

Topics Covered:

(A.) Math:

----Terms: (1.) Endogeneous variables (control and non-control), (2.) exogenous parameters, (3.) first order conditions, (4.) second order conditions.

----Mathematical Problem Solving: (1.) Setting up and solving constrained maximization problems using Lagrangians, (2.) Setting up and solving constrained maximization problems using the substitution method.

**** Don't need to know: (1.) How to check second-order conditions, (2.) How to solve Lagrangians with non-negativity constraints.

(B.) Preferences:

----Terms: (1.) Anti-reflexive, (2.) Complete, (3.) Transitive, (4.) Convex, (5.) Non-satiation.

----Mathematically: (1.) Necessary conditions for representation by a utility function, (2.) How to construct a utility function from preferences.

(C.) Utility maximization:

----Terms: (1.) Own-price effects, (2.) Cross-price effects, (3.) Income effects, (4.) Indifference curves (5.) Marginal rate of substitution

----Graph: (1.) Indifference curves, (2.) Indifference curves with budget constraints - showing utility maximization graphically

----Mathematically: Setting up and solving the utility maximization problem.

(D.) Demand theory:

----Terms: (1.) Substitutes, (2.) Complements, (3.) Engel curves, (4.) Normal goods, (5.) Luxury goods, (6.) Giffen goods, (7.) Homogeneity of degree zero.

----Graph: (1.) Marshallian demand curves, (2.) Expansion paths

----Mathematically: Compute comparative statics [Own price effects, cross price effects, and income effects].