**Chapter 4 - Costs of Production**

Economist Mr. J.M. Clark – “Knowledge is the only instrument of production that is not subject to diminishing returns.”

**Our Goals:**

1. Identify economic costs (explicit and implicit) of production and economic profit.
2. Describe short run (total, average, and marginal) products and explain the law of diminishing marginal returns.
3. Derive short run (total, average, and marginal) costs
4. Explain the long run results of production (increasing returns to scale, constant returns to scale, and decreasing returns to scale) and long run costs.
5. Have the maximum amount of economic fun.

**4.1 - Production, Costs, and Profit**

Business, Production, Inputs, Outputs

Productive Efficiency

Labour Intensive, Capital Intensive, Productive Efficiency

Economic Costs

Explicit Costs, Implicit Costs, Normal Profit, Economic Costs

Economic Profit

Accounting Profit, Economic Profit

**Practice Questions Page 94 (1a, b, c, d, e, f)**

**4.2 – Production in the Short Run**

Fixed Inputs, Variable Inputs

Total, Average, and Marginal Products

Total Product, Average Product, Marginal Product

Diminishing Marginal Returns

Law of Diminishing Marginal Returns

Three Stages of Production

Average versus Marginal Product

**Practice Questions Page 98 (1, 2a, b, c, d, e, g)**

**4.3 – Costs in the Short Run**

Fixed Costs, Variable Costs, Total Cost

Marginal Cost

Per-Unit Costs

Average Fixed Cost, Average Variable Cost, Average Cost

**Practice Questions Page 103 (1 a, b, c, d, e)**

**4.4 - Production and Costs in the Long Run**

Increasing Returns to Scale (Economies of Scale)

Division of Labour

Specialized Capital

Specialized Management

Constant Returns to Scale

Decreasing Returns to Scale

Management Difficulties

Limited Natural Resources

Returns to Scale and Long Run Costs

Long Run Average Cost

Industry Differences

Manufacturing Industries, Craft Industries, Primary Industries

Business Size and Returns to Scale

Economies of Scope

Thinking about Economics – Technological Change and Returns to Scale

**Practice Questions Page 109 (1a, b, c)**

John Kenneth Galbraith – Critic of the Modern Corporation

**Practice Questions Page 114 (1, 2, 3)**