

# MA111: Contemporary mathematics

**Entrance Slip** (due 5 min past the hour):

Does this secret message    **“DRSC AESJ SC GKI DYY OKCI”**  
   say    **“this quiz is way too hard”**?

Why or why not? If not, what does it say?

Schedule:

- HW 1 is due 7am Wednesday, Oct 8th, 2014
- Mini-Exam 2 is in-class on Thursday, Oct 9th, 2014
- HW 2 is due 7am Wednesday, Oct 15th, 2014
- HW 3 is due 7am Wednesday, Oct 22nd, 2014
- Exam 2 is in-class on Thursday, Oct 23rd, 2014

Today we investigate secret codes.

# While we are passing out the worksheet...

- Please turn in your entrance slips. We will do this every non-exam day.  
Please bring your own 3x5 index cards.

**"DRSC AESJ SC GKI DYY OKCI"**

**"this quiz is way too hard"**

- Who knows why the proposed decoded message was wrong?
- What was the correct message?
- Is there some way to describe how to go from the all caps to the lower case?

# Old words

Our first day in the new chapter!

No more worries about voting.

This will fill up with cryptography words.

# New words

- **Encryption** takes the **plaintext** and converts it to **ciphertext**
- **Decryption** does the reverse
- The combination of the two (the method) is called the **cipher**
- Most modern ciphers come in families, where the method changes slightly based on the **key**
- Some ciphers have one key for encryption and one for decryption
- A **shift cipher** replaces letter-by-letter, using a shifted alphabet. The amount of shift is the key.

# Exit quiz

- The secret message reads **U IV I BEXOZBXH** and there are pictures on the back of a **dog** and a **bunny rabbit**:



**MAP**



**KEWWH ZIKKUC**

- What does it say?
- How does the system work?