class	2 hours	Homework assignment reviewed by the instructor with constructive feedback provided
Total Contact Time: 7.5 hours			

Lesson 2: Pollutant Source Assessment

Learning Objectives: Be able to "connect the dots" between construction site activities, materials and pollutant sources being used, the pollutants present, and how storm water runoff may contact or mobilize those pollutants.

Learning Activity	Format	Estimated contact time	Learning evaluation method
Watch an introductory video about pollutant sources at construction sites.	Online independent study	0.25 hours	Online learning quiz 30 minutes
Read Chapter 3 of The Raindrop Connection textbook.	Independent reading	2 hours	
Homework Assignment: *Go to a hardware store and identify and photograph six chemical-containing products that might be used on a construction site. Look up online the safety data sheet for each product. Provide a written summary of the six products including their physical characteristics, pollutants present in them, and their potential impact to water quality.*	Homework assignment	4 hours	Homework assignment reviewed by the instructor with constructive feedback provided
Total Contact Time: 6.75 hours			

Lesson 3: Best Management Practices

Learning Objectives: Building on the previous lesson to further "connect the dots" between construction site activities, materials, and pollutant sources in order to select appropriate Best Management Practices. Understand proper techniques for BMP installation, inspection, and maintenance.

Learning Activity	Format	Estimated contact time	Learning evaluation method
Watch an introductory video about best management practices (BMPs).	Online independent study	0.25 hours	Online learning quiz 30 minutes
Read Chapter 4 of The Raindrop Connection textbook.	Independent reading	4 hours	

In-Person Class: *Utilizing WGR's Construction Sandbox (or similar) arrangement, review BMP installation techniques, maintenance protocols, and inspection criteria for erosion, sediment, treatment, and good housekeeping BMPs.*	In-person class	4 hours	Participation with instructor and evaluation by the instructor
Total Contact Time: 8.75 hours			

Lesson 4: Performing Inspections and Monitoring at Construction Sites

Learning Objectives: Learn the proper elements of an effective inspection and monitoring program. Learn how to approach a site inspection, what to look for, and how to document observations and items needing corrective action. QSP students must demonstrate they can perform an adequate and compliant inspection.

Learning Activity	Format	Estimated contact time	Learning evaluation method
Watch an introductory video about performing inspections.	Online independent study	0.25 hours	Online learning quiz 30 minutes
Read Chapter 6 of The Raindrop Connection textbook.	Independent reading	2 hours	
Watch a WGR-produced online video about calibrating and using pH and turbidity meters.	Online independent study	0.5 hours	
Field-trip: *Visit a local active construction project (selected by the instructor) and, while remaining on public property, perform a pre-storm inspection.*	In-person class	3 hours	Participation with instructor and evaluation by the instructor
Homework Assignment: *Each student is to identify another construction site, visit it, and, while standing on public property in a safe location, perform their own pre-storm inspection. The inspection will need to be populated onto the online inspection app provided by WGR and will need to include photos and corrective action items as applicable.*	Homework assignment	2 hours	Homework assignment reviewed by the instructor with constructive feedback provided
Total Contact Time: 8.25 hours			