

BA 4825/5825 and IAM 520 – Financial Derivatives

MW 10:15 – 11:30 @ <https://metu.webex.com/metu/j.php?MTID=m89d48ea1568180f6441f5c0244393205>

Meeting number: 121 782 6064

Password: 4825

Instructor:	Dr. Seza Danişoğlu
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Office Hours:	Monday and Wednesday: 13:15 – 14:30 @ https://metu.webex.com/metu/j.php?MTID=mf2eb42d64661641a556823064b730da a Meeting number: 121 941 1039 Password: 4825 or, strictly by appointment
Course Web Page:	https://odtuclass.metu.edu.tr/course/view.php?id=5022

Course Description:

This course is designed to provide a solid foundation in the principles of financial derivatives and risk management. It attempts to strike a balance between institutional details, theoretical foundations, and practical applications. The course equally emphasizes pricing and investment strategies in order to motivate students to start thinking about risk management in financial markets. Parallel to the already increasing attempts to integrate derivative securities and markets into the Turkish financial system, it is believed that this course will fill a gap and students will be exposed to a rather comprehensive coverage of theory and application in the derivatives area. This course is expected to give the students a “competitive advantage” when they enter the job market since “derivatives” is a “hot topic” nowadays and BA4825/5825/IAM520 is one of the very few courses offered on this topic in Turkey!

Course Student Learning Objectives: (CSLO)

Upon successful completion of this course, students should be able to:

Course Specific Skills:

1. Understand how the various parts of a business and its environments interact with the financial decisions of the firm
2. Understand the structure of the options markets and the motivation behind creating option contracts
3. Develop skills in option pricing and understand the basic principles that affect the value of an option contract
4. Understand how option contracts can be used to manage financial risk
5. Understand the structure of the futures and forward markets and the motivation behind creating these contracts
6. Develop skills in futures pricing and understand the basic principles that affect the value of a futures contract
7. Understand how futures contracts can be used to manage financial risk
8. Understand the structure of the interest rate derivatives markets and the motivation behind creating such contracts
9. Develop skills in interest rate derivatives pricing and understand the basic principles that affect the value of such contracts
10. Understand how interest rate derivatives can be used to manage financial risk

Discipline Specific Skills:

11. Develop skills in the valuation of derivative securities

12. Develop skills in setting up hedge positions

Develop an understanding of:

13. The role played by the derivative instruments in financial markets

14. How firms approach the practice of risk management

Personal and Key Skills:

15. Develop problem solving skills

16. Develop writing and discussion skills

17. Learn to apply the abstract concepts learned in the classroom to everyday financial decisions made by corporations

Course Prerequisites:

Students who have completed any one of the following courses with the stated minimum semester grade are allowed to register for this course:

BA 2802 (DD) or BA 5802 (CC) or IAM 521 (CC)

Learning and Teaching Methods:

This course is going to make use of formal lectures, in-class discussions and problem solving, written case study reports, and in-class case study discussions.

Required Reading:

Chance, D. M. and R. Brooks, An Introduction to Derivatives and Risk Management, Cengage, USA.

9th Edition, 2013 (ISBN: 9781305104969) **OR**

10th Edition, 2016 (ISBN: 9781305104969)

Supplementary Reading:

You will need a lot of practice to feel comfortable with solving problems on options, futures and other derivatives. The METU Library carries a variety of books written on derivatives. It is a very good idea to check out some of these books and exercise your brain muscle by solving the end-of-chapter problems that are provided in these books.

Assessment and Grading:

Form of Assessment	% Contribution	Size of the assessment	CSLOs covered by this assessment	Feedback Method
Written Examinations (Six Examinations)	72	60-minute essay-type examination	1 through 17	Written and oral (in class)
Written Assignments (Four Assignments)	18	Self-study hours (4+ hours)	1 through 17	Written
Attendance and Quizzes	10	Class participation during regular lectures	1 through 17	Oral (in class)

No "extra" work above the aforementioned will be accepted or credited.

Makeup Examinations: There will be no make-ups for exams or assignments. If you have a time conflict, please contact me ahead of time.

Important Note About Re-sit (Bütünleme) Exams: Please note that re-sit exams are no longer given at METU.

Incompletes: A grade of incomplete will not be granted except for the most extreme circumstances and only after stringent verification and approval by the Department. A grade of incomplete will be granted only as a result of circumstances beyond the student's control. A grade of "I" is not given in lieu of an "FF".

Course Policies:

Course Requirements: The students will be assigned readings from the textbook and are expected to come to class prepared and ready to take part in class discussions.

Attendance is mandatory in this class. Past experience repeatedly demonstrated that students who regularly attend class and read the chapter assignments perform significantly better than students who have an intermittent attendance and/or who do not keep current in reading the chapters.

Problem Sets: Four problem sets will be assigned during the term. The assignments should be prepared as hand-written versions of your original work and they should be prepared individually. However, I do encourage working together among classmates and if you choose to do so, please make a note of the person(s) that you have worked with alongside your own name on the assignment. The solutions to the problem sets will be made available at the course web page once the assignments are collected from the students.

There will be no make-ups for missed assignments.

Reading Assignments: The following pages give the schedule for the reading assignments. The lectures will stress the most important and/or most difficult material. Appendices are required only if they are assigned.

Presentation Slides: A copy of the presentation slides is available at the course web page. These slides can be used as chapter summaries and utilized while taking down notes during class.

Recitation Hour: There is going to be a weekly recitation hour. A teaching assistant from the department is going to work on sample problems on the topics that are covered during class from the previous weeks. These sample problems are made available at the course web page one day before the recitation hour so that you can take a look at them and may be even attempt to solve them before coming to class. Attendance to the recitation hour is not mandatory but highly recommended.

STUDENT DISABILITIES: Any student, who, because of a disabling condition, may require special arrangements in order to meet course requirements, should contact the instructor as soon as possible. Students should present the appropriate documentation from the university's Disability Support Office (Engelsiz ODTÜ Birimi, ODTÜ Kütüphanesi, Solmaz İzdemir Salonu, Tel: 210.7196; engelsiz@metu.edu.tr) verifying their disability, and outlining the special arrangements required. Please note that no accommodations will be provided to the disabled students prior to the completion of this approved University process.

ACADEMIC DISHONESTY: The Department of Business Administration has no tolerance for acts of academic dishonesty. Such acts damage the reputation of METU, the department and the BS/MBA degree and demean the honest efforts of the majority of the students. The minimum penalty for an act of academic dishonesty will be a zero for that assignment or exam.

CHEATING: All university, faculty/institute, and department principles on academic honesty will be strictly enforced. The usual consequence for academic dishonesty is failure of the course and referral of the case to the Dean of the Faculty or the Graduate School of Social Sciences for additional disciplinary action. Examinations are individual and are to be completed without outside assistance of any sort. Persons observed cheating during examinations will receive a failing grade in the course. Homework assignments are individual, unless otherwise specified by the instructor, and are to be completed without outside assistance of any sort, as well. Persons observed cheating in their homework assignments will receive a score of zero for the portion of the semester grade that is allocated to such assignments.

PLAGIARISM: The instructor assumes that students will do their own work. By placing their names on assignments (individual or team), students are affirming that the contents are their original work. Any previous work available from files or past students, as well as materials available on the internet may be

used only as a suggestive model. Violation of this provision will be considered as unethical behavior, subject to disciplinary action. If you have any doubt about the use of a specific material, see the instructor ahead of time. Any material used from outside sources should be referenced appropriately. Persons observed to plagiarize while preparing assignments will be referred to the Graduate School of Social Sciences for additional disciplinary action and also they will receive a score of zero for the portion of the semester grade that is allocated to such assignments.

METU HONOR CODE

Every member of METU community adopts the following honor code as one of the core principles of academic life and strives to develop an academic environment where continuous adherence to this code is promoted.

"The members of the METU community are reliable, responsible and honorable people who embrace only the success and recognition they deserve, and act with integrity in their use, evaluation and presentation of facts, data and documents."

CIVILITY IN THE CLASSROOM: Students are expected to assist in maintaining a classroom environment which is conducive to learning. In order to assure that all students have an opportunity to gain from time spent in class, unless otherwise approved by the instructor, students are prohibited from using laptop computers and cellular phones, making offensive remarks, reading newspapers, sleeping, or engaging in any other form of distraction. Inappropriate behavior in classroom shall result, minimally, in a request to leave class.

Past observations showed that the METU classroom experience is improved when the following are true:

Students arrive on time. Timely arrival ensures that classes are able to start and finish at the scheduled times. Timely arrival shows respect for both fellow students and faculty and it helps to create a better learning environment by reducing avoidable distractions.

Students are fully prepared for each class. Much of the learning in this course takes place during classroom discussions. When students are not prepared, they cannot contribute to the learning process. This affects not only the individual but also the classmates who count on them.

Students respect the views and opinions of their colleagues. Disagreement and debate are encouraged; however, intolerance for the views of others is unacceptable.

Laptops, phones and wireless devices are turned off.

STUDENT EXCUSES: Unless you inform me in advance, I will not excuse you from any of the grade requirements. At the same time, this does not mean that I will allow you to miss a test or an assignment with any excuse that you present to me. Please note that the excuse is acceptable for only the most extreme circumstances and only after stringent verification and approval by the Department.

KNOW YOUR RIGHTS AND RESPONSIBILITIES! <http://oidb.metu.edu.tr/en/academic-rules-and-regulations>

NOTE THE IMPORTANT DATES ON THE ACADEMIC CALENDAR! <http://oidb.metu.edu.tr/en/academic-calendar>

The instructor assumes that students who attend the next class have understood and accepted to agree with all the requirements and rules of this course.

Notes:

- Usage of cell phones is strictly prohibited during class. Please be courteous to your classmates and me and make sure that your phones are on silent mode before the class begins.
- Please arrive on time and do not enter the classroom if I already have closed the classroom doors. If you have to leave early, please inform me in advance. If, due to uncontrollable circumstances, you end up

being late for class, please wait outside until the first in-class break during which I will open the classroom door and let you in.

- You are encouraged to drop by my office during office hours for questions, concerns, or, suggestions. Outside the office hours, please make an appointment with me in advance, before or after the class, via phone or e-mail. For quick questions that you may have, note that e-mailing is a very effective means of communicating with me.

Good luck to all of you and let's have a very enjoyable semester together!! SD

Don't be Trashy. **Recycle.**

Do not throw items away in the trash that should go into the recycling bin. Show a little class.

REDUCE, REUSE, RECYCLE!



The following table gives the tentative schedule for the semester. The lectures will stress the most important and/or most difficult material. Appendices are required only if they are assigned. The students are required to read the chapters and appendices before they are covered in class.

Tentative Course Schedule				
Month	Day	Topic	Reading (Based on 9/E)	CSLO
		Part I: Options		
March	15	Introduction The Structure of Options Markets	Chapter 1 Chapter 2	1, 2
	17	The Structure of Options Markets (Cont'd) Principles of Option Pricing	Chapter 2 Chapter 3	2, 3
	22	Principles of Option Pricing (Cont'd)	Chapter 3	3
	24	Principles of Option Pricing (Cont'd) Option Pricing Models: The Binomial Model	Chapter 3 Chapter 4	3
	29	Option Pricing Models: The Binomial Model (Cont'd)	Chapter 4	3
	31	Option Pricing Models: The Black-Scholes-Merton Model	Chapter 5	3
April	2	Midterm 1 @20:00 Chps 1, 2, 3		1, 2, 3
	5	Option Pricing Models: The Black-Scholes-Merton Model (Cont'd)	Chapter 5	3
	7	Option Pricing Models: The Black-Scholes-Merton Model (Cont'd)	Chapter 5	3
	12	Basic Option Strategies HW #1 Due	Chapter 6	4
	14	Basic Option Strategies (Cont'd)	Chapter 6	4
	16	Midterm 2 @20:00 Chps 4, 5		3
	19	Basic Option Strategies (Cont'd)	Chapter 6	4
	21	Advanced Option Strategies	Chapter 7	4
	26	Advanced Option Strategies (Cont'd)	Chapter 7	4
		Part II: Forwards, Futures, and Swaps		
	28	The Structure of Forward and Futures Markets	Chapter 8	5
	30	Midterm 3 @20:00 Chps 6, 7		4
May	3	Principles of Pricing Forwards, Futures, and Options on Futures	Chapter 9	6
	5	Principles of Pricing Forwards, Futures, and Options on Futures (Cont'd)	Chapter 9	6
	10	Spring Break		
	12	Spring Break		
	10	Futures Arbitrage Strategies	Chapter 10	7
	17	Futures Arbitrage Strategies (Cont'd) HW #2 Due	Chapter 10	7
	19	Commemoration of Atatürk and Youth and Sports Day		
	20	Midterm 4 @20:00 Chps 8, 9		5, 6
	24	Futures Arbitrage Strategies (Cont'd)	Chapter 11	7
	26	Forward and Futures Hedging, Spread, and Target Strategies		7
	31	Forward and Futures Hedging, Spread, and Target Strategies (Cont'd)	Chapter 11	7
June	2	Forward and Futures Hedging, Spread, and Target Strategies (Cont'd) HW #3 Due	Chapter 11	7
	7	Swaps	Chapter 12	8, 9
	9	Swaps (Cont'd)	Chapter 12	8, 9
	11	Midterm 5 @20:00 Chps 10, 11		7
	14	Swaps (Cont'd)	Chapter 12	8, 9
		Part III: Advanced Topics		
	16	Interest Rate Forwards and Options Start working on Homework 6 (May 6)	Chapter 13	9, 10
	21	Interest Rate Forwards and Options (Cont'd)	Chapter 13	9, 10
	23	Semester review HW #4 Due		
	25	Midterm 6 @20:00 Chps 12, 13		9, 10
July	2	Final Examination @20:00 Comprehensive		1-10