

ENNEC 473 – Spring 2009
Risk Management in the Earth Sciences

Instructor: Andrew Kleit, 507 Walker, 5-0711, ANK1@psu.edu. Office Hours: 2:30-3:30 PM, TTh. Teaching assistant: Kelly Diehl, 412-478-1179, kmd311@psu.edu, Office hours 3-4PM, MW, 123 Hosler.

Overview: All major firms engage in financial risk management. In this course, we will learn the basics of how firms can use financial instruments to manage their financial risk. In particular, we will focus on risk management with respect to threats to financial viability from the weather. This course will be both challenging and highly practical.

Text: Hull, Options, Futures, and Other Derivatives (7th edition, 2008, 6th edition is fine).

We will start with Chapter 8 in Hull. Then we will review various statistical concepts and apply them to the collapse of Long-Term Capital Management. We will then move to Chapters 9-11 and chapter 13 in Hull. After that, we will examine weather derivatives, with readings posted on the class ANGEL site. Lecture notes will be posted to the ANGEL site, with some delay.

Course Grading:

Homework: Assigned most weeks (10 or so)	30%
Five minute exams	12%
Weather Market Exercise	3%
Mid-term exam	22%
Final Exam	33%

There is no extra credit in this class. (Please do not ask for any.) The mid-term exam is scheduled for Thursday, March 5 in class. The final exam is currently unscheduled. To get any credit for your homeworks, they need to be typed and submitted in paper form (no electronic submissions). Graphs should be done using EXCEL. Also, you should familiarize yourself with the EXCEL “COPY” command. No late homeworks will be accepted.

Most class periods will end with a “five minute exam” where students will be asked to answer one question based on the previous lecture. These exams (but not the mid-term or final) will be open book, open notes. This means the mid-term and final will be closed book, no notes. Please do not forget to bring a calculator to class every single session.

There will be one small project for this class. We will engage in trading weather derivatives. You will be given “experimental” money to trade in a market for weather derivatives. These derivatives will be based on temperatures in State College. Currently, I plan to run this market the evening of March 24th. Your grade will be based on how many trades you make, and how much “financial exposure” you undertake. More details later in the term.

Students should be aware that this is a very challenging class. Below is the grade distribution for the last two times it was offered:

Term	A	A-	B+	B	B-	C+	C	D	F
Spring 2007	6	2	1	4	3	1	4	5	4
Spring 2008	5	3	6	10	5	5	5	4	2

Naturally, all students are required to follow the University's policy on academic integrity. Check out <http://www.ems.psu.edu/admin/integ.html> for the details.

REMEMBER, AN OPTION CANNOT HAVE NEGATIVE VALUE!