

### **Fall 2020 CIS 3362 Homework #3 Grading Criteria**

1) 20 pts - Grade holistically based on the effort communicated in guesses for the box and what happened when those guesses were applied. 15 pts for the effort of figuring out the box (take off 1 pt if they have the first row last, or something of that nature), 5 pts for stating the whole plaintext, conversely if someone gets the box and the message but doesn't communicate any effort, award 5 out of 20. Max of 15 out of 20 for students who worked hard but didn't get the box or message.

2) 20 pts - definitely needs attached code. Even if they didn't get it to work, here are how pts should be awarded:

5 pts - looping through all a,b,c,d

5 pts - correctly encrypting the ciphertext for each possible a,b,c,d

5 pts - for having some reasonable mechanism to reduce how many potential plaintexts

To look through (e.g. a guess at a word, I.C or even maybe some other measure.)

3 pts - stating the answer

2 pts - stating the decryption key

3) 12 pts - 2 pts swap a and d, 2 pts negate b, c, 2 pts determinant calculation, 2 pts mult by determinant, 4 pts simplify each value to 0 to 25 range.

4) 20 pts - 4 pts for setting up the four equations, 6 pts for solving the system with a and b, 6 pts for solving the system with c and d, 3 pts for using the solutions to narrow down to 4 possible keys and listing those, 1 pt for getting it down to 2 keys after looking at the determinant.

5) 12 pts - 2 pts per pair, give 1 if arithmetic off for a pair but multiplication set up is correct

6) 16 pts - 3 pts numbering columns, 5 pts copying ciphertext into the grid by columns, 3 pts reading the grid by rows, 5 pts using the look up table to get the plaintext.