Universidad
Carlos III de Madrid

COURSE: Quantitative Microeconomics		
DEGREE: Economics	YEAR: 4	TERM: 1

WEEKLY SCHEDULE

week	session	DESCRIPTION	GROUP MAGISTRAL	GROUP REDUCIDO	Room	WEEKLY SCHEDULE FOR STUDENTS DESCRIPTION	# CLASS HOURS	# WORK HOURS
1	1	Topic 1.1: Asymptotic Properties & Simulation	X			Probability in the limit. Central Limit Theorem. Small sample properties & simulation.	1.5	6 H
1	2	Practice 1.1: Simulation in `gretl`		X	Computer classroom	Introduction to Pseudo-random number generators. Simulation in gretl. Example: Central Limit Theorem and covariance estimation.	1.5	
2	3	Topic 1.2: Asymptotic Properties & Simulation (2/2)	X			Asymptotic Properties for OLS and IV.	1.5	6 H
2	4	Practice 1.2: Simulation of the regression model.		X	Computer classroom	Monte Carlo & OLS.	1.5	
3	5	Topic 1.3: Maximum Likelihood Estimation.	X			Maximum Likelihood Estimation.	1.5	6 H
3	6	Exercise 1.		X	Computer classroom	Hand-in and Solving Exercise 1: Monte Carlo & IV	1.5	
4	7	Topic 2.1: The Probit Model.				Motivation: The labour force participation model. The Probit model.	1.5	6 H
4	8	Midterm Exam 1.		X	Computer classroom	Midterm Exam 1: Topic 1.	1.5	
5	9	Topic 2.2: Probit Estimation	X			Maximum Likelihood Estimation of the Probit model.	1.5	6 H
5	10	Practice 2: Probit estimation in `gretl`		X	Computer classroom	How to estimate the Probit model in `gretl`. Estimation of Marginal Effects in `gretl`.	1.5	
6	11	Topic 2.3: Testing hypothesis after Probit estimation.	X			The Wald and the LR tests.	1.5	6 H
6	12	Exercise 2.		X	Computer classroom	Hand-in and Solving Exercise 2: Estimation of relevant marginal effects.	1.5	
7	13	Topic 3.1: Ordered and Multinomial models.	X			Ordered Probit. Ordered Logit. Multinomial Logit.	1.5	6 H
7	14	Midterm Exam 2.		X	Computer classroom	Midterm Exam 2: Topic 2.	1.5	
8	15	Topic 3.2: Ordered and Multinomial Estimation.	X			Estimation of ordered probit, ordered logit, and multinomial logit in `gretl`.	1.5	6 H
8	16	Practice 3: Ordered models in `gretl`.		X	Computer classroom	Ordered models in `gretl`. Marginal effects.	1.5	
9	17	Topic 3.3: Poisson regression model.	X			Motivation: number of kids. Interpretation of results.. ML estimation in `gretl`.	1.5	6 H

9	18	Exercise 3.		X	Computer classroom	Hand-in and Solving Exercise 3: Multinomial models estimation.	1.5	
10	19	Topic 4.1: The Tobit model.	X			Motivation: Married women labor supply. The Tobit model and the conditional expectation.	1.5	6 H
10	20	Midterm Exam 3.		X	Computer classroom	Midterm Exam 3: Topic 3.	1.5	
11	21	Topic 4.2: Censoring.	X			Motivation: Returns to school for women. Censored regression models.	1.5	6 H
11	22	Practice 4.1: Tobit in `gretl`.(I)		X	Computer classroom	Tobit in `gretl`. Simulation.	1.5	
12	23	Topic 4.3: Selection bias.	X			Bias in OLS estimation. Heckman's bias correction. ML estimation in `gretl`.	1.5	6 H
12	24	Practice 4.2: Tobit in `gretl`.(II)		X	Computer classroom	Tobit in `gretl`. Simulation.	1.5	
13	25	Topic 4.4: Heckman in `gretl`.	X			MLE and Heckman two-step estimator.	1.5	6 H
13	26	Exercise 4.		X	Computer classroom	Hand-in and Solving Exercise 4: Monte Carlo for marginal effects in Tobit & OLS with censored data.	1.5	
14	27	Revision session.	X			Revision session.	1.5	6 H
14	28	Midterm Exam 4.		X	Computer classroom	Midterm Exam 4: Topic 4.	1.5	
						SUBTOTAL	**42 + 70 = 112**	
15		Tutorials						
16 - 18		Evaluation					3	
TOTAL 115							**TOTAL 115**	