

## OJT Training Module Cover Sheet

<b>Title:</b> 1111 How to use the <i>Illustrated Guide to Soil Taxonomy</i> to understand the soils of the area
<b>Type:</b> <input type="checkbox"/> Skill <input checked="" type="checkbox"/> Knowledge
<b>Performance Objective:</b> Trainee will be able to... <ul style="list-style-type: none"><li>• Understand the content and organization of the <i>Illustrated Guide to Soil Taxonomy</i> (IGST).</li><li>• Understand the relationship between the soil orders, suborders, and great groups of the local area and the land management decisions for the local area.</li></ul>
<b>Target Proficiency:</b> <input type="checkbox"/> Awareness <input checked="" type="checkbox"/> Understanding <input type="checkbox"/> Perform with supervision <input type="checkbox"/> Apply independently <input type="checkbox"/> Proficiency, can teach others
<b>Trainer Preparation:</b> <ul style="list-style-type: none"><li>• Be familiar with the assigned reading and review material in the lesson plan that follows.</li><li>• Note that this module does not target classifying soils as a goal but is intended to train someone how to use IGST to understand the relationship between their local soils and land management decisions.</li><li>• You must take IGST to the field with you.</li><li>• If possible, select a number of sites representative of the soils in the trainee's area, preferably sites with existing descriptions and data that could be related to profiles observed. Otherwise, select sites common to the area. Consider asking the trainee for areas of interest.</li><li>• Since IGST classifies only to the great group level, do not examine data beyond what is needed for IGST classification. For example, base saturation data may be all that is needed to distinguish an Alfisol from an Ultisol.</li></ul>
<b>Special Requirements:</b> Initiate an external learning request with a SF-182 in Aglearn for this activity. Instructions and a template are located on the training webpages for OJT modules.
<b>Prerequisite Modules:</b> None
<b>Notes:</b> <ul style="list-style-type: none"><li>• This module uses IGST to help someone who is not a soil scientist understand the soils in their area.</li><li>• Address the major areas of the trainee's area and avoid those parts of taxonomy that address soils not found locally.</li><li>• You can use existing soil monoliths to begin training but should consider field exercises for hands-on training.</li></ul>

**Authors:**

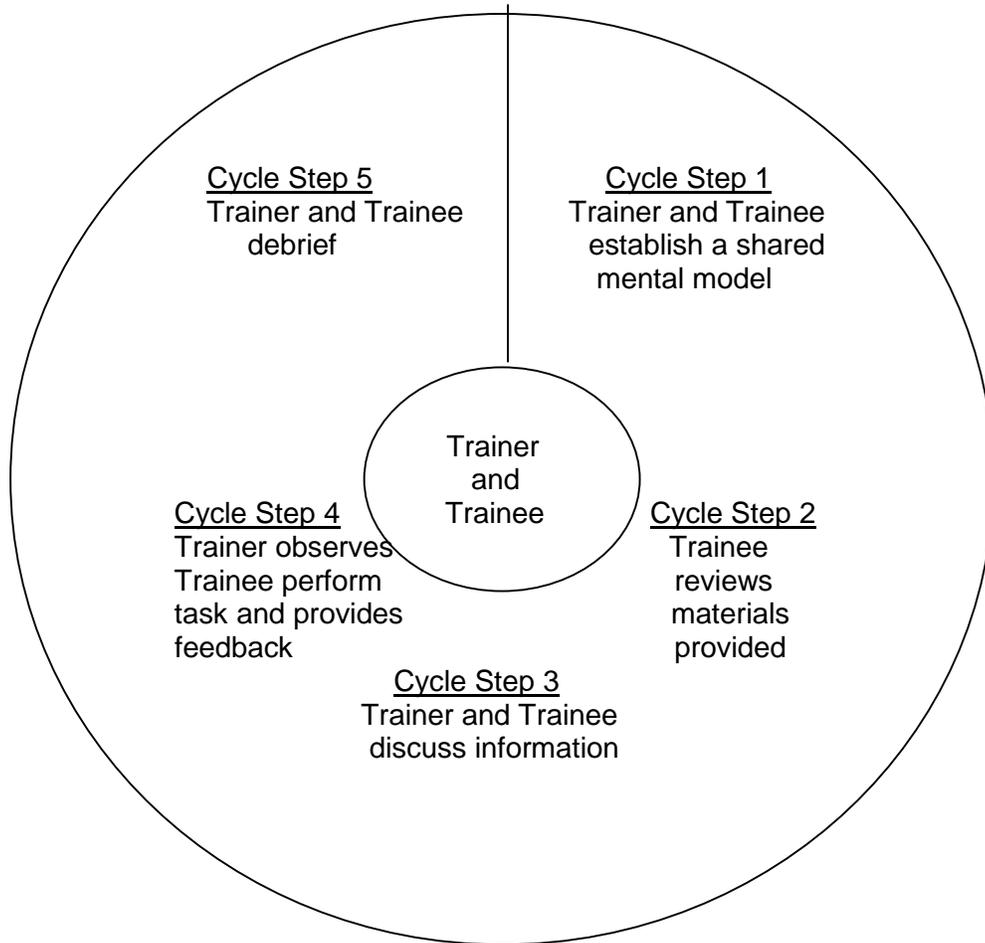
Marc Crouch

**Approved by:**

Craig Ditzler

Shawn McVey

# The Five-Step OJT Cycle for Declarative Training (Knowledge)



## OJT Module Lesson

Title: 1111 How to use the <i>Illustrated Guide to Soil Taxonomy</i> to understand the soils of the area	
WHAT	WHY, WHEN, WHERE, HOW, SAFETY, QUALITY
Cycle Step 1	<p>You and trainee review the objectives of the module.</p> <p>Review the IGST Foreword and discuss the potential uses and limitations of the guide. Review Part 1—How to Use This Version of the Keys.</p> <p>Consider using the <i>Guide to Pronouncing Taxonomic Terms</i>, located online, during training.</p>
Cycle Step 2	Use IGST for determination of the following for each pedon. Trainee observes.
1. Where are you in the environment?	<ul style="list-style-type: none"> <li>• Where are you in the United States according to the maps provided in the guide?</li> <li>• What is the landscape you are observing and how does it influence soil formation?</li> <li>• What is the landform you are observing and how does it influence soil formation?</li> <li>• What is the surface morphology and how does it affect soil formation?</li> <li>• What is the temperature regime for the area and how does it affect soil formation and classification?</li> </ul>
2. Describe the soil profile.	<ul style="list-style-type: none"> <li>• Use standard horizon nomenclature.</li> <li>• Discuss how horizon nomenclature is significant when classifying the soil using IGST.</li> </ul>
3. Determine which diagnostic horizons and characteristics are present.	<ul style="list-style-type: none"> <li>• Determine which epipedon is observed.</li> <li>• Review the epipedons typical to your area using the IGST descriptions and profile images.</li> <li>• Determine what other diagnostic subsurface horizons and characteristics are present.</li> <li>• Review those characteristics typical to your area using the IGST descriptions and profile images.</li> </ul>
4. What is the moisture regime?	<ul style="list-style-type: none"> <li>• During your initial observation of the whole pedon, determine the moisture regime and how it affects soil formation and classification.</li> </ul>

<p>5. Determine the classification.</p>	<p>Use the IGST Key to Soil Orders to determine the <b>order</b> for the pedon observed.</p> <ul style="list-style-type: none"> <li>• Use existing data if available.</li> <li>• Review the general characteristics of the order.</li> <li>• Review the environment and processes related to the order.</li> <li>• Where does the order generally occur in the world and the United States, according to the guide?</li> <li>• Review other soil orders that typically occur in your area.</li> </ul>
	<p>Use the IGST Key to Suborders for the order selected to determine the <b>suborder</b>.</p> <ul style="list-style-type: none"> <li>• What observed characteristics influenced your decision during the keying process?</li> <li>• How does the guide describe this suborder?</li> <li>• Review other soil suborders in this order that typically occur in your area.</li> </ul>
	<p>Use the IGST Key to Great Groups for the suborder selected to determine the <b>great group</b>.</p> <ul style="list-style-type: none"> <li>• What observed characteristics influenced your decision during the keying process?</li> <li>• How does the guide describe this great group?</li> <li>• Review other great groups in this suborder that typically occur in your area.</li> </ul>
<p>6. Soil profiles</p>	<p>Does the soil pedon observed in the field relate to any soil profile images of the order, suborder, or great group in the guide? Use this as an opportunity for discussion.</p> <ul style="list-style-type: none"> <li>• How are the pedon observed and image different?</li> <li>• How are the pedon observed and image similar?</li> <li>• Discuss how taxonomic groups are based on a limited number of key properties that they all share. Discuss the wide variation in classes for other properties, especially in the higher taxa.</li> <li>• Discuss how soil scientists narrow the ranges as they use the classification system (especially in keying beyond the great groups into subgroups, families, and soil series).</li> </ul>
<p>7. Land management</p>	<ul style="list-style-type: none"> <li>• Describe, based on what you now know, how this soil could influence future land management decisions.</li> </ul>

	<ul style="list-style-type: none"><li>• Discuss how keying through IGST using observed characteristics will help in making these decisions.</li></ul>
Cycle Step 3	Describe subsequent soils following the sequence for Step 2. Trainee uses IGST to answer all questions listed.
Cycle Steps 4 and 5	Debrief and address questions and concerns.

## OJT Module Lesson Measurement of Learning

Title: 1111 How to use the <i>Illustrated Guide to Soil Taxonomy</i> to understand the soils of the area	
WHAT	WHY, WHEN, WHERE, HOW, SAFETY, QUALITY
Select two or more soils common to the trainee's area. Provide the OSD and the order, suborder, and great group for each.	Trainee uses IGST to: <ul style="list-style-type: none"><li>• Describe where the soil is in the environment.</li><li>• Describe the environment and processes related to the soil order.</li><li>• Describe the characteristics needed to key the soil into the suborder and their relationship, if any, to the pedon description and horizon nomenclature.</li><li>• Describe the characteristics for keying the soil into the great group and their relationship, if any, to the pedon description and horizon nomenclature.</li><li>• Describe the relationship between soil classification and land management decisions for the local area.</li></ul>

### SF-182

Trainee and/or supervisor access Aglearn to verify completion of the module via its SF-182.