TEAM ORGANIZATION AND DUTIES

Experience with student design teams with four to seven members has shown that administrative and logistical issues are dealt with more effectively when team members agree to perform specific administrative roles within the team. These roles are distinct from the technical role that all team members are expected to perform (e.g. engineering analysis, making CAD drawings, research on a topic new to the team, or building a prototype).

Team Leader: Teams in business and industry invariably have a designated leader. Whether a student design team has a leader will depend upon the wishes of the team members or the decision of the course instructor. We have taught design courses where all the teams are asked to select leaders, where none of the teams had designated leaders, or where some do. We have often seen the situation where teams start without a leader and gradually an acknowledged leader emerges, generally one of the better organized and energetic team members. We have not seen a strong correlation between these different situations and design project results. However, well performing teams are usually the best organized teams.

If the team has a leader his or her chief duty will be to prepare and distribute the agenda prior to each meeting, organize and lead the team meetings, promote good decision-making, and to monitor the progress toward the completion date of all major tasks. Leaders initiate discussions on delegation of tasks and help encourage decision making. Above all, the team should not use the leader as a person on whom they can "dump" all of the administrative details connected with a design project. The team roles discussed below have been devised to responsibly distribute these duties within the team.

Facilitator: If a team does not have a named leader then it needs a person to organize the meetings, serve as "traffic cop" during discussions, and help the team members work their way to decisions using team tools such as QFD, brainstorming, and other TQM tools (see Sec.4.6). A good facilitator is someone who has a good grasp of the engineering design process and design tools and an interest in further improving their group dynamics skills.

Report Manager: A major deliverable for a design project is the final report. Often one or more interim reports are also required. The Report Manager does not write the reports but makes sure that the reports meet the requirements of the course instructor. He or she also makes sure that the team members writing sections of the report are on schedule and that they update the report to include all new findings of the team. The Report Manger also is responsible for resolving any gaps between sections of the report, for smoothing out differences in format and style between sections of the report, and is responsible for the printing and delivery of the report.

Repository Manager: It is suggested that each team create and maintain a repository of project documents that can be accessed by all members. A web site, a Wiki page, Google Groups, and Group Pages in course provided software such as Blackboard, are possible venues. The repository manager is responsible for creating and maintaining this repository. Typical contents include: Team contact information; Minutes of team meetings; Written rationale of key design decisions; Copies of all submitted reports; Important sources of information and data, such as patents, technical papers and computer programs; Test data, Sketches, and other ideas generated during the project. In effect, the repository should serve as a team design notebook.

Treasurer: The team treasurer is responsible for keeping a record of costs incurred, and in arranging repayment to team members for their individual purchases. He or she is responsible for distributing any budgeted funds appropriately and keeping the team under the budgeted limit of expenditures. The

treasurer will obtain signoffs from team members for their purchases in accordance with sponsor (often, the course's department) policy.

Recorder: The minutes of each team meeting will be taken by the recorder and posted in the Repository. Many teams rotate the recorder position among the members.

Team Liaison: The Team Liaison is the contact between the team and its external stakeholders (sponsor, faculty advisor, faculty technical specialists, etc.) It should be someone with a high degree of professionalism in communication and who is available for phone communication during normal business hours. The team liaison should maintain at good overall understanding of the project and team progress. In the literature on technology innovation, this person is often called the "gatekeeper".