# Unit 1

## Introduction

**What is Industrial Engineering?**

Industrial Engineering is concerned with the design, improvement, and installation of integrated systems of people, material, equipment, and energy. It draws upon specialized knowledge and skills in the mathematical, physical and social sciences together with the principles and method of engineering analysis and design to specify, predict, and evaluate the results to be obtained from such systems. IE is concerned with performance measures and standards, research of new products and product applications, ways to improve use of scarce resources and many other problem solving adventures.

What activities…

- Develop applications of new processing, automation, and control technology.
- Install data processing, management information, wage incentive systems.
- Develop performance standards, job evaluation, and wage and salary programs.
- Research new products and product applications.
- Improve productivity through application of technology and human factors.
- Select operating processes and methods to do a task with proper tools and equipment
- Design facilities, management systems, operating procedures
- Improve planning and allocation of scarce resources

**Areas of Concentration:**

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|---|---|
| – Operation Research | – Program Management |
| – Project Management | – Ergonomics/Human Factors |
| – Manufacturing, Production and Distribution | – Technology Development and Transfer |
| – Supply Chain Management | – Strategic Planning |
| – Productivity, Methods and Process Engineering | – Management of Change |
| – Quality Measurement and Improvement | – Financial Engineering |