**Connecticut Common Core Algebra 2 Curriculum**

**Professional Development Plan**

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| **Unit 8** |
| **Date:** | **Location:**  |
| Presenters:  |
| **Schedule for the day:****Start time: 1 PM****End time: 4 PM** Opener 1:00 – 1:15 unit 8 intro 1:20 – 1:50 Session 1  1:55 – 2:25 Session 2  2:35 – 4:00 Large group/closing2:35 – 3:00 Activity 8.6.6 and unit 8 PF Large group  3:00- 3:40 Pair and share planning activities 2.2.2 and 2.2.3 3:40 - 4Closing—hints for planning and managing the classroom |
| **Opening Session****Power point overview of unit 8**—present different ways parts of this unit can be completed since many will only have a bit of time at the end of the school year. |
| **Workshop 1** | **Presenter :** |
| Activity 8.1.4 Multiplying matrices in a context by hand and with technology discover how to multiply and interpret entries in the context of the problem.Activity 8.1.5 Laws of Matrices. Time permitting—distribute and discuss Which ones work and which ones don’t if we try to mimic the Real Number Properties? Provides overview of all activities in investigation one. | **Equipment and Materials****Power point**Hard copy of activity 8.1.4 and 8.1.53x5 notecards – 5 per person for suggestionsPads of post-it-notesTI grapher |
| **Workshop 2** | **Presenter:**  |
| Activities 8.3.4 and 8.3.5(15 minutes) Group activity: Am I your Inverse?Use technologyRelate to real number property of inverses.Set stage for being able to find the inverse matrix of a 2 X2 and a 3 X 3 and the big question, “Does every square matrix have an inverse?” (15 minutes) Then Activity 8.3.5 on Cable TV with encoding and decoding applied to Cable TV. Let participants work through the activity as if they were students | **Equipment and Materials**Hard copy of the activity 8.3.4 and 8.3.53x5 notecards – 5 per person for suggestionsPads of post-it-notesTI calculators |
| **Closing Session** **Unit 8 need copies of activities 8.6.2ans, 8.6.3ans, 8.6.5**. First discuss a Markov chain and a transition or stochastic matrix and a probability vector. Distribute activities 8.6.2ans and 8.6.3 and discuss. Talk about a PF if class has only completed inv 1 – 5. Then the PF provided which needs investigation 6 which mirrors the work found in this last activity 8.6.5. If doing the PF for which a model is provided, students need to come up with a context that is modeled by a square stochastic matrix T and to guarantee a unique steady state--- need for the original matrix to have no zero entries and if it does, then at least some power of T must have all positive entries.Then teachers will work in small group on one of two activities 1.2.2 or 1.2.3 for 30 minutes, then swap and share planning suggestions for 10 minutes**.** They did 1.2.1 in a workshop. **They need copies of unit 1 overview and investigation** **1 overview and activities 1.2.2 and 1.2.3**Lastly, summarize in large group and extend discussion to hints and planning for the new semester.3 by 5 cards with suggestions can also be addressed as time permits. |
| **Additional Comments** |