TOPICS COVERED IN MIDTERM EXAMINATION #1

Please notice: In general, you are required to know the material that has been covered in class for the midterm exam of February 19. Sometimes the textbook has more than what I have said in class on a given topic, sometimes it is the other way around. In both cases, I will test you on what we have seen in class. The following is an (almost) exhaustive list of topics covered in class with reference to the relative textbook chapter.

**Budget Constraint (Chapter 2)**

- Definition of budget constraint and budget line;
- How to graph the budget line;
- How the budget line shifts with changes in prices and income;
- Distinguishing dollar prices from relative prices;
- Distinguishing between different types of taxes and subsidies;
- How the budget line is affected by taxes and subsidies of different kind;
- Budget lines with kinks;
- Food Stamp program.

**Preferences (Chapter 3)**

- Preference relation;
- Axioms on preference relation (complete, transitive, reflexive);
- Indifference curves;
- Different types of preferences and related indifference curves: perfect substitutes, perfect complements.
- Properties of indifference curves (can they cross?);
- Monotonic preferences;
- Convex, strictly convex preferences and concave preferences;
- Marginal rate of substitution and its properties.
Utility (Chapter 4)

- What is a utility function;
- Under which conditions a utility function represents a preference relation;
- Plotting indifference curves: perfect substitutes, perfect complements, Cobb-Douglas;
- Marginal utility and its properties;
- Marginal rate of substitution, its relation to marginal utilities, and how to compute it given utility.

Choice (Chapter 5)

- Finding optimal choice on a graph;
- When is tangency between (minus) relative prices and MRS necessary and when is it sufficient to find an optimal choice;
- Interpretation of the tangency condition;
- Tangency with many consumers with different incomes and preferences;
- Finding the optimum with a Cobb-Douglas utility function, and properties of the Cobb-Douglas demand functions;
- Demand functions for different preferences (substitutes, complements, Cobb-Douglas);
- Choosing a tax: income or quantity taxes?

Demand (Chapter 6)

- How demand changes with income: income offer curves and Engel curves for different types of preferences;
- Normal and inferior goods;
- Luxury and necessary goods;
- How demand changes with price: price offer curves and demand curves;
- Ordinary and Giffen goods;
- How demand changes with price of other goods: substitute and complement goods;
- Inverse demand function and curve; interpretations of inverse demand curve.
Consumer’s surplus (Chapter 14)

• Gross consumer’s surplus;

• Consumer’s surplus;

• Different ways of computing costs of higher prices for the consumer: change in consumer’s surplus, compensating variation, equivalent variation;

• What do we need to know to compute each of these measures (utility function or demand function);

• Computing these measures in practice, given a consumer and a change in prices.