This topic will focus on how prices, income, and tastes and preferences influence how much a consumer spends on each available product and service. The analysis will not only provide a theoretical foundation for demand functions it will also explore how sophisticated pricing strategies work.

Three factors influence what products and how much of each product or service a person consumes: the unit cost of acquiring each product or service, how much the consumer can afford to spend, and personal taste and preferences. In modern economies, the first two factors are usually referred to as prices and income. In primitive societies, costs might have been measured by the time and energy demands of hunting or gathering while affordability might have been defined in terms of hours of daylight or caloric intake. In either case, to properly account for how individuals respond to changes in acquisition costs or available resources or to changes in social policies (regulations, taxes, tribal customs), it is necessary to understand how individuals use all three types of information in making choices.

To understand the role of tastes and preferences, we first need to develop a way to model or describe the relevant economic information about tastes and preferences. We call this approach utility theory. Utility theory helps tell us what people like and how much more they like one item relative to another. Ultimately, the acquisitions a person makes depends upon his or her preferences and the extent to which that person's resources restricts the ability of that person to satisfy his or her wants, needs, and/or desires. By assuming that each person make decisions to maximize some personal notion of well-being (which can include or ignore what happens to others), we can develop a theory that tells us how individuals respond to changes in prices and income.
Outline
I. Utility Theory - A way to analytically talk about tastes and preferences. (Chapter 3)

II. The Role of Prices and Income - Describing the set of affordable purchases. (Chapter 4)

III. Utility Maximization - By assuming that people make decisions with an objective in mind, we can develop a theory that integrates preference information with price and income information. (Chapter 4)

IV. Demand - The solution to the consumer's utility maximization problem gives us demand information. (Chapter 5)

IV. Income and Substitution Effects - A price change affects choice behavior in two ways. First, it causes people to buy more of the goods that have become relatively less expensive and less of the goods that have become relatively more expensive. This response is called the substitution effect. Second, a price change indirectly alters a person's purchasing power or real income, that is, the amount of utility the person can afford. A person's response to a change in purchasing power is called the income effect. Understanding how the substitution and income effects work helps us better understand the complex responses consumers have to price changes and motivates a number of sophisticated marketing and policy strategies. (Chapter 5)

Key Ideas
• Consumer preferences for products and services generally exhibit diminishing marginal rates of substitution: The more a consumer has of one good the less of other goods the consumer is willing to give up.

• A consumer maximizes utility subject to a budget constraint by making purchases where the last dollar spent on each product and service increases utility by the same amount.

• Price changes generate an income effect and a substitution effect. For normal goods, price changes that increase real income create an income effect that increases consumption. The opposite is true for inferior goods. The substitution effect always works by increasing the consumption of the good that has become relatively cheaper.
**Important Skills**

- Graphing a consumer's budget set (linear and non-linear prices) and indifference curves.

- Calculating a consumer's utility maximizing bundle and being able to provide an economic interpretation of the equations used.

- Deriving individual demand from the utility maximization problem.

- Adding up individual demand curves to get the market demand curve.

- Decomposing any price change into an income effect and a substitution effect.

**Important Concepts and Terms**

**Utility function** – A function that measures the level of satisfaction a consumer receives from any combination of products and services.

**Indifference curve** – A curve comprised of the combinations of products and services that yield the same level of satisfaction to a consumer.

**Good** - A product or service for which more is better.

**Marginal Utility** (there is one for each product or service) – The rate at which a consumer's utility changes as the level of consumption of a single product or service changes.

**Marginal Rate of Substitution** (there is one for each pair of products and services) – The rate at which a consumer will give up one good to get more of another, holding the level of utility constant.

**Budget Set** - The combinations of products and services a consumer can afford.

**Budget Line (Equation)** – The combinations of products and services a consumer can purchase by spending all of his or her income.

**Non-linear price** – A price policy for which the price per unit can vary with the quantity purchased.

**Optimal Consumer Choice** – An affordable combination of goods and services that maximizes a consumer's utility.

**Marginal Value Equation** – The combinations of products and services for which the last dollar
spent on each good increases utility equally.

**Demand** - The demand for a good or service describes the amount consumers wish to buy at every possible price.

**Consumer Surplus** – The difference between the maximum amount a consumer is willing to pay for a product or service and the amount he or she must actually pay for it.

**Relative Price** – The amount of one good a consumer would have to give up to afford one unit of another good.

**Real income** – The maximum level of utility a consumer can afford.

**Substitution effect** – The change in the amount of each product or service a consumer buys due to a change in relative prices while holding utility constant.

**Income effect** – The change in the amount of each product or service a consumer buys due to a change in real income holding relative prices constant.

**Giffen good** – A good whose quantity demanded increases (decreases) when its price increases (decreases).

**Compensating Variation** – The change in the amount of money a consumer would need after a price change to be as well off as before the price change.

**Equivalent Variation** – The change in the amount of money a consumer would need without a price change to be as well off with a price change.