Project Team Charter
Senior Capstone Design
Signed copy of charter is due by date posted on Bb Learn

To create a team charter for your capstone project, follow these steps:

1. Schedule a face-to-face meeting that all group members will attend.

2. In advance of the meeting, all group members should:

a) Review the attached "Ground Rules for Difficult Group Discussions." These documents contain helpful information and useful parameters for team conversation and discussion.

b) Review the attached team charter form and prepare your input for the meeting. Every team member is expected to contribute to charter development.

c) Review their MBTI personality styles. Be prepared to discuss how each team members' personalities will influence the group and the project.

3. During your meeting:

a) Designate one team-member as project manager. This person will be a single point of contact for the team.

b) To ensure that everyone's ideas will be heard and considered, establish a protocol for sharing team member input on charter contents. For example, will each team member present all prepared input up front, or will you share input and develop the contract section by section?

c) Using the protocol you've agreed on, conduct a group discussion that results in a team charter for your senior project.

   - Take this discussion seriously and participate fully. The power and success of your team's charter comes from the conversation and agreements on which it is based.

   - Moreover, **the roles and responsibilities documented in your charter will provide the concrete benchmarking data for assessing one another's project participation in the peer evaluations.**

d) To formalize the specifications and agreements documented in the charter, all team members must sign and date this contract prior to turning it in. In addition, the team (or a designated team representative) must review this contract with your instructor, who should also sign the contract.

4. During the term:

This charter is a living document, and the roles and responsibilities specified herein are the benchmarks by which you and your team members will be assessing one another's performance at semester's end. **If any of the team member roles and responsibilities specified in this document change during the course of the term, revise the charter accordingly.**

Team Charter for Senior Capstone Design Project

1. Project Manager:

Alana Benson is the Technical Lead and Anthony Cheslic is the Management Lead for the Market team.

2. Team Purpose:

The purpose of the Market Team is to complete a technical design, business plan, and siting challenge in accordance with the Rules and Regulations released by the U.S. Department of Energy (DOE). This team will be creating a technical large-scale design of a wind turbine but will not be manufacturing components of the turbine.

The primary stakeholders to the Market Team are the DOE, David Willy, Karin Wadsack, Professor Oman, and students from the business college. The DOE expects a technical design of a large scale turbine that is supported by research data and engineering concepts and a professional business plan for a convincing wind farm design supported by research and regional assessments. David Willy and Karin Wadsack expect the team to collaborate with the other teams on the business plan and the small-scale wind turbine. Professor Oman expects the team to apply engineering design processes and concepts to develop a technical design for the large scale wind turbine and to collaborate with the other teams to complete the project. Students from the business college expect to receive feedback and guidance on the proposed business plans to accurately represent the technical design of the wind turbine.

3. Team Goals:

This team will design a large scale wind turbine that matches a business plan, link it to a power plant location, and communicate with the test teams to develop it into a prototype. The team will use engineering concepts and design processes to create a winning design for the Collegiate Wind Competition . All members of the team are willing to commit to meeting once a week outside of the capstone class. The team will also hold meetings with the test teams every few weeks to stay updated and communicate ideas between teams. The team is aiming to receive an A for this project.

4. Team Member Personalities/Roles/Responsibilities:

There are six (6) students on the market team. Each person is assigned a specific role for the project.

Alana Benson is the Marketing Team Technical Lead and oversees the siting and resource assessment aspect of the project. Alana is considered a "Logician" (INTP) which matches her role perfectly. She provides unique and creative Ideas as well as being proficient in writing and editing technical documents. As a lead, she is responsible for checking in with the Management lead as well as reviewing and providing feedback for the work done in the group.

Anthony Cheslic is the Marketing Team Management Lead and in charge of the Power Plant Design. Anthony has management experience from the military and internships so this position suits him well. His personality type is INTJ, and states that he is great at strategizing and decision making which is why he is a lead. As the management lead, he is in charge of setting up meetings, Gantt charts, and checking in with each aspect of the project.

Craig Collins is in charge of the blade design for the market turbine due to his experience in his EGR 386 course. He will be working with Leo to design and relate the blades to the small scale test team the best we can. His personality type is ENFJ, and shows he is passionate and influential. His experience in Finite Element Analysis and Wake models will be advantageous to the team.

Mitchell Green is in charge of the structural and design coordination with the test team. He will team up with Michael to relate components from the small scale test turbine to the components of the market turbine. His personality type is INFJ, and shows he will take any step to complete his goals. He also has experience in renewable energy classes related to wind turbines as well as being proficient in the programs needed for the project.

Michael Vogelsang will team up with Mitchell to relate and coordinate the design of the large scale wind turbine with the test team. Michael will focus on structural components of the wind turbine. He has experience with this from his project designing a 3MW wind turbine in EGR 386. His personality type is ESFJ, and shows he is sociable and organized. He is also proficient in Solidworks and the market side of the turbine from his renewable energy class.

Leo Segura De Niz will be working on blade design for the market turbine, along with being the Project Manager for the CWC18 capstone. His leadership and responsibility will be a great aspect to the team. Working at WL Gore will provide leadership and knowledge for the whole team as well as his input towards the blade design. Leo is an INTJ.

5. Ground Rules:

The ground rules will ensure that the team operates efficiently. The team will meet a minimum of once a week, with the dates and times of these meetings being decided through a Doodle poll the week prior to that meeting. Meetings will be schedule in one hour blocks, and adjusted as the teams deems necessary. During these meetings, the subject matter expert will lead that day's meeting, and aid in keeping the meeting on task in regards to that day's agenda. Any and all major team decisions will be made with a majority consensus once everyone has a chance to voice their opinion. Meeting minutes will be logged, and shared on the team's Google drive. If a team member is unable to attend they must do their best to notify the team at least two hours prior to the meeting taking place. It is then up to that team member to review the meeting minutes and get clarification on task assigned if need be. If a team member is going to be unable to accomplish their assigned task within the agreed upon time frame then they must contact the entire team via email stating that they need assistance with that portion of the project. This notification is required to take place at least 24 hours prior to the submission agreed upon by the group. Work throughout the semester shall be distributed as evenly as possible, and full support from all team members is expected. By adhering to these ground rules the team will be taking the necessary steps towards victory come May.

6. Potential Barriers and Coping Strategies:

During the course of any project, many setbacks can occur. With proper communication and team work, some of these setbacks can be avoided. To ensure proper communication, the Market Team will meet at a regularly scheduled time on a weekly basis. We will email our weekly meeting minutes to each member of the Market Team, as well as the business and test teams to ensure proper coordination of work and accounting of progress. We recognize time sensitive communications may be required

between meeting dates. Therefore, the Market Team agrees to read and reply (when appropriate) to all emails in the morning and evening of every weekday.

In previous team projects, we all experienced challenges meeting deadlines. Rushing to meet deadlines often results in poor work quality. The CWC project requires the development and implementation of a variety of complex mathematical models. Additionally, one team member's work may require completion before another's can begin. To mitigate setbacks, the Market Team agrees to finish all work in a timely fashion, and when possible, before the due date. To facilitate this, we agree to immediately seek assistance if it appears there will be trouble meeting the deadline.

As teams are made up of a variety of people, and people occasionally have unavoidable person issues, we must plan for these occurrences. Therefore, if a team member is unable to attend a meeting, or otherwise meet their share of project requirements, they agree to inform other team members in a timely manner. Furthermore, said team member is responsible for keeping up to date with project progress (i.e. they will read the meeting minutes, ask clarifying questions, and check emails as soon as possible). If a team member is injured or ill, such that they are not able to fully participate in the project, the fallen team member's responsibilities will be fairly distributed amongst the remaining members.

7. Charter signed and dated by all team members and given to the instructor (legible signature, please!). Attach the following page to the front of your team charter.

Project Team Charter
ME 476C: Senior Capstone Design

Signature Cover Page

By signing this document I fully understand that it is my responsibility to be the best teammate possible I can for my team. This means being on time and contributing to all meetings and work related to the project - which includes all course and client driven deliverables related to the team. I will not only complete my tasks as required but I will complete them on time (ahead of time if needed) and I will deliver material of the best quality to represent my team as a whole. Whenever needed, I will ask for help when I struggle, help my teammates when they struggle, and I will communicate clearly and directly on all issues related to the project.

If I do not contribute as required, I understand that my grade could be curved down for poor performance. Evidence of poor performance will be documented in peer evaluations and instructor observations throughout the semester. **Specifically, poor performance from two or more teammates in any given peer evaluation cycle will trigger a grade change on related team deliverables. Furthermore, instructor observations during staff meetings, lectures, and presentations can also trigger a grade change on team deliverables.**

Print Name: Alana Benson   Signature

Print Name: Anthony Cheslic   Signature

Print Name: Leo Segura De Niz   Signature

Print Name: Craig Collins   Signature

Print Name: Mitchell Green   Signature

Print Name: Michael Vogelsang   Signature

GROUND RULES FOR DIFFICULT GROUP DISCUSSIONS

Ideally, group discussions should be calm, focused conversations in which various ideas and opinions are considered, leading to useful, productive outcomes. But in the real world, many groups just can't pull this off. When members have conflicting interests, personal agendas, or aggressive personalities, meetings often deteriorate into angry conflicts, thereby wasting time and harming relationships.

If you anticipate that your group could head down this destructive path, try to get agreement on how the discussion will be conducted before leaping right into the issues. Unless they just enjoy anger and hostility, group members will usually agree to a reasonable set of Ground Rules. Then, if things start to get out of hand, the leader or facilitator can simply remind the wayward members of their previous agreement.

Although each group may have specific needs, the Ground Rules listed below are often useful. (These can apply to personal conversations as well.)

1. **Stay focused on the purpose and goals.** The group should clearly define what they hope to accomplish at the beginning of a discussion. This makes it easier to determine when people are getting off track.
2. **Listen when others are speaking.** During difficult discussions, people often mentally rehearse their next comment while someone else is talking, with the result that no one is really listening. When this happens, the conversation tends to turn into a pointless debate.
3. **Be sure that all viewpoints are heard.** Since most groups have both talkative and quiet members, efforts should be made to invite the quiet people to share their thoughts and keep the talkers from dominating the discussion.
4. **Consider different points of view.** People easily get "locked in" to their own opinions and don't even think about the possible merits of other ideas. Members need to be encouraged to think beyond their own point of view.
5. **Look for areas of agreement.** Argumentative group members often agree on more things than they realize. Before discussing disagreements, members should identify the things they do agree on.
6. **Discuss differences respectfully.** Hostile, insulting remarks add nothing to a group discussion and often permanently damage relationships. Members should be reminded about basic "good manners" for meetings.
7. **Remember that facts can be wrong, but opinions are just different.** Most of the time, people are not arguing about facts, but expressing differences of opinion. However, they often act as though their views are "right" and others are "wrong". It helps to recognize that they are simply different.
8. **Look for the good points in new ideas.** Useful ideas may get rejected when people are too quick to find flaws. By initially exploring the benefits of an idea, the group can avoid becoming overly critical.
9. **Focus on the future, not the past.** Disagreements can easily deteriorate into finger--pointing about past mistakes and problems, which accomplishes absolutely nothing. Use past experience to inform your decisions, but focus the discussion on future goals.
10. **Look for solutions, not someone to blame.** The worst debates about the past are those which involve placing blame. Any conversation focused on blaming is unproductive and should be turned into a search for solutions.
11. **Don't use group time for individual issues.** When two or three members start discussing their own issues in a group meeting, it just wastes everyone else's time. If this happens, the people involved should be politely asked to continue their personal discussion after the meeting.
12. **"Sidebar" any issues that are important but off--topic.** Occasionally, important matters are raised that have nothing to do with the goals of the meeting. To keep the group on task, but avoid losing the issue, create a "sidebar" where these topics can be listed and dealt with later.
13. **Agree upon specific action steps.** In most situations, members need to end the discussion with specific "next steps" that can be acted on after the meeting. Otherwise, the whole thing may turn out to be a waste of time.