Module 6. **Team Formation**

6.1 What is a Team?

Most of the skills and abilities needed to be on a team are already familiar. The goal is to organize these skills into efficient and effective strategies. A basic skill of team formation begins with learning the difference between a team and a work group. A Work Group is defined as having the following characteristics:

Strong Clearly Focused Leader
Individual Accountability
Broad Organizational Mission
Individual Work Products
Efficiently Run Meetings
Measured Group Effectiveness and Problem-Solving Discussions, Decisions, and Delegation

Many engineering students exposed to work groups consider them teams. A Team actually has the following characteristics:

Shared Leadership Roles
Individual and Mutual Accountability
Delivery of a Specific Team Purpose
Collective Work Product
Encouragement of Open Ended Discussions
Specific Problem-Solving Meetings
Performance Directly Measured by Assessing Collective Work Product
Discussions and Decisions about Problem Solving
Collaborating and Doing the Real Work Together
(Katzenbach, J. R. & Smith D. K., 1993).

Teams are defined by the purpose the members wish to accomplish, their structure, culture, and environment. Engineers are usually asked to manage or be a member of three types of teams: work teams, knowledge teams, and cross-functional teams, which includes research and development teams.

A self-managed work team is defined as a team that takes the responsibility to learn how to manage themselves, using shared leadership, structured decision-making, and attend formal weekly meetings as part of their structure.

A knowledge team utilizes the formation of team boundaries, shared team leadership, team training and development, participative goal setting, enhanced flexibility, conflict management skills, enhanced creativity, decision-making, and written and clearly defined participative action plans utilizing technical communication. Knowledge teams require a strong project manager, who can effectively keep open communication with customers and organizational priorities and make the team accountable for their results (Romig & Olson, 1995).

A cross-functional team is defined as a team whose participants are from different departments or disciplines that work together in a team to reach a common goal. Shared leadership is very important in cross-functional teams because as the action plans for the team develops, different team members lead the team through their area of expertise. Finding a common language and understanding differences in perspective is most important in cross-functional teams.

Complex and dynamic work environments require creativity, innovation, effective strategic planning, and the ability to define goals and objectives, strengthened by strong decision making. Teams have become an integral part of these environments. Organizations understand that teams can provide rapid consensus across departments, allowing effective prioritization, enhancing creativity, and providing companies with a competitive advantage.

6.2 Preparation for Forming a Team

Once the individual expectations, strengths, and weaknesses are delineated ground rules can be formed. Forming ground rules supports a team in understanding each other's working styles and values. Once these differences in values and thinking are discussed and integrated into the team's culture collaboration can begin. Not discussing these differences can create interpersonal problems between two team members, which can escalate and cause performance problems for a team. An example of a common interpersonal problem on a team is when one team member may be a friend with another team member and after working together finds they have different working styles that is frustrating and not meeting one of the friend's expectations. The other friend and other team member are also frustrated because the friend whose expectations are not being met is avoiding them and refusing to address the problem. The team becomes fragmented. The third member, unaware of the conflict, then feels left out. The friends feel alienated because they are avoiding the new conflict in their relationship. The solution to this problem is to discuss in advance of starting the project everyone's expectations, strengths, and weaknesses in specific areas that will impact the team's overall performance. Then decide which strengths are needed, which

weaknesses will be developed, and which expectations can be met and use these decisions to create your ground rule systems.

Different working styles can be a source of conflict. Successful collaboration includes separating these differences in working style as not a personal issue rather a difference that can be incorporated into performing the task and viewing the differences as an opportunity to learn and adapt both styles to a collaborative working style. Forming ground rules and viewing these ground rules as systems of team behavior can help ameliorate common team problems.

Successful collaboration includes creating a system for the team to deal with conflict and negotiation. The manner in which conflict is dealt within a team setting is different than the method in which conflict is dealt within a personal relationship. Successful teams honestly discuss past team experiences by identifying their success and developing systems to deal with the problems they encountered in past teams.

Behavior is situation specific. Your leadership, conflict, working, learning, thinking, and negotiating styles are also situation specific. Because these styles are situation specific, learning how to adapt them to a specific situation is a skill. In the above-mentioned example your friend is someone you may or may not have worked with before.   Therefore, if you have not worked in a project setting with your friend in the past their behavior may be different than what you have experienced in past social or leisure time situations.

Identifying the use of these different styles in specific situations requires knowledge and focus. Deciding on the appropriate style or behavior for the appropriate situation, adapting the style or behavior, and practicing these skills in a highly organized environment necessitates a high level of competency. To effectively organize a project, scientists and engineers need to be competent at both the team and task process. Bringing all your skills and abilities to bear upon a problem, creates a successful dynamic working environment that is satisfying and harmonious.

Relax and enjoy learning the information. Learning to manage a project is a growth experience. "While you still have time and resources to maneuver anticipate upcoming limiting forces, which are small now, but can increase as time goes on. You cannot eliminate the limits. You, can however, work with them more effectively, and incorporate them into your next wave of expansion." (Senge, 1994). Collaborating can be very complex and hard to manage in large teams. Mastering collaboration in a small team is a good beginning for collaborating in a larger team. Projects begin with team formation. Forming a team has two essential steps:

1. When forming a team, team members need to get to know each other quickly. To get to know each other quickly small group interactive sessions are planned to discuss each other's expectations, similarities and differences and what strengths and weaknesses

each team member possess in the context of the particular project the team is preparing to tackle. In forming a team, openly discussing skills and abilities as rapidly as possible is essential for developing trust. Initially taking the time to talk or "breaking the ice" in small groups supports new team members in trusting one another.

2. The teams need an organizational structure that defines boundaries. The structure should include definitions of team roles, ground rules, boundaries for communicating with each other and people outside the team, and a time management plan, which establishes boundaries for accomplishing the project.

Competent team members view their team as a living system with a culture of its own, distinct and apart from the rest of the organization. Being a team member requires becoming a participant and an observer. Effective team membership necessitates knowledge and skill in many areas including knowledge of self, team development, team dynamics, and leadership theory. Other important skills are the development of flexible intervention skills, process observation and diagnostic skills, communication skills, and conflict and negotiation skills. Here are some other examples:

1. Definition and Differences Between Team And Task Process
2. What is a Team?
3. Team Life Cycle
4. Mission Statement And How To Create One
5. Ground Rules viewed as system of behavior
6. Time Management Plan
7. Conflict Management
8. Development of a Team Culture

6.3 Definition and Differences Between Team and Task Process

There are two processes happening simultaneously when people collaborate on a project. The two processes are the task process and the team process. Both processes are of equal importance and to achieve success necessitate proper structuring and maintenance. Team and task processes are composed of maintenance behaviors and abilities, structured hierarchically and maintained simultaneously. The first structure addressed when doing a project is the team process, establishing effective working relationships amongst the team members. These interpersonal relationships, once structured properly and established as norms within the team, allow the team to effectively communicate, manage conflict, make decisions, and problem solve. Team maintenance behaviors focus on the interaction between individuals while they are accomplishing tasks.

Competent Team Skills

1. Active Listening supports the team in becoming competent in influencing others, to be open to each other's ideas, and listen actively before directing each other to act in a desired manner, which in turn allows the project leader to move others to act in a desired manner.

2. Understanding the responsibilities of each team member's role within the team creates accountability, which is the ability to establish in each other a commitment to achieving results by making everyone accountable to the equal sharing of work and the regulating of their behavior. The desired competency level for accountability on a team would be to listen to each other's ideas and then collaborate in ways that make each other individually and mutually accountable to the team.

3. Teams collaborate with each other to develop a willingness to work with others to achieve shared success at any time. Working collaboratively develops a Bias for Action, which allows team members to think over a problem before taking action and then appropriately and consistently make decisions when to act and when to delay. Procrastination on a team would be futile. Members must be able to react quickly and move forward after thinking and brainstorming a problem collaboratively.

4. Recognizing and adhering to the Ground Rules to establish a synergetic team culture by developing effective communication. Effective communication is the ability to utilize multiple communication modes and channels. A competent team member utilizes all technology available to keep the team high performing and increases resources by being trained in the latest communication technology.

5. Understanding how to individually and collaboratively plan a negotiation. Conflict management involves flexibility. Being able to adapt and work effectively within a variety of situations with team members and other individuals allows team members to be able to understand and manage different perspectives on an issue, which in turn permits the project leader to understand and expertly use situation specific management skills to manage the team. Competency in this area is being aware of different conflict styles and knowing how to appropriately apply them to different situations.   Networking helps the team to expertly communicate information to build relationships and use them to accomplish the goals and objectives.

6. Project Leadership is the ability to use different leadership styles that are situation specific to achieve high performance for the team. Competency levels on a team are defined as being trained in situational and shared leadership skills. Coaching and supporting each other is acknowledging and utilizing a strong project leader whom is directive and leads by setting firm standards of behavior and accountability through coaching and building a strong team. Teamwork is defined as the ability to lead teams and be a team member who can share work and leadership by individually and mutually

being accountable for the equal distribution of work.

7. Assessment of Individual Styles of Behavior allows team members to develop interpersonal understanding of each other.   Team members commit to understanding other team members by assessing their behavioral competencies. Competency on a team is learning the use of the assessment tools and developing expertise in their use.

8. Team members need to have a specific level of competence to become an effective team member. Learning to utilize self-regulation is part of this process and allows team members to regulate their own behavior and use emotional intelligence when faced with negative responses or actions when provoked, in times of conflict or while under stress. Team members need to be aware of the surrounding organizational culture so that the team can manage the organizational influences to achieve the objectives. Competency level for team members would be to have the ability to utilize informal communication channels and utilizes decision-making models to achieve high performance while understanding strategic management without having had the experience to develop the necessary skills.

Once the team process is established the task process is planned. The goal is to apply the information learned in the initial stages of the team process to facilitate the execution of the task process.

Initial Tasks:

1. Establishing a Mission Statement begins the development of applying conceptual thinking to the project.   Members can then feel comfortable thinking of new ways to look at existing problems and detect patterns in systematic reactions to show some innovation and application of their existing knowledge The Mission Statement will help define where the project may still need some development and show how the team members can begin to communicate concepts more clearly and accurately in the Scope Statement in your Proposal.

2. Defining the Objective for the Team and Task Process by developing achievement orientation as a team that will allow each team member to do well, work to a high standard and to ask directly what is expected of oneself.

3. Creating Goals that can be decomposed into Activities for the Team requires analytical thinking allowing the team to make formal and logical deductions, using models and formulas, and scientific solutions. Competency in this area is to prefer analyzing data by applying theory and method, while making systematic comparisons of different features by setting priorities on a rational basis, identifying time sequences, causal relationships and consistently using formal and logical deductions successfully.

4. Utilizing the Strengths and Weaknesses of the team members in executing the task us accomplished through the identification of individual technical expertise, which is the specific knowledge, skills, qualifications, or experience required to perform in a particular team. And then having the team agree to technical skill development which is the ability to assess technical skills in each other and use them effectively to accomplish the task with the ability to work on a team where cross-functional technical skills maybe needed. The team members then need to apply the expertise by disseminate knowledge to oneself, team members, and others while learning to apply expertise.

5. Time Management Plans can create flexible boundaries and equally distributed workloads. Team members utilize dedication, which is the ability to meet objectives under increasingly challenging circumstances by thriving under some stress while meeting objectives. Time management also incorporates Strategic Orientation is the ability to link long-range visions and concepts to daily work. Team need to understand their competencies so they can develop the ability to use time management to keep the team high performing by managing other people and creating activity lists for the team to follow.

Research on Team Effectiveness:

Our research at MIT has shown that the following elements must be present to have continuously effective meetings.

1. Meetings are planned out ahead of time by one team member.

2. Agendas are sent out 24 hours in advance of the meeting and other members contribute to the agenda.

3. The agendas are specific and have time estimates that use historic information from past agendas throughout the term.

4. Minutes are taken at each meeting and are sent to each attendee within 48 hours of the meetings. Minutes are used as part of an active listening process, where the notes clarify what was discussed and then each person attending the meeting further clarifies their perspective after reading the recorder's minutes. Minutes are collaborative way of continuing the conversation after the meeting is over.

5. All members of the team attend scheduled weekly meetings if the team is smaller than 4. If the team is larger than 4 members meetings can be effective if a quorum is present at each meeting and the other members are informed of decisions made through the sending of minutes. Decisions that are made

without other members being present are placed on the next agenda for review when the team members are present.

6. Effective meeting ground rules are kept in place throughout the life of the team and are reviewed, changed and followed by all team members.

7. Good facilitation by a project leader or appointed facilitator who is part of the team allows the team to proceed effectively.

8. Adhering to scheduled weekly team and faculty meetings for the team throughout the term of the project improves the effectiveness of the project.