Consumer Theory
Utility

ECON 3010

Utility

Utility Function: the relationship between utility measure and every possible bundle of good

U(x) assigns a numerical value to a bundle

U(X ≿ Y): x is preferred to y
U(X = Y): the consumer is indifferent between x and y

Preference Ranking

- **Ordinal:** order of the rankings
- **Cardinal:** intensity of a consumer's preferences

Example:

Ordinal: x is preferred to y
Cardinal: x is preferred over y by a factor of 3 units

Analysis of Multiple Goods:

Indifference Curves:

- Calc concept… Contour plot
- They are the set of points representing the market baskets among which the consumer is indifferent
- Properties:
  - Downward-sloping
  - Further from origin, the higer level of consumer satisfaction
  - Two curves cannot intersect or cross

Marginal Rate of Substitution:

- The number of units of Y a consumer is willing to give up to get one more X
  - Slope of indifference curve
  - MRS_{xy}: -DY/DX (partial derivatives used)

One thing to note:
$MRS_{xy} = MU_x/Mu_y$

Intuition:

Larger MU_x compared to MU_y the more Y you are willing to give up to increase consumption of X

Budget Line

- Consumption is limited by income… Leading to a budget constraint
- $p_xX + p_yY \leq I$

Maxmising Utility

- Interior vs Corner Solutions:
  - **Interior:** consumer chooses the bundle at which the indifference curve is tangent to the budget line.
    - The slope of IC: (DY/DX) = (-Px/Py).
  - **Corner:** It is optimal to buy all of one good and none of the other

Cobb-Douglas

- $U = x^a y^b$