**BFIN 2201: Business Finance**

**Time Value of Money – In-Class Assignment**

**Note: All of the questions are related to one another.**

1. According to the Seton Hall Career Center (http://www.shu.edu/offices/career-center/highlights.cfm), the 2017 graduates of the Stillman School of Business earned an average salary of $$54,088 per year their first year after graduation. Assume that is the salary that you will earn following graduation at your first job when you graduate. Further assume that you stay at that job for your entire career and earn a 3% raise each year. If you start working when you are 20 years old, how much money will you earn per year when you are 60 (40 years later)?

2. According to financial planners, the average retiree requires approximately 70% of their last year’s working salary (answer to #1) each year to live comfortably in retirement. Assume that you want to earn a fixed amount of interest each year in retirement. Your goal is to spend only the interest and still live comfortably. And, you want to earn the interest forever so that what remains can be passed onto your children, donated your favorite charity, or donated in honor of your favorite finance professor. That is, you want to earn a fixed amount, each year, for an indefinite amount of time. If you retire at 60 and can earn a 5% return, how much must you have saved to earn the required amount of interest?

3. If you die when you are 90 years old, how much money will be left to bequeath?

4. What if instead of saving for someone else, you expect to live until you are 90 years old at which point you plan to have no money left at all. If you can earn 5% per year, how much must you have saved up at 60 to earn a 70% of your pre-retirement salary (answer to #1) each year until you are 90?

5. Assuming the latter scenario (you plan to leave nothing to your heirs - question #4), how much of the principle amount of money that you saved do you still have left after 5 years? Hint: Treat this like an amortizing loan. The amount that you saved is like the loan amount and the payments are the amount that you use each year to spend on expenses.

6. Suppose that instead of being responsible, you spend $150,000 per year. How long will it be until you are broke?

7. Again, assuming that you plan to leave your heirs nothing, how much will you have to put away each year if you start saving when you are 20 years old? What if you start saving when you are 30?

8. What did you learn from this assignment?