

# CE 401 – PROJECT PLANNING AND CONSTRUCTION MANAGEMENT

## INTRODUCTION

### WHAT IS A PROJECT?

“A temporary endeavor undertaken to create a unique product or service”

definite beginning and end with specific objectives.

different owner, designers, contractors, location (may have repetitive elements from previous projects).

Composed of jobs, activities, functions or tasks that are related one to the other in some manner, and all of these should be completed in order to complete the project.

# **INTRODUCTION**

## **WHAT IS PROJECT MANAGEMENT?**

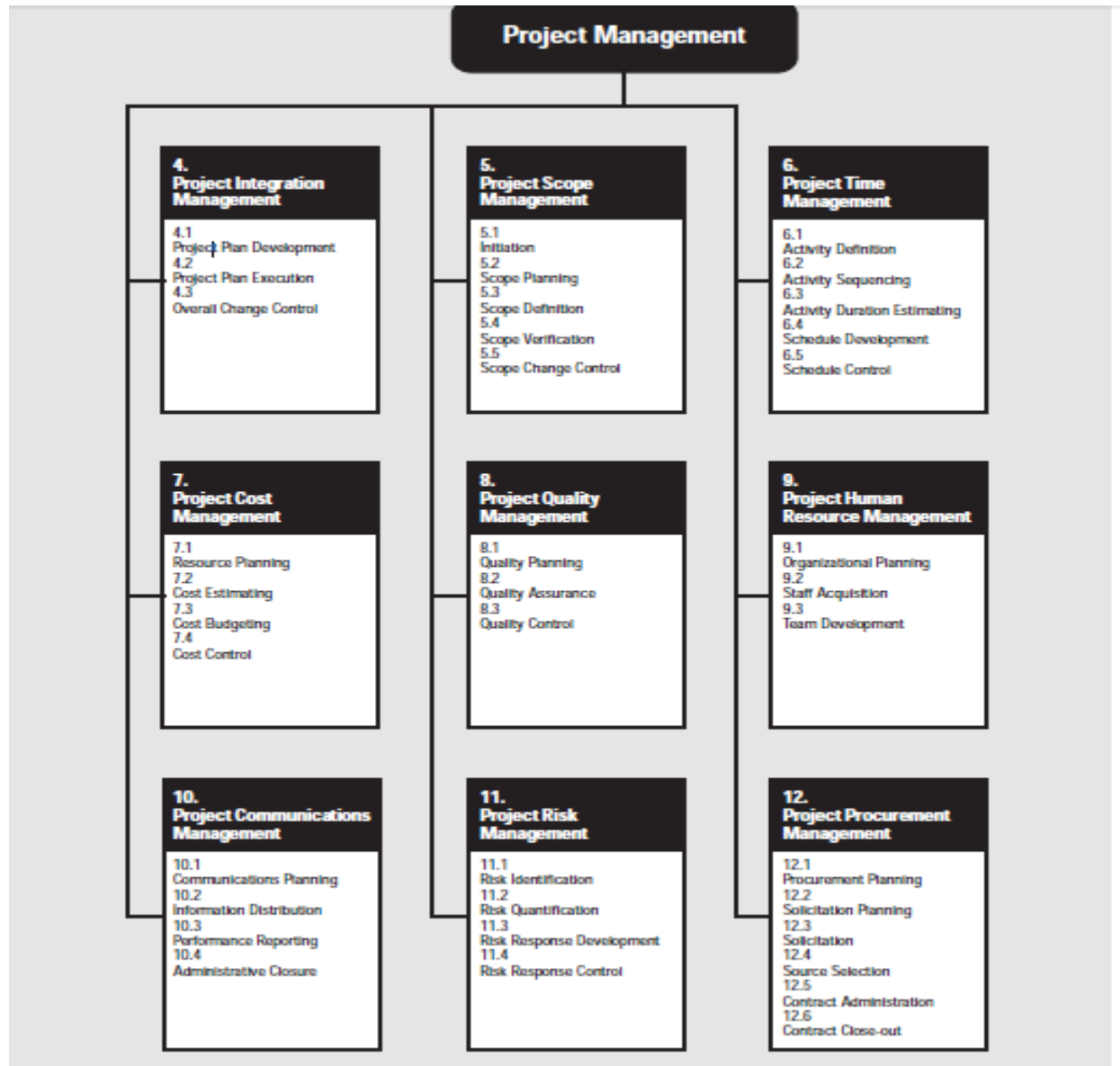
**Application of Knowledge, skills, tools, and techniques to project activities in order to meet or exceed stakeholders expectations from the project**

**Balancing competing demands among**

- Scope, time, cost and quality**
- Stakeholders with differing needs and expectations**
- Identified requirements ( needs) and unidentified requirements (expectations)**

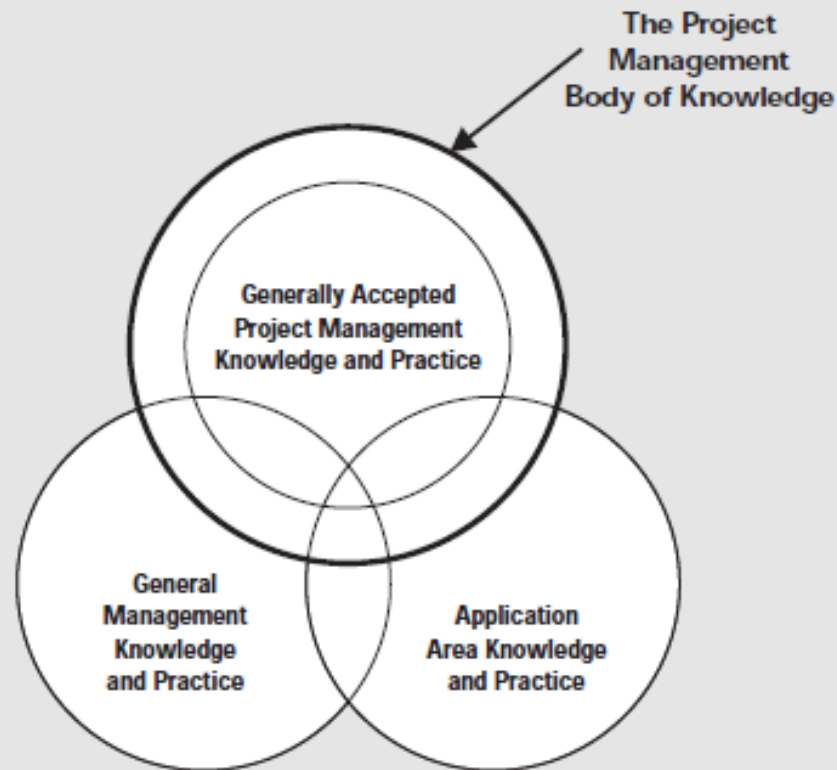
# PM Knowledge Areas and Processes

CE 401



# Relationship To Other Management Disciplines

Figure 1-2. Relationship of Project Management to Other Management Disciplines



# Areas of Expertise Required

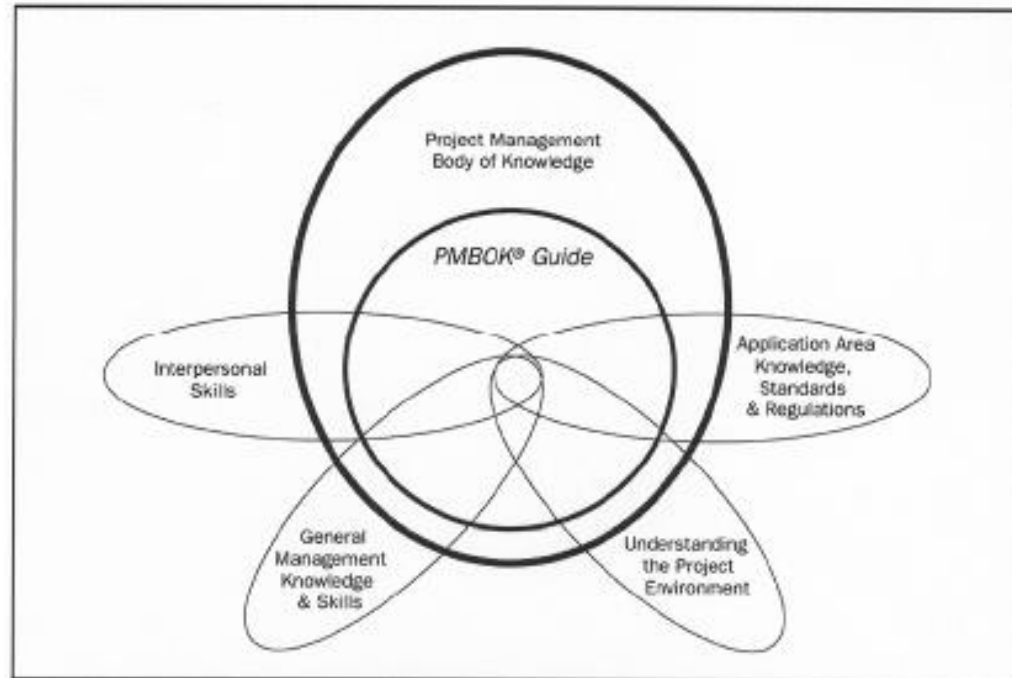


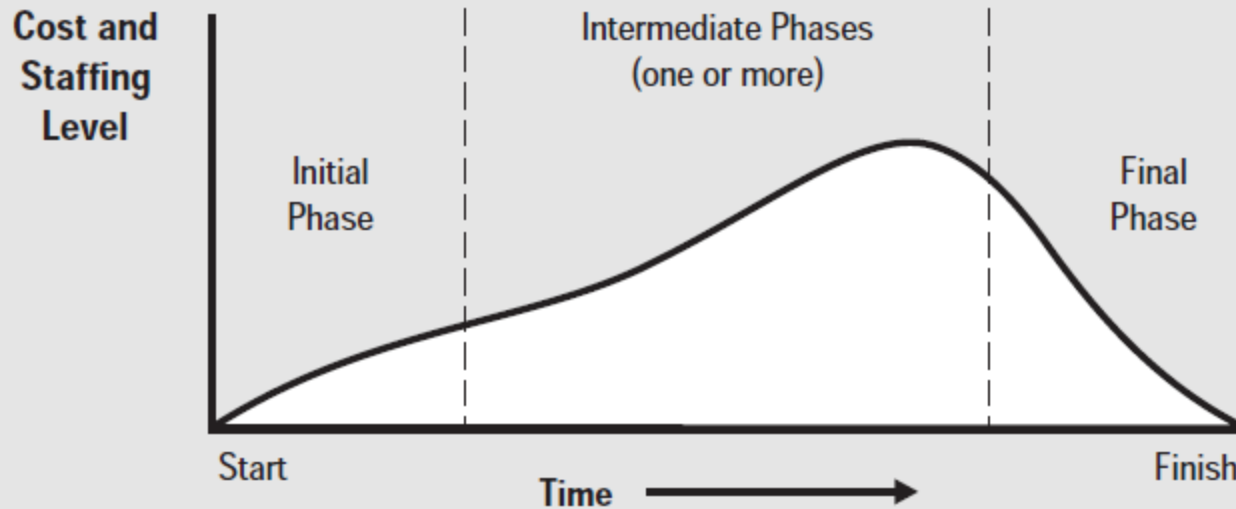
Figure 1-2. Areas of Expertise Needed by the Project Team

## The Project Management Context

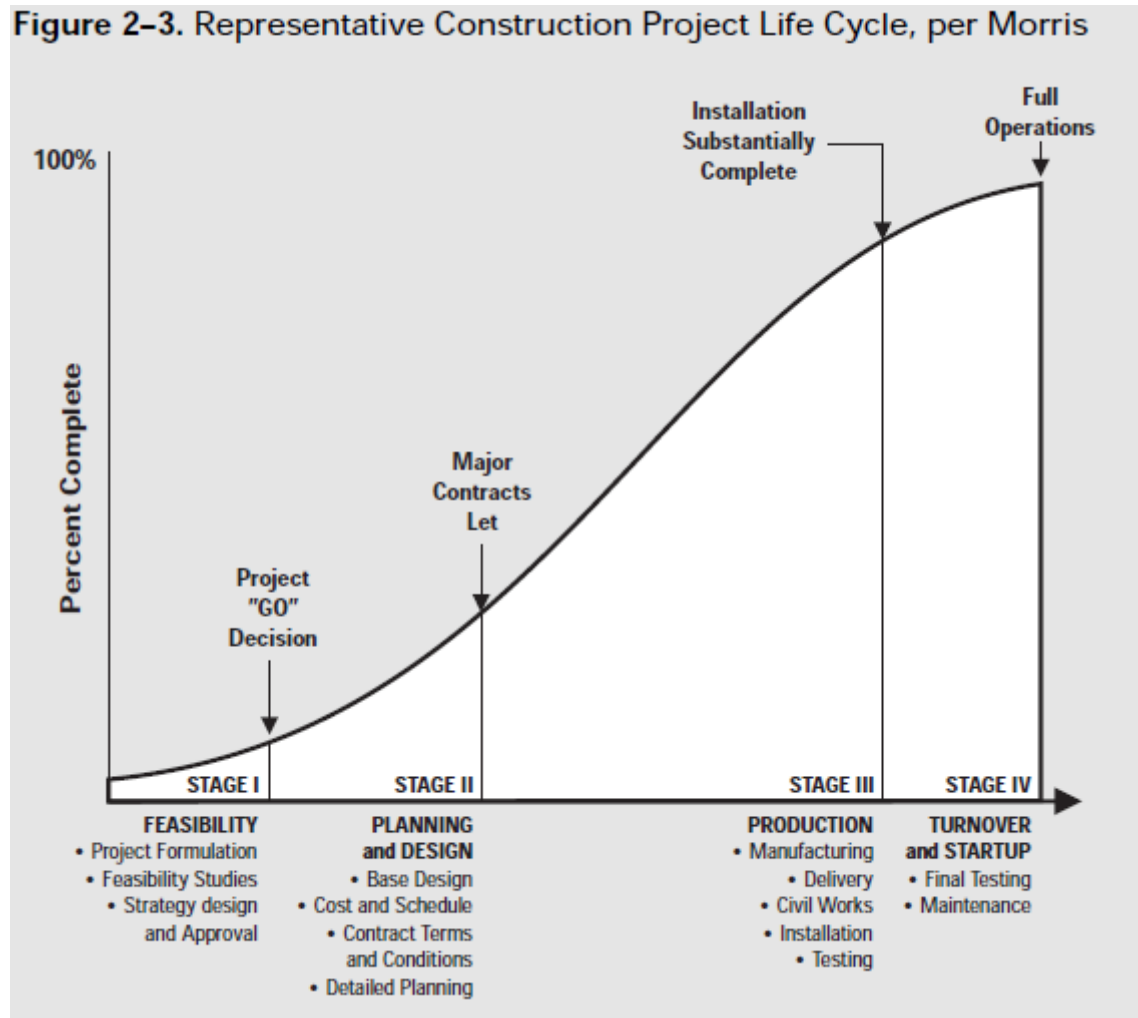
- Project Phases and the Project Life Cycle
- Project stakeholders
- Organizational Influence
- Key General Management Skills
- Socioeconomic Influences

# Project Phases and Project Life cycle

Figure 2-1. Sample Generic Life Cycle



# Representative Construction Project Life Cycle



## Representative Construction Project Life Cycle

- **Feasibility** – Project formulation, feasibility studies, and strategy design and approval

**Planning and Design** – base design, cost and schedule, contract terms and conditions and detailed planning. Major contracts are let

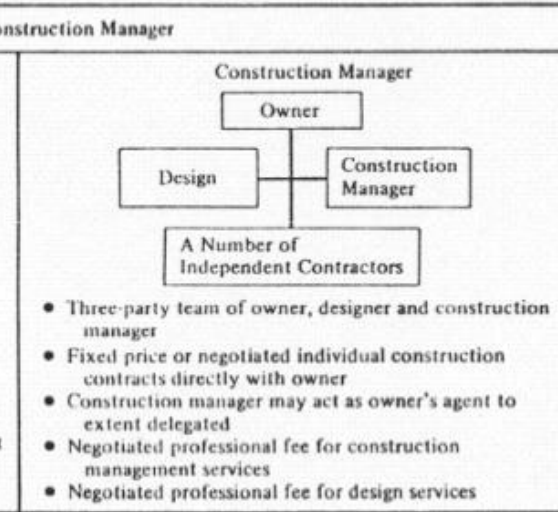
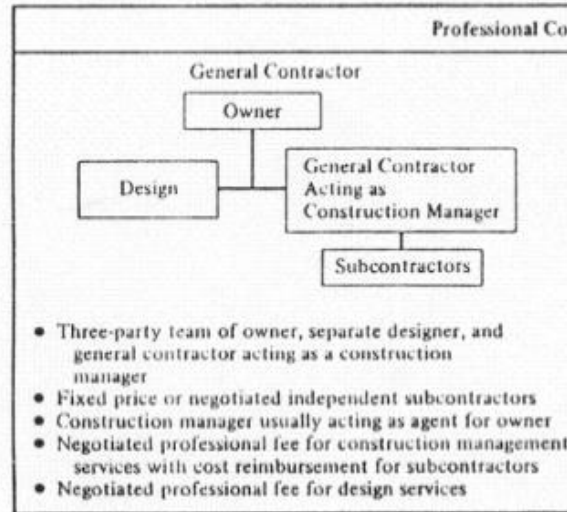
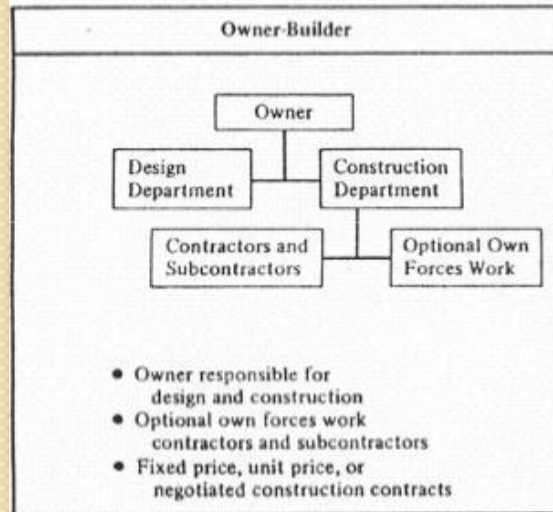
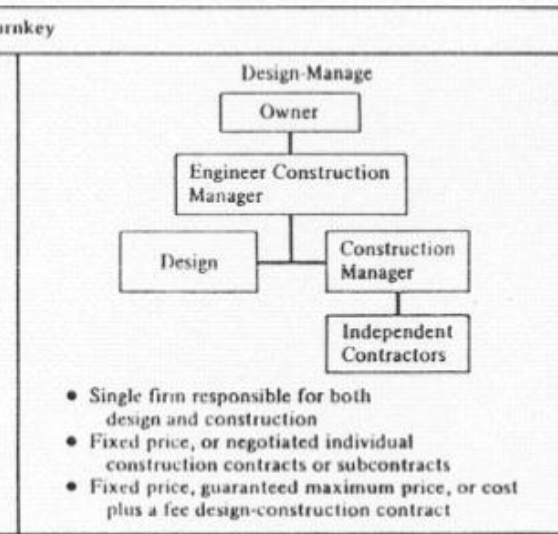
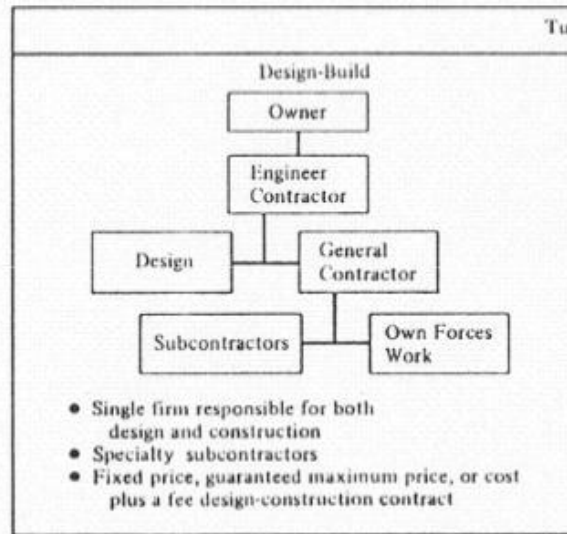
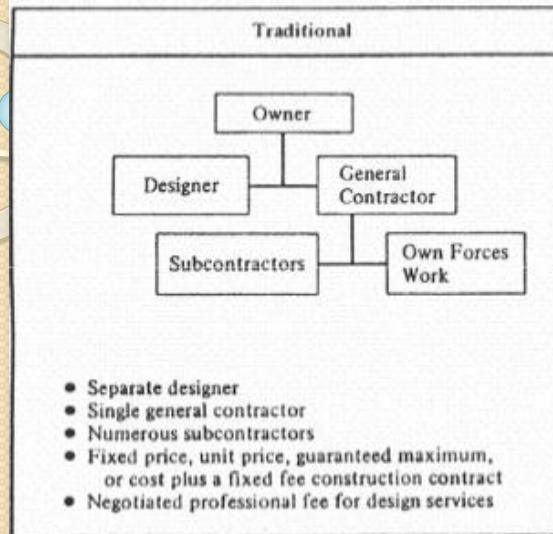
**Production** – manufacturing, delivery, civil works, installation and testing. The facility is substantially complete at the end of this phase

**Turnover and start-up** – final testing and maintenance. The facility is in full operation at the end of this phase

## Project Stakeholders

- **Project Manager**
- **Customer**
- **Performing Organization**
- **Project Team Member**
- **Sponsor**

## Contractual Relationships



# Key General Management Skills



Leading

Communicating

Negotiating

Problem Solving

Influence the Organization

# **SOCIAL-ECONOMIC-ENVIRONMENTAL INFLUENCES**

- Standard and Regulations
- Internationalization
- Cultural Influences
- Social – Economic- Environmental  
Sustainability

# Project Organization

- Projects are typically part of organization larger than
  - Government agencies
  - Corporation
  - Healthcare institution

Joint ventures, Partnering

# Project Organization

## **Systems**

- Derive revenue from projects
- Management by projects

Non-project based organization – manufacturing company, financial service firm (will have departments and other sub-units that operate as project-based organization)

**SOCIAL-ECONOMIC-ENVIRONMENTAL  
INFLUENCES**



# **SOCIAL-ECONOMIC-ENVIRONMENTAL INFLUENCES**

- Standard and Regulations
- Internationalization
- Cultural Influences
- Social – Economic- Environmental  
Sustainability

# **SOCIAL-ECONOMIC-ENVIRONMENTAL INFLUENCES**

- Standard and Regulations
- Internationalization
- Cultural Influences
- Social – Economic- Environmental  
Sustainability

# **SOCIAL-ECONOMIC-ENVIRONMENTAL INFLUENCES**

- Standard and Regulations
- Internationalization
- Cultural Influences
- Social – Economic- Environmental  
Sustainability

# **SOCIAL-ECONOMIC-ENVIRONMENTAL INFLUENCES**

- Standard and Regulations
- Internationalization
- Cultural Influences
- Social – Economic- Environmental  
Sustainability

# **SOCIAL-ECONOMIC-ENVIRONMENTAL INFLUENCES**

- Standard and Regulations
- Internationalization
- Cultural Influences
- Social – Economic- Environmental  
Sustainability