

Purpose

Capstone teams have weekly meetings with a faculty coach. The team comes prepared with an agenda and a printed copy of the rubric worksheet (not this document), which is available as a template on the ME 492 web site¹. The faculty coach uses the rubric to evaluate the team meeting according to four criteria: Meeting Productivity, Professional Behavior, Results for the Week, and Progress Toward Project Goals.

The purpose of the meeting rubric is to provide formative and summative assessment of student team meetings. The formative assessment (immediate feedback) is intended to help students improve the efficiency and professional conduct of their meetings. Summative assessment means the scores on the meeting rubric will be used as one factor in computing grades for the course. Scores on early meetings will be discounted relative to scores on meetings later in ME 492-493.

Faculty coaches assign scores on a scale from 1 to 5, where 1 is the score for least desirable behavior or outcome, and 5 is the score for most desirable behavior or outcome. Table 1 on page 4 has suggestions for interpreting the scale in each of the four categories.

Meeting Productivity

We expect weekly meetings to contribute to advancing the Capstone design project. Evaluating productivity of a meeting is subjective, but we should attempt it nonetheless. Assigning a score helps to focus student attention on the goal of making meetings worthwhile.

The goal of meetings is accomplish tasks, such as debating and making decisions, that cannot be completed easily without face-to-face interaction of the entire team. The *potential* for a useful meeting requires that individuals and the team as a whole have completed useful work since the last meeting.

Minimal meeting time should be spent on reporting activity – what people have been *doing*. The focus instead should be on what has been *done*, and *completed*. Individuals should come prepared to share documents (plots, tables, artifacts, short reports) that expedite their summary of recent accomplishments. That preparation happens in parallel by team members outside of shared meeting time.

When team members come prepared, the meeting time can, and should, focus on (1) decisions that flow from recently completed useful work, (2) new questions and concerns arising from completed work, and (3) agreements on what new work needs to be done to answer the next questions or make the next decision. Those decisions should involve choices about the design as well as managerial decisions about schedule, budget and task assignment.

Of course, it is natural for some meeting time to be spent disseminating information, especially information that the coach should know to keep abreast of the design or the budget. However, a meeting that only focuses on activity

¹http://web.cecs.pdx.edu/~gerry/class/ME492/resources/rubric_weekly_meeting.html

reporting is not as useful as a meeting where tactical and strategic issues are discussed and decided.

Professional Behavior

We expect students to behave and treat everyone professionally. Team members should arrive on time, have completed their assigned tasks, and be ready to describe their achievements since the last meeting. One member of the team should prepare and print an agenda for each member of the team and the coach, along with a printed meeting rubric for the coach. The agenda and the meeting rubric could be the same document. Use of templates is strongly encouraged in order to expedite document creation and provide uniform appearance of documents with similar function.

Any documentation distributed at the meeting, including the agenda, should be labelled with the date, project title and the name (or names) of the team member(s) who produced the documentation. Appropriate labeling aids in the archiving of important results and it leaves a clear record of who is responsible – in both the good and bad sense of the word – for the work that was completed. Copies of the documents distributed at the meeting should be stored in the team’s digital repository.

Professional behavior also refers to communication and interpersonal interactions. At all times, team members should demonstrate behavior consistent with the ASME Code of Ethics and the PSU Code of Student Conduct.

Results for the Week

During the weekly meeting, team members briefly highlight their contributions in one or two minutes, and be ready to discuss issues arising from the relationship of their individual achievements to the achievements of other team members. Having appropriate supporting documentation, e.g., printed plots, photos or physical artifacts, can make the discussion of results more effective.

Teams should have a shared, on-line repository for storing documents and other digital artifacts. The repository should be accessible by the faculty coach. Concrete and useful accomplishments by the team should be obvious from the documentation available at the meeting or results stored in the on-line repository.

The coach should point out to the team, and note on the rubric, if the team uses “talking” about activity as a substitute for demonstrating concrete and useful results. Activity without results, i.e. just “looking busy”, does not help the team evolve the design. At the same time, coaches also need to recognize that the nature of concrete and useful results will evolve with the design. Especially in the early stages of the project, the team will need to find information and perform analysis that may be less familiar and is less analytical and reductive than conventional engineering analysis.

Progress Toward Project Goals

Progress depends on results that contribute to the ultimate goal of the Capstone project: creating a desirable and transferable design. Student teams may be generating lots of results, while at the same time not be on schedule to meet

the project goals. For example, a team member may have spent days of effort to develop an elaborate solid model of a prototype part, when a simple hand sketch or quickly fabricated cardboard model would have been sufficient. The *Progress* category is intended to focus the team's attention on doing useful work on schedule, or, as necessary, making explicit decisions to alter the schedule in order to attaining project goals.

In assessing and giving feedback about progress, coaches recognize that overall progress is not uniform and linear, that external actors (vendors, project sponsors, weather) outside of the team's control can affect progress, and that teams have external academic demands such as exams and other course projects that compete for time. The team should proactively manage their schedule and set weekly expectations in recognition of these external influences.

It is reasonable that one or two weekly team meetings per term may be cancelled due to circumstances that would make a meeting unnecessary or a waste of time. The faculty coach may also have scheduling conflicts that arise. When it makes sense to cancel a meeting, the team should contact the faculty coach well in advance, ideally at least one day before the meeting. When the team cancels a meeting, the coach should evaluate whether, by the time of the subsequent meeting, that the team is still on track to meet their goals.

Table 1: Suggested scales for the Capstone Meeting Rubric. The purpose of the table is to give guidance in assigning numerical values to categories. The example text is *suggestive* and not to be interpreted rigidly.

Meeting Productivity

- 1 = The meeting was a waste of everyone's time.
- 3 = Some decisions were made, but either the decision-making was not efficient, and/or the decisions could have been made outside of the meeting. Too much meeting time was spent communicating information *between team members* (not between the team and the coach) that does not need a face-to-face meeting.
- 5 = Excellent use of everyone's time. Important and concrete progress was made during the meeting.

Professional Behavior

- 1 = Team members exhibit rude, unethical or otherwise inappropriate behavior. Team is unprepared for the meeting. A large number of team members are late.
- 3 = Someone on the team makes an inappropriate, offensive remark or makes a personal attack on another team member, *and* the team ignores that person instead of gently pointing out that he/she crossed a line. Documentation or analysis shared at the meeting has significant and obvious weaknesses, or is substantially incomplete or is very sloppy. One or more team members is late.
- 5 = The team is on-time, well-prepared, mutually polite, friendly, and is managing, not avoiding, any interpersonal conflicts. I am happy to have these students represent the MME Department.

Weekly Results

- 1 = All talk, no concrete and useful results. Discussion during the meeting involves rehashing assigned tasks that were not completed, or decisions that were made previously but not followed.
- 3 = Some members of the team are achieving concrete and useful results, but others are slacking.
- 5 = Everyone on the team has made concrete and useful contributions to the goals for the week. Continuation of this week's results will likely lead to a very successful project.

Progress Toward Design Goals

- 1 = The team made no progress since the last meeting; The project schedule is badly slipping.
- 3 = The team is making progress, but not at the pace to keep the project on schedule.
- 5 = The team is making progress ahead of the planned schedule; or the team has made up for lost time in past weeks.