1. **Linear Programming Unit using Understanding by Design**

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| **Topic** | UbD / UDL Descriptive |
| What are the essential understandings required for the student? | Students will be able to see how math can help us make the best of the choices available to us, based on our goals or objectives and on the constraints or limits placed on our choices. |
| What student understandings are desired? | Students will understand that math can be used to determine the optimal solution from a range of possible solutions within certain limits or constraints |
| What are the knowledge and skills the student will gain from this unit / segment? | 1. Set up a linear programming problem 2. Solve a linear programming problem 3. Graph a system of linear inequalities 4. Solve a system of equations to find the corner points of the feasible region |
| What tasks / assignments might a student be given to demonstrate their understandings? | Homework and quizzes on setting up a linear programming problem and solving it graphically |
| Are there multiple ways these tasks / assignments might be represented? | Worksheets.  Paid subscription to Online Learning System  Free online materials |
| What tasks might the student be given to demonstrate their pre-requisite essential knowledge? | PreTest  Assessment on Online Learning System |
| What evidence should documented for these tasks / assignments? | Score on Online Learning System |
| Are there multiple ways the evidence might be represented? |  |
| How best might this segment be expressed to the student? | Present information on:   1. Solve a system of linear equations. 2. Graph a system of linear inequalities 3. Solve a linear programming problem. 4. Set up a linear programming problem   Guided practice on setting up a linear programming problem and solving it graphically. |
| Are there multiple ways to express this segment? | Lecture.  Video.  Active learning.  Paid subscription to Online Learning System  Free online materials. |