411 REAL ANALYSIS II WEEKLY QUIZ 7

April 15, 2016   **Name:** _____

No books, notes, internet, etc. This should take about 20 minutes.

REMBER TO SIGN IN!

1. **The point of all this**
   a) We are trying to find an analog of what theorem on $\mathcal{C}_Y(X)$? Be as specific as possible.

   b) What was our first attempt at doing so and why did it fail?

   c) What was the tiny amount of progress we could make using only part b)?

2. **Equicontinuity**
   a) Please define an equicontinuous family of functions $\mathcal{F}$ where $f \in \mathcal{F}$ is $f : X \to Y$ with X, Y metric spaces and provide an extra sentence and/or illustration of equicontinuity.

   b) Equicontinuity comes for free in what circumstances and why?

3. AA Theorem

a) Please state the Arzelá Ascoli theorem and give a few sentence synopsis of why we care about it.

b) Why should it be true?

4. Weierstrass Theorem

a) Please state a version of the Weirestrass Theorem.

b) What is one surprising consequence of the theorem?

REMEMBER TO PUT YOUR COMPLETED QUIZ IN THE CORRECT ENVELOPE AND SIGN OUT!