

Syllabus(tentative)	Subject	MGT 800: Applied Statistics and Decision Making - 3KU/6ECTS credits	
	Department	Economics and Management	
	Program	Graduate	
	Term	Fall 2023	
	Instructor	Fateh Israfilzada	
	E-mail	<a href="mailto:fateh.israfilzada@khazar.org">fateh.israfilzada@khazar.org</a>	
	Classroom/hours	Bashir Safaroglu 122, Room 20, 11:00-13:30	
Language	English		
Compulsory/Elective	Compulsory		
Textbooks and course materials	<b>Core Textbooks:</b> <i>CFA LEVEL I and CFA LEVEL II programs; “Quantitative methods” unit</i> Richard A. DeFusco, PhD, CFA, Dennis W. McLeavey, DBA, CFA, Jerald E. Pinto, PhD, CFA, and David E. Runkle, PhD, CFA, Pamela Peterson Drake, PhD, CFA, Virginia, USA, 2023		
Course outline	The course covers describing and organizing data, probability concepts, probability distributions, sampling and sampling distributions, confidence interval estimation, test of hypothesis, analysis of variance and decision-making.		
Course objectives	To equip students with basic statistical methods used, show them the relevance of statistics in functional areas in Business and Economics and familiarize them with practical issues met in the business world. The course is CFA-exam oriented and might be helpful for those preparing for future tests.		
Learning Outcomes	Having completed the course students will be able to: <ul style="list-style-type: none"><li>• Understand basic properties of data sets and their graphs</li><li>• Understand and apply probability concepts into business areas</li><li>• Construct confidence intervals and run significance tests about hypothesis</li><li>• Understand main regression problems</li><li>• Understand key terms of time-series analysis</li></ul>		
Teaching methods	Lecture		X
	Problem Solving		X
	Real-life examples		X
Evaluation Criteria	Methods	Date/deadlines	Percentage (%)
	Midterm Exam	TBA	30
	Activity		5
	Attendance		5
	Homework/case analysis	During the semester	20
	Final Exam	TBA	40
	Total		100
Policy	<p><b>Activity/Participation.</b> Because of the once-a-week course format, students are expected to attend all sessions. If you have an absence, take responsibility for making up assignments and for obtaining missed lecture information. Participation is important for doing well in the course. You’ll be graded for your active engagement with the material and your peers. The activity and participation will account for 10 % of the total course grade.</p> <p><b>Class preparation.</b> Students are responsible for: 1) reading the assigned materials; 2) taking the initiative to ask questions that promote understanding of the academic subject; 3) communicating regularly with the instructor, especially in matters related to class assignments.</p> <p><b>Homework/Case analysis.</b> The structure and format of the homework may include multiple choice and open-ended questions. Analysis of the assigned case will be conducted by each student. Homework and case analysis will account for 20 % of the final grade.</p>		

		<b>Cheating/Plagiarism.</b> Academic integrity is fundamental to the activities and principles of a university. Breaches of the academic integrity will lead to assignment cancellation. When in doubt about plagiarism or any other form of cheating, consult the course instructor.	
<b>Tentative Schedule</b>			
<b>Week</b>	<b>Date (tentative)</b>	<b>Topics</b>	<b>Textbook/Assignments</b>
1		Time value of money in finance	CFA Level I, QM topic by <b>Richard A. DeFusco, PhD, CFA, Dennis W. McLeavey, DBA, CFA, Jerald E. Pinto, PhD, CFA, and David E. Runkle, PhD, CFA.</b>
2		Statistical concepts and market returns	CFA LEVEL I, QM topic by <b>Pamela Peterson Drake, PhD, CFA, and Jian Wu, PhD.</b>
3		Probability concepts I	CFA LEVEL I, QM topic by <b>Richard A. DeFusco, PhD, CFA, Dennis W. McLeavey, DBA, CFA, Jerald E. Pinto, PhD, CFA, and David E. Runkle, PhD, CFA.</b>
4		Probability concepts II	CFA LEVEL I, QM topic by <b>Richard A. DeFusco, PhD, CFA, Dennis W. McLeavey, DBA, CFA, Jerald E. Pinto, PhD, CFA, and David E. Runkle, PhD, CFA.</b>
5		Common probability distributions I	CFA LEVEL I, QM topic by <b>Richard A. DeFusco, PhD, CFA, Dennis W. McLeavey, DBA, CFA, Jerald E. Pinto, PhD, CFA, and David E. Runkle, PhD, CFA.</b>

6		Common probability distributions II	CFA LEVEL I, QM topic by <b>Richard A. DeFusco, PhD, CFA, Dennis W. McLeavey, DBA, CFA, Jerald E. Pinto, PhD, CFA, and David E. Runkle, PhD, CFA.</b>
7		<b>Mid-term Exam.</b>	
8		Sampling and estimation	CFA LEVEL I, QM topic by <b>Richard A. DeFusco, PhD, CFA, Dennis W. McLeavey, DBA, CFA, Jerald E. Pinto, PhD, CFA, and David E. Runkle, PhD, CFA.</b>
9		Hypothesis testing, I	CFA LEVEL I, QM topic by <b>Pamela Peterson Drake, PhD, CFA.</b>
10		Hypothesis testing II	CFA LEVEL I, QM topic by <b>Pamela Peterson Drake, PhD, CFA.</b>
11		Introduction to linear regression	CFA LEVEL I, QM topic by <b>Pamela Peterson Drake, PhD, CFA.</b>
12		Basics of Multiple Regression and Underlying Assumptions	CFA LEVEL II, QM relevant topic by <b>Pamela Peterson Drake, PhD, CFA.</b>
13		Evaluating Regression Model Fit and Interpreting Model Results	CFA LEVEL II, QM relevant topic by <b>Pamela Peterson Drake, PhD, CFA.</b>
14		Model Misspecification Extensions of Multiple Regression	CFA LEVEL II, QM relevant topics by <b>Pamela Peterson Drake, PhD, CFA.</b>
15		Time-Series Analysis	CFA LEVEL II, QM relevant topic by <b>Pamela Peterson Drake, PhD, CFA.</b>
		<b>Final exam</b>	