

**ASIAN INSTITUTE OF TECHNOLOGY  
SCHOOL OF ENGINEERING AND TECHNOLOGY  
Engineering Leadership Program**

**ELP1.1      DEVELOPING LEADERSHIP  
CAPABILITY      3(3-0)**

**Semester: January**

Rationale: Organizations involved in engineering and technology projects require leadership in all aspects of the organization: technical engineering, finance, human resources, operations, and administration. Leading project teams, departments or organizations involved with large engineering or technical projects requires the ability to instill trust in a team and the willingness of team members to contribute to a project's success and, concurrently, team membership requires an individual to constructively contribute to a team's efforts. For practicing professionals, the scope of a project can require leadership to handle project circumstances within (and external to) an organization, and across disciplines and country boundaries. This course intends to address the need for professionals to understand the basics of how they can lead, or contribute, to a team's success.

Catalog Description: This course will introduce participants to effective team leadership and team membership. Large engineering or technical projects (e.g., capacity building and public works projects) require the participation of individuals to collectively contribute to the successful completion of a project. Such leadership and teamwork skills are specific to the development process of capacity building projects in nation (or community) building.

The course is intended for professionals and will introduce them to, and develop, skills associated with: elements of leadership; team building; team participation, instilling confidence; disruptive team members; and case studies illustrating both good and poor leadership.

Pre-requisite: None

Course Outline:

1. Define Leadership.
  - 1.1. What is leadership?
  - 1.2. Difference among leadership, project management, financial controller, etc.
  - 1.3. Leadership within an organization. Program leaders, department leaders, executive leaders.  
The roles of leaders at different levels of an organization.
2. Understand and define elements of effective leadership and practices.
  - 2.1. What is team work in the context of capacity building projects?

- 2.2. How team members contribute to the efforts of a team. The roles of team members in completing project tasks.
  - 2.3. How team members support each other to complete tasks.
    - 2.3.1. Project teams
    - 2.3.2. Organizational teams
    - 2.3.3. Multi-organizational teams (viz., multiple organizations are required to complete large scale capacity building projects)
  - 2.4. Recognizing and communicating team members' (and team) strengths and weaknesses
  - 2.5. Handling disruptive or difficult team members.
  - 2.6. Assigning tasks (delegation).
    - 2.6.1. Authority within a team.
    - 2.6.2. Delegation of authority.
    - 2.6.3. Responding to authority.
  - 2.7. Motivating team members
  - 2.8. Team building
3. Fundamental understanding of how leadership theory guides practice.
    - 3.1. Differences between theory and practice
    - 3.2. Application of theory to situations in the office or field
    - 3.3. Adapting theory to practical situations (problems)
    - 3.4. Improvising to achieve project completion ("get the job done")
    - 3.5. Case studies illustrating the interaction among theory and practice
    - 3.6. Examine how theoretical concepts address real-world problems.
    - 3.7. Understanding and analyzing leadership theories to assess the most appropriate application of leadership to practical situations
  4. Understanding situations in which individual or team leadership is preferred.
    - 4.1. Situations in which leadership is required.
    - 4.2. Conversely, situations in which leadership is not required.
  5. Evaluate skills needed to function effectively as a leader.
    - 5.1. Identifying and prioritizing leadership needs of a project/department/organization
    - 5.2. Identify potential leaders appropriate to an organization's needs
    - 5.3. Evaluation of competence to lead (e.g., level of authority)
  6. Disruptive leadership. Bullying versus leadership.
    - 6.1. Organizational requirements (when is a bully needed?)
    - 6.2. Corporate culture and societal norms (multi cultural issues)
  7. Handling leadership failures
    - 7.1. Organizational response to leadership failures
    - 7.2. Organizational policy, legal and ethical considerations.
  8. Leadership in capacity building projects across cultures.
    - 8.1. Functioning effectively as a leader
      - 8.1.1. In an organization composed of different cultures
      - 8.1.2. In collaborative efforts with other organizations

9. Experiential exercises in leadership. Workshops and studios in which students are given projects to complete requiring imagination, team work and leadership for completion.

Laboratory session: 15 hours of interactive session

Textbook: Lecture notes and selected papers

Reference books:

1. *A Process Reference Model for Leading Complex Virtual Teams: Helping Project Managers improve their leadership capability*, by David Tuffley, Publisher VDM Verlag Dr. Müller
2. *Developing Change Leaders*, by Paul Aitken, Publisher Routledge; 1 edition (October 23, 2009)
3. *Strategic Leadership Development*, by Colin Carnall, Publisher Palgrave Macmillan
4. *Leadership: Limits and Possibilities*, by Keith Grint, Publisher: Palgrave Macmillan

Journals and Magazines:

1. Journal of Leadership Education
2. Engineering Management Journal
3. Leadership, <http://lea.sagepub.com/>
4. Journal of Leadership & Organizational Studies

Grading system: The final grade will be computed according to the following weight distribution:

1. Mid-semester exam (25%)
2. Final exam (25%),
3. Assignments/projects (30%).
4. Laboratory Sessions (20%).

Instructors:

Expected outcomes:

1. Fundamental understanding of how theory guides practice
2. Recognize elements of effective leadership and practice
3. Identify one's own strengths and the potential challenges that one may face as a leader
4. Understanding of aspects of effective leadership including, but not limited to, leading with vision, inspiring and motivating others, ethics, and working with diversity
5. Understanding of teamwork in successful project completion
  - 5.1. Roles, duties, and responsibilities of team leader/team member
  - 5.2. How to effectively participate as a team leader/team member
6. Compare and contrast leadership theories to evaluate their strengths and weaknesses
7. How to effectively lead in multi cultural environments
  - 7.1. Within an organization

### 7.2. Across organizations

8. Examine how theoretical concepts help to address real-world problems
9. Understanding various leadership models and selecting features of leadership models for the success of an organization or project