

Islamic Azad University
Science and Research Branch

Project Management
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Session 1: Introduction

Project Management

Instructor

- Reza Dehghan
- Ph.D. and MEng in civil engineering, project management
- MSc and BS in chemical engineering
- 20 years of work experience as a project engineer and project controls specialist in oil, gas and petrochemical projects

Project Management

Students

- Name
- Background studies
- Work experience
- Related courses passed



Project Management

Ground Rules

- Cell phones off or on silent during the class
- Return promptly from breaks
- Participate in the discussions, share your experience
- Feel free to ask questions related to the course subjects
- Participate in in-class exercises
- The University regulations regarding class presence are applied
- Again, cell phones off or on silent during the class!



Project Management

Grading Structure (Subject to Change!)

- 60% individual
- 40% team work

Individual Assignments	10%
Midterm	20%
Final	30%
In-class Exercises	10%
Group Project	30%
Total	100%
Bonus Project	Extra 10%



Introduction

Course Materials

- Slides
- In-class descriptions on slides **(Please take notes!)**
- No books are needed for this course. Only if interested, you may read "A Guide to Project Management Body of Knowledge (PMBOK)", 6th Edition, 2017, by the Project Management Institute (PMI)



Project Management

Objective

- Introducing project management and its applications
 - Reviewing practical practices of project management
 - Introducing tools and techniques used to plan and control projects
 - Understand the roles and responsibilities of a project manager
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Project Management

Major Topics

- Cost management
 - Planning and scheduling
 - Earned value management
 - Contracts
 - Change management
 - Risk management
 - Quality management
 - Project manager
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Introduction

Project Definition

- A temporary endeavor undertaken to create a unique product or service
- A project has a start and finish



Introduction

Project vs. Operation

- A project is temporary undertaking to produce a unique product, service or result.
- Operational work is defined by approved procedures and is not a temporary undertaking



Introduction

Examples

- Road construction
 - Software/hardware/website development
 - Space projects
 - Holding a conference
 - Research and development (R&D) projects
 - Military projects
 - Making a movie
 - Pipeline projects
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Introduction

Example

- Building a Plant



Introduction

Example

Building a Plant

Engineering and design

Procurement

Construction



Introduction

Example

- Building a Plant
 - Many activities
 - Many workers
 - Huge investment
 - Long time
 - Complex technology



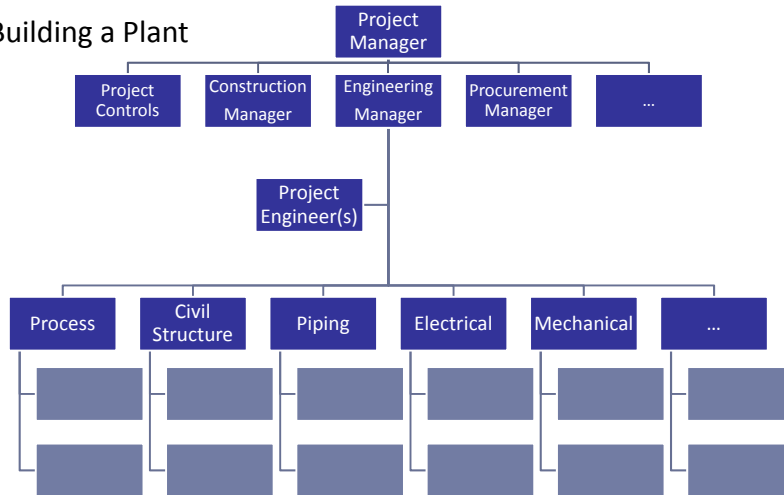
Special skills are required



Introduction

Example

- Building a Plant



Introduction

History

- Some people argue that building the Egyptian pyramids was a project, as was building the Great Wall of China
- Some people consider the Manhattan Project to be the first project to use “modern” project management, which used systematic project management tools and techniques. This three-year, \$2 billion (in 1946 dollars) project had a separate project manager and a technical manager, and involved 125,000 labors.

Introduction

Type of Projects

- Runner
- Repeater
- Renegade



Introduction

Types of Construction Projects

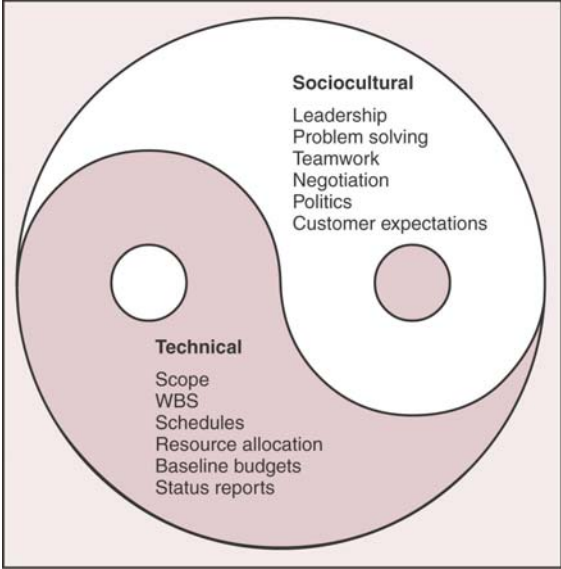
- **Building Construction**
 - Residential, commercial
- **Heavy Construction**
 - Dams, tunnels, large bridges, ...
- **Industrial Construction**
 - Refineries, power plants, chemical plants, ...



Introduction

Dimensions

- Technical
- Sociocultural



Sociocultural
Leadership
Problem solving
Teamwork
Negotiation
Politics
Customer expectations

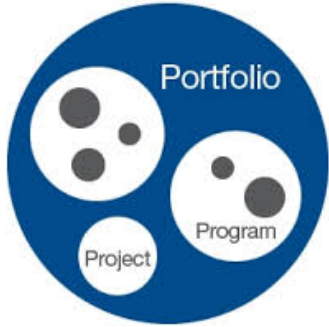
Technical
Scope
WBS
Schedules
Resource allocation
Baseline budgets
Status reports

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Introduction

Project, Program and Portfolio

- Portfolio: all of the projects for an organization
- Program: a group of related projects
- Project: a temporary endeavor undertaken to accomplish a unique product or service

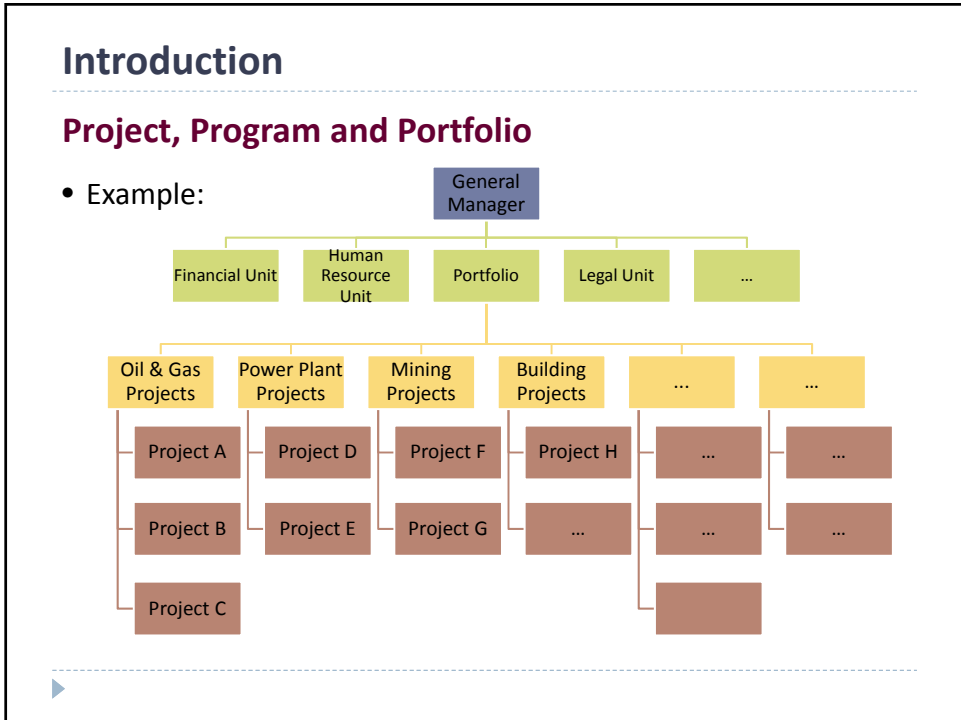
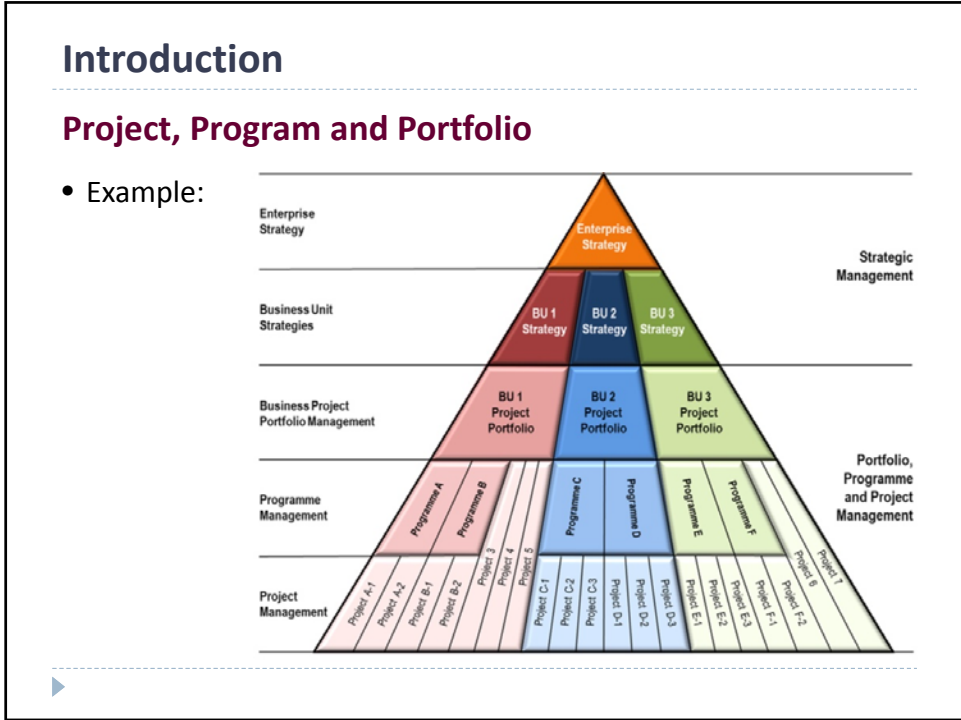


Portfolio

Program

Project

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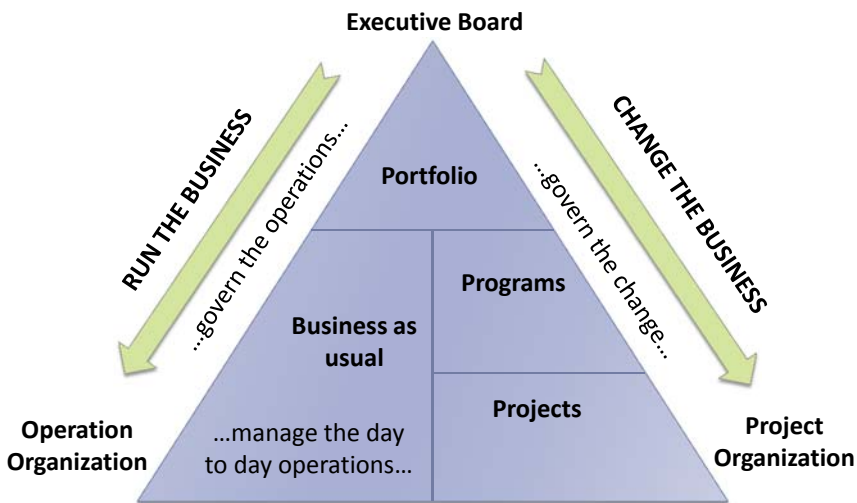
Introduction

Governance

- Set of policies and regulations, processes and procedures, and responsibilities and accountabilities that define the establishment, management and control of projects, programs and portfolios

Introduction

Corporate Governance



Introduction

Project Management Team

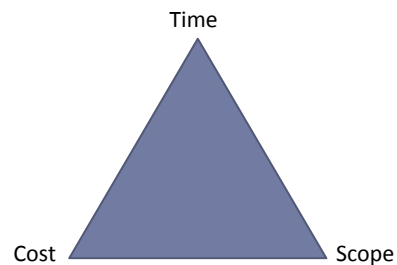
- The project manager and the group of individuals who act together to achieve project objectives
- The project manager is the leader of the team
- The team is comprised of individuals with different subject matter knowledge and expertise
 - Management side
 - Technical side



Introduction

The Triple Constraints

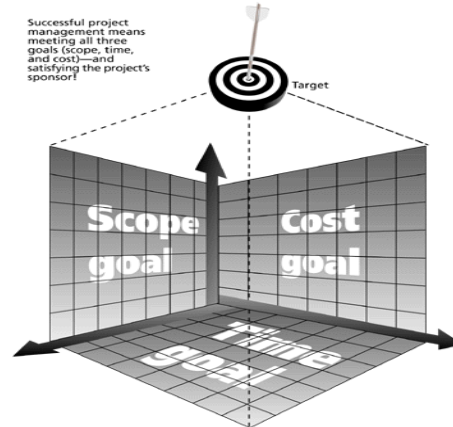
- Every project is constrained in different ways by its
 - Scope goals: What is the project trying to accomplish?
 - Time goals: How long should it take to complete?
 - Cost goals: What should it cost?



Introduction

The Triple Constraints

- It is the project manager's duty to balance these three often competing goals



Thank You

References

- Project Management Institute (PMI), 2017, A Guide to Project Management Body of Knowledge (PMBOK), 6th Edition
- Jack R. Meredith, Samuel J. Mantel, Jr., Scott M. Shafer, Project Management: A Managerial Approach, 9th Edition

