Academic year 2013-14

Markets and Derivatives (20848)

Degree: Economics/Business Management and Administration

Term: first
Number of ECTS credits: 5
Hours of student's dedication: 125

Language of instruction: English
Professor: Luis Ortiz Gracia

1. Presentation of the subject

In the last 30 years, derivatives have become increasingly important in finance. Futures and options are actively traded on many exchanges throughout the world. As we will see, derivatives can be used either for hedging or speculation or arbitrage. They play a key role in transferring a wide range or risks in the economy from one entity to another.

Within this course, we focus our attention on forwards, futures, swaps and options. By the end of the course, the students will have a good knowledge of how these products work, how they are used, how they are priced, and how financial institutions hedge their risk positions with them.

Nowadays, the right use and comprehension of these financial instruments is crucial in order to understand the evolution of financial markets around the world.

2. Competences to be attained

As a third/fourth year subject, the student is expected to possess a deep knowledge of Mathematics, Statistics and Financial Economics. The general competences to be attained are,

- A correct comprehension and good understanding of written academic texts and textbooks.
- An advanced level of English.
- A demanding and rigorous discipline focused on work.
- A proactive attitude when learning new topics, a quality highly appreciated in a professional environment.
- Apply the knowledge, understanding and problem solving skills in new or unfamiliar situations.
- Use the information properly when suggesting proposals or solving problems.
- Use an economic reasoning when making decisions in risky environments.
- The ability to integrate knowledge and handle complexity.

3. Contents

Lesson 1. Introduction. General overview of the derivatives market.

Lesson 2. Mechanics of the futures market.

Lesson 3. Determination of forwards and futures prices.

Lesson 4. Swaps.

Lesson 5. Hedging strategies using futures with interest rates and currencies.

Lesson 6. Hedging strategies using futures in the stock market.

Lesson 7. Mechanics of the options market.

Lesson 8. Determination of the price of an option (part I).

Lesson 9. Determination of the price of an option (part II).

Lesson 10. The Greeks.

Lesson 11. Hedging strategies using options in the stock market.

Lesson 12. Combining option strategies (part I).

Lesson 13. Combining option strategies (part II).

Lesson 14. Hedging strategies using options with other underlying assets.

Lesson 15. Exotic options (part I).

Lesson 16. Exotic options (part II).

Lesson 17. Structured products.

Lesson 18. Securitization and the credit crisis of 2007.

Lesson 19. Portfolio management using derivatives.

Lesson 20. Business uses of derivatives.

4. Assessment

The course grade will be determined by the student's performance in the following areas.

Attendance and proactive participation (lectures and seminars): **10%**

To receive full points for attendance and participation the student must attend classes regularly and contribute constructively to class discussions.

Final Exam (comprehensive): **50%**

Seminars (working party): **40%**

60% will be the result of how the student solves each of the seminars.

40% will come from the student's presentation of a seminar in class.

A zero will be given for no attendance to seminars even if the solution submitted is correct. Attendance to seminars is compulsory.

Both parts (final exam and seminars) must be passed separately with a minimum of four out of ten in order to average and complete this course successfully.

Presumably the retake period will take place in February. The student will be able to retake only the final exam mark.

This resit will be through a new exam (also requiring a minimum of four out of ten to average it). Finally do remember that the C grading is five out of ten.

5. Bibliography

Basic bibliography

"Options, futures and other derivatives", John C. Hull. Pearson Education, USA, 8th edition.

Teaching resources

Lecture notes and other supplementary material.

6. Methodology

Classes of theory: these classes are devoted to the presentation of the theoretical concepts of the subject.

Seminars: there will be a total of six seminar assignments.

These problems will be either uploaded on the course website or distributed in class at least some days in advance of the due date.

The seminar assignments are meant to help students review the concepts covered during the previous weeks and to help them prepare for the final exam.

Students will work and submit solutions to seminars in groups. Each group will present one seminar in class.

Late homework will not be accepted.

The final exam will be comprehensive in nature through a combination of questions and exercises.

No wireless devices will be allowed in the examination room. Mobile telephones will remain switched off.

Needless to say that no form of academic dishonesty will be tolerated.

If a student is caught trying to cheat during the final exam, the student will automatically fail the course.

7. Activities planning

The information given below represents the tentative lecture and assignment schedule for this course. Any adjustments will be announced beforehand in class.

Week number	Lesson	Seminar
1	1-2	
2	3-4	
3	5-6	
4	7-8	1
5	9-10	2
6	11-12	3
7	13-14	4
8	15-16	5
9	17-18	6
10	19-20	