**Excel & Advanced Sales Ratio Analysis**

**- 4 Hour Course Outline -**

1. Introduction, Course Overview, & General System Configuration Updates, etc.
   1. Turning on PowerPivot for Use later
   2. Overview of Setups
2. Brief Excel Overview/Intro
   1. Basic Overview of Excel
   2. Primary Excel Functions Used for this course (very short overview of what to expect, review of Intro to Excel for Assessors).
      1. Fill
      2. Sort
      3. Filter
      4. Tables
      5. If Statements
      6. VLOOKUP
      7. Pivot Tables
3. Applying Intro Skills to CAMA Outputs or MN DOR Files **(Advanced Sales Ratio.xlsx)**
   1. Importing different Types of Files
   2. Data Tools
   3. Conditional Formatting/Auto-Complete
   4. Filter vs. Sort
   5. Formula Setups
      1. Recreate Trend Appeal Formula & What-If for Appeal Discussion
      2. Land EMV by eCRV
      3. Building EMV by eCRV
      4. Aggregate Value by eCRV
      5. Structure information by PIN for both Res/Com/Ind
      6. What-If setups by Type – New Tab
4. Pivot Tables **(Advanced Sales Ratio.xlsx)**
   1. Creating New Pivot Table using data from CAMA Outputs & DOR Files
   2. Basic Overview of Functionality & Statistics that can be gathered.
      1. Count, Average, Min, Max, etc.
   3. Applying PivotChart for Visualization
5. Power Pivot **(Advanced Sales Ratio.xlsx)**
   1. Adding Data to your Data Model
   2. Creating Measures – Setup for Median, COD, PRD, What-if’s (for Structure Changes, Trend Appeals etc.)
   3. Once Measures are set up, tweak factors to see impacts on Median, COD, PRD’s to meet State guidelines.

**General Notes:** Excel & Advanced Sales Ratio Analysis will build upon the more advanced concepts taught in Intro & Advanced Excel for Assessors. The course will utilize a MN DOR sales list and Microsoft Excel to efficiently perform several stratifications to aid in the completion of a mock Sales Ratio Analysis.