MAT 2440

Prof. Ghezzi

Writing Assignment 3 on *Mathematical Induction* (20 points)

It is due on Monday, November 20, 2017 at the beginning of class. **No late homework will be accepted**.

<u>Note</u>: For credit write clear and logical explanations using complete sentences. <u>Papers will be graded on both writing and mathematics</u>. I am not considering incomplete and/or disorganized papers.

1) **Homework 4, page 329**. Make sure you give complete answers to all parts of the problem.

2) What is the sum of the cubes of the first 100 positive integers? (Hint: use problem 1).

3) Use Mathematical Induction to prove that $\frac{1}{1*2} + \frac{1}{2*3} + \cdots + \frac{1}{n*(n+1)} = \frac{n}{n+1}$ for any positive integer n.