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

[Attach solutions to the following cover sheet and sign once finalized]

1. Project Manager: *Identify who will be the team's project manager*

Travis Byakeddy

2. Team Purpose: *State the reasons for this team's formation and the team's purposes. Who are your stakeholders, and what are their expectations of and for the team?*

- **This team has been formed to aid and generate the Finite Element Analysis for the design concepts and construction of a FanFlyer body structure for Novakinetics.**
- **The team's purpose is to generate a high quality, cost effective, properly functioning FEA-simulation for our client, Mr. Corning.**
- **Our stakeholders currently are each member of the FanFlyer capstone team, Dr. Trevas, Jim Corning and the members of the Novakinetics team.**
- **The expectations for the team are to meet the design goals, criteria, and specifications laid out by the client in a timely manner with the highest quality possible.**

3. Team Goals: *What are the team's project, process, and quality goals? To what level of performance are team members willing to commit, and what course grade are you collectively aiming for? Articulating these goals will make a difference in your team's performance.*

- Our *project goal* is to exceed the client's expectation and criteria. Our *process goal* is to do so through a respectful, timely, and cohesive team effort. Our Quality goals are to adhere to Novakinetics standard of quality.
- We are aspiring engineering students in our capstone course working in partnership with a real company that deals with actual funds, regulations, and is expecting a level of professionalism in our deminor, work ethic, and our product. We are not only representing ourselves and our knowledge, but we are also representing the NAU Engineering department and Dr. Trevas. We are almost to the 'real word' and in that regard we must be willing to commit the proper amount of time necessary, whether it be hours, weeks, or months, to complete the project to the client's satisfaction.
- This will require a group effort in also maintaining an emotional and mental balance between ourselves. We four possess other aspects to our personal lives that we must balance with our academics and to the capstone project. It will require constant communication and properly planned stress reducers. We will have to spot each others to ensure someone does not take on more than they can handle, conversely we will have to step up and reach out for help if we are feeling over encumbered with our tasks. We will also have to be honest with regard to our other responsibilities, by acknowledging when we will need more time for other classes, or for personal issues to be resolved.
- Collectively, these are all aimed to aid in our effort to all earn both a grade of 'A', and the respect of Novakinetics.

4. Team Member Personalities/Roles/Responsibilities: *State each team member's personality style and what they can bring to the group. While some team responsibilities are shared by all members, collaborative teams work best when members also have unique roles and responsibilities. These could be technical and/or project management -related. The required positions for this course are: Budget Liaison, Client Contact, Website Developer, Project Manager, and Secretary/Document Manager. Develop other positions so that each person on the team has a defined role.* **Consider these assignments carefully. This information will constitute the benchmarking data for your end-of-term peer performance evaluations. Each team member must have a defined role and responsibility in the group.**

We all are sharing the management responsibility in relation with our strengths. Each of us will be acting as a head and sub-head for at least 2 roles. More roles may be added as the semester progresses.

Our point of contract for both Dr. Trevas and Mr. Corning, will be Travis Byakeddy. He will also act as a sub-head for the budget Liaison, acting as support for the main head of budget Liaison, Nathanial Schual. Travis is both an extrovert and introvert under various conditions. The strengths he brings to team is his experience working with medical engineers in industry, and working with various, diverse teams over the years in various fields. He possess a bachelor's degree in Business Management circa 2010, and has been a hands on manager in other non-engineering fields. His personality style is being direct and observant. He is not afraid of confrontation, yet aims to constructively avoid it while maintaining a high level of respect. He is good in conversation one on one, or one on five, however he does falter when having to present to a class.

The web developer for the design project will be headed by Corey Marcum, sub-headed by Steve Sorden. Corey has a background in computer science and coding classes. He will strive to make a thorough and organized website for the stakeholders to view the team's work on the project.

Steve Sorden: Head Document Manager and Sub-head Web Developer. Steve considers himself to be a mixture between introvert and extravert. He has trouble one on one and maintaining eye contact; However, does well in presentation settings. He works well in a team environment and strives to be a team mediator and include everyone's input. Steve also contributes manufacturing and fabrications skills as well as the tools necessary for manufacturing/fabrication. This includes but is not limited to 3D printer and welder.

Nathaniel Schaul: Head Bugget Manager and Sub-head Document Manager. Nathaniel is a calm understanding person. He is mostly introverted but is also extroverted. He is good at presentations and is also works well with CAD programs. He is the Treasurer for the NAU Energy club. He also is minoring in math along with his mechanical engineering degree. He prefers working with a team but if needed can handle most things by himself. He is at times a little lazy and can forget recently made schedules. However, when he has teammates that depend on him he puts aside his lax ways and works hard for his team to succeed.

5. Ground Rules: *How and when will this team meet? What are the norms and ground rules the team will agree to? How will you conduct discussions and make decisions? How will you handle dissenting views among members? How will you hold each other accountable for living by these rules and for task completion? What kind of participation and level of commitment do you expect from one another? [Each team is required to meet at least once a week outside the allotted class time. It can be hard to coordinate schedules, so get it done early in the semester. All team members are expected to go to all team meetings.]*

- This team will meet when personal schedules allow, based on Doodle polls at the beginning of each week, until a reliable pattern is established. Accommodations will be made if schedules

change or in the event of other inconveniences. We will handle discussions with respect and helpful commentary. As long as dissenting views are respectful and on topic they will be allowed to be heard. Further efforts to foster openness will be to leave all political, religious, and social standings out of team meetings to avoid conflicts of interest. We can occasionally diverse off the topic in conversations, however, we will need to always maintain a sense of focus to complete our discussion. When needed we will each have to call out, or remind, someone that certain topics are not permissible in group discussions. We will try to hold each other accountable for living these rules by respectfully reminding each other of our joint purpose and overall goal. Participation is required from all members despite meeting availability. We each have our assignments and must get them done with a significant buffer time before the task is due, in order to account for delays and mishaps.

6. Potential Barriers and Coping Strategies: *What barriers to effective teamwork might potentially arise in the course of completing your senior project and other team obligations, and how will you handle them if they materialize? What problems with team dynamics have you experienced in the past, and how will you handle them if they come up again?*

- One barrier may be the different ideas of participation. We need to be clear on what is expected of each other and ask questions to make sure we are doing our part, if not more. We will not leave people out if they aren't contributing, nor will we tolerate accepting less than what each of us are able to contribute.
- Other barriers are that our homework and exam preparations may get in the way of certain meeting times. We will have to communicate openly about the prospect of needing more time away from the team if needed, and how we still contribute should the need arise.
- In the event of facing an unmotivated phase of a member, the resulting members should reach out to find what is the source and attempt to help find a resolution. We will do so respectfully, giving the unmotivated member the benefit of a doubt.
- In the event of extenuating circumstances that a member may be facing (death in the family, physical accident, personal situations, etc) the resulting team members can accommodate the affected team member in their issues. We will also keep in mind the affected member's situation when peer evaluations arise in the event their situation affected the overall teams performance.

7. <u>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.</u>

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.**

Corey Marcum
Print Name

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Signature

Nathaniel Schaul
Print Name

Nathaniel J Schaul
Signature

TRAVIS BYAKEDDY
Print Name

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Signature

STEVE SORDEN
Print Name

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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.