MFE5130 – Financial Derivatives
First Term, 2019 – 20

Assignment 2

Due date: 11:00pm, 23-October-2019

Important notes:
1. The assignment must be submitted via Blackboard.
2. Total: 10 Problems (Full Mark: 100).

Chapter 5:
Problem
5.2,
5.4,
5.5 (5% is the *continuously compounded risk-free interest rate*),
5.8,
5.12 (Notional value of one S&P futures contract = \$250 × S&P 500 index; Assume 1 year = 52 weeks).

Chapter 6:
Problem
6.6 (Only need to do (b) and (c))
Note: In (b) and (c), take the December Year 0 forward price as a proxy for the spot price in December Year 0.

Chapter 7:
Problem
7.3
7.7 (only need to do (a))

Additional problem 1
The current price of silver is \$9 per ounce. The storage costs are \$0.24 per ounce per year payable quarterly in advance. Assuming that the risk-free continuously compounded interest rate is 10%, calculate the futures price of silver for delivery in nine months.

Additional Problem 2

The current spot price of corn is \$4.8 per bushel. The convenience yield and storage cost of corn are assumed to be a constant. The convenience yield and continuously compounded storage cost of corn are equal to 4.2% and 1.8% respectively.

The current prices of zero-coupon bonds with different maturities are given as follows:

Years to Maturity	1	2	3
Zero-Coupon Bond Price (that pays \$1 at Maturity)	0.9912	0.9701	0.9518

Copy and complete the following table:

T (in Years)	1	2	3
$F_{0,T}$			

where $F_{0,T}$ is the T-year corn forward price at time 0.