

Technician Development Program (TDP)

Class Offerings & Descriptions

Participants who enroll in the entire Level 1 series will receive a tool kit that includes most basic tools needed in the TDP classes.

(Includes: 2 Triangles, Scientific Calculator, Scale, Protractor, Dot Grid, and a Magnifying Glass.

TDP Level 1 Classes					
Class Description	Class Length	Last Offered	Specific Tools, Supplies & Equipment Needed for Class	Class Attire	Recommended Minimum Prerequisites
Eng. Tools & References - This course provides an overview of the basic manuals and policies that technicians use in their normal work assignments. Basic engineering tools are also discussed and utilized as part of this TDP introductory course.	1 Day	Annually	<ul style="list-style-type: none"> ○ Triangle ○ Scientific Calculator ○ Engineers Scale 	Classroom Setting	None
Plan/Prep & Math Refresher - Learn the requirements of engineering plans for different practices and the procedure for planning, designing, and constructing practices. - Learn or refresh your memory on the math skills necessary to complete the TDP class work. Subjects include instruction on using an engineer's scale and the TI-30 calculator's advanced features as well as other topics.	1 Day	Annually	<ul style="list-style-type: none"> ○ Scientific Calculator ○ Protractor ○ Engineers Scale ○ 45 Degree Triangle ○ 30-60-90 Triangle 	Classroom Setting	Review EFH Chapter 5
Run-off Hydrology - A course designed to teach the terminology and methods used to generate surface runoff quantities and flow rates in rural agricultural land use settings. Upon completion, students should be capable of calculating runoff & peak discharge of various storm events using NRCS approved methods.	1 Day	Annually	<ul style="list-style-type: none"> ○ Dot Grid ○ Engineers Scale ○ Scientific Calculator ○ Triangle 	Classroom Setting	Review EFH Chapter 2
Surveying w/ Levels - This course provides instruction on the terms used in surveying, the trigonometry used in surveys, types of surveys, instrument set-up, survey notes, and rods used. A field exercise demonstrating the process for performing a bench level circuit and completing cross sections is included in this session. Laser levels are also discussed.	2 Days	Annually	<ul style="list-style-type: none"> ○ Scientific Calculator ○ Survey Book ○ Engineers Scale ○ Triangle ○ Protractor ○ Level ○ Rod & recover ○ Tripod ○ Charged batteries 	Prepare for Outdoors	Review EFH Chapter 1
Basic Soils - A course designed to introduce students to soil surveys, soil properties, USDA soil classification system, and unified classification system. The class includes field exercises to practice identifying and classifying soils in the field.	2 Days	Annually	<ul style="list-style-type: none"> ○ Hand Lens ○ Clip Board ○ Hard Hat 	Dress appropriately to work with soils, Prepare for Outdoors	None

TDP Level 2 Classes

Class Description	Class Length	Last Offered	Specific Tools, Supplies & Equipment Needed for Class	Class Attire	Recommended Minimum Prerequisites
<p>Transit Survey - This class provides an introduction to the terminology, processes, and skills necessary to perform conservation quality surveys using a transit or theodolite. Some topics included are: surveying definitions, instrument setup, reading angles with a vernier scale, traversing, topographic surveys, recording and reduction of notes, and surveying error. Upon completion, student should be capable of performing basic traverses and topographic surveys.</p>	2 Days	Bi-annually	<ul style="list-style-type: none"> ○ Transit or Theodolite ○ Tripod ○ Plumb Bob ○ 100' Chain/Tape ○ Surveying Rod ○ Tape Measure ○ Scientific Calculator ○ Engineers Scale ○ Protractor ○ Survey book/Clip board 	Prepare for Outdoors	TDP 1 – Surveying w/ Levels TDP 1 – Math Refresher Review EFH Chapter 1
<p>Basic Hydraulics - This course introduces the technician to a basic understanding of water flow. Topics covered are hydrostatics, hydrokinetics, pipe flow – hydraulics of pipelines, drop inlets and straight pipes, orifice and weir flow, hydraulics of culverts, and open channel flow concepts along with calculations to determine the normal flow depths for steady uniform flow conditions. The course includes two lab examples to demonstrate pipe flow conditions and a video to help visualize pipe and open channel flow conditions.</p>	2 Days	Bi-annually	<ul style="list-style-type: none"> ○ Scientific Calculator ○ Engineers Scale ○ Triangle 	Classroom Setting	TDP 1 – Math Refresher Review EFH Chapter 2
<p>Grassed Waterways - This course provides instruction on the design and layout of grassed waterways to provide for a stable field channel. The grassed waterway is sized based on a design flow using steady uniform flow concepts. The design has to be stable for short-grass (mowed) conditions and long-grass (un-mowed) conditions. Additionally, channel design velocities need to be maintained sufficiently so that sediment does not accumulate within the grassed waterway.</p>	1 Day	Bi-annually	<ul style="list-style-type: none"> ○ Scientific Calculator ○ Triangle ○ Engineers Scale 	Classroom Setting	TDP 1 – Runoff Hydrology TDP 2 - Basic Hydraulics Review EFH Chapter 7

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TDP Level 2 Classes cont...

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<p>Grade Stabilization/Structures - This course provides instruction on the design and construction of grade stabilization practices. These structures are typically constructed to provide grade and gully control, water storage, and stream bank protection. Some of the structures covered include box inlet drop spillways, rock chutes, and pipe drops.</p>	2 Days	Bi-annually	<ul style="list-style-type: none"> ○ Scientific Calculator ○ Triangle ○ Engineers Scale 	Classroom Setting	TDP 1 – Runoff Hydrology TDP 2 - Basic Hydraulics Review EFH Chapter 6
<p>Ponds - The goal of this course is to provide the necessary basic skills to properly site, size, and design small agricultural and recreational use of ponds and earthen embankments. Some topics included are: Ohio Dam Laws and Permitting, pond site selection, principal spillway design, emergency spillway design, and earthen embankment construction. Upon completion, students should be capable of designing and quantifying materials required for construction of small ponds.</p>	2 Days	Bi-annually	<ul style="list-style-type: none"> ○ Dot Grid ○ Engineers Scale ○ Scientific Calculator ○ Triangle ○ Reference Material from the Hydrology, Hydraulics, Structures and Waterway TDP training 	Classroom Setting	TDP 1 – Runoff Hydrology TDP 2 - Basic Hydraulics TDP 2 – Grade Structures TDP 2 – Soils Engineering Review EFH Chapter 11
<p>Soils Engineering - This course provides instruction on the engineering properties of soil and its use as a construction material and as a foundation for structures. Topics covered will include: Unified Soil Classification System, field I.D. of soils, soil compaction, soil permeability, and aggregate gradation.</p>	2 Days	Bi-annually	<ul style="list-style-type: none"> ○ Scientific Calculator ○ Engineers Scale 	Dress appropriately to work with soil and aggregate in a classroom setting.	TDP 1 – Basic Soils Review EFH Chapter 4
<p>Construction Inspection - A course designed to provide the basic knowledge to conduct construction inspection of projects involving concrete, piping and lumber. The course also provides instruction on project layout and construction safety.</p>	3 Days	Bi-annually	<ul style="list-style-type: none"> ○ Scientific Calculator ○ Engineers Scale ○ Triangle ○ 200 ft. Chain/Tape ○ Protractor ○ Theodolite/Transit ○ Tripod 	Dress appropriately to work with concrete, concrete forms, aggregation, steel etc.	Review EFH Chapter 17 Review NEH Chapter 19