

# 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.**

Michael Gorelick

Print Name



Signature

KEITH Caton

Print Name



Signature

Cole Nielsen

Print Name



Signature

Mark Frankenberg

Print Name



Signature

Print Name

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Print Name

Signature

## Team Charter for Senior Capstone Design Project

**1. Project Manager – Author: Michael:** The project manager for the team will be Michael Garelick. He will establish how the team tasks will be completed for a successful final product. The vice-project manager will be Keith Caton.

**2. Team Purpose – Author: Keith:** The team was created to address the concerns with the current fluid flow table used in ME495 - Experimental Methods and Thermal Sciences and to improve upon or redesign the flow table. The projects client is Dr. Ciocanel who has requested the revision of the fluid flow table for ME 495. The major stakeholders are, Northern Arizona University and the College of Engineering, Forestry, and Natural Sciences (CEFNS). Additional stakeholders include, the students of CEFNS, mainly the Mechanical Engineering program, and the professors for ME 495 who will be using the redesigned fluid flow table.

The team is expected to contribute to the project within the best of each member's ability and to only contribute in a way that moves the project forward. This is not restricted to feedback that requires a revisit to a previously completed task, but merely a statement that all feedback be positive and assist the rest of the team in creating the best design possible. Failure to follow the team's purpose will be addressed by the guidelines outlined in the Ground Rules section of the team charter.

**3. Team Goals – Author: Keith:** The project goal is to create, or redesign the current flow table experiment, to allow for an easier and in-depth analysis of the flow of a fluid through a pipe system and to provide the students with all the information that is required to complete the experiment. The project will follow the standard design process of: 1) Identifying the problem, 2) Developing concepts and design ideals, 3) Prototyping and Testing, and 4) Evaluating and improving upon the design. Each section of the design process will be handled with the utmost care and quality which will be derived based on the standards set by the members of the team. Those standards are a product that each member of the team would be proud to use and an experiment that conveys the important needed information without being overly complex or difficult to the members of the team and thus future students.

The team is collectively aiming for a grade of an A (4.0) for the project and thus each member will contribute in a way to achieve that grade. To achieve the desired grade, each member will have to invest considerable time and effort in to the project and will be held accountable by the other members of team following the process outlined in the Ground Rules section of the charter.

**4. Team Member Personalities/Roles/Responsibilities – Author: Michael:** To establish the roles of each team member, all team members assessed themselves through the Myers-Briggs assessment. Keith's Myers-Briggs personality type is that of a logician (INTP). He will provide logical feedback and solutions

to problems that will occur throughout the project. Keith will take on the responsibility of the Website Developer. He has past experience in website development and has the potential to learn new concepts regarding technical quality. The Myers-Briggs personality type of Cole is that of a debater (ENTP). He will make the difficult decisions of the team easier and lead discussions to the best solution based on the provided opportunities. Cole will be responsible for the Client Contact as he understands how to see the project's necessities from Dr. Ciocanel's perspective and make the team aware of what needs to be done for a successful product. Mark has the personality type of an advocate (INFJ). He has the decisive and determined mindset to resolve problems within the team. Mark's responsibility in the team will be the Budget Liaison because he will be able to analyze the project and perceive the best possible future direction for the project. Michael's Myers-Briggs personality type is that of a mediator (INFP). He will mediate the team's progress through the project and oversee the completion of the goals. Michael will take on the responsibility of the Secretary/Document Manager so he can organize the team and lead it in the right direction. The diversity of the team will allow flexibility for a team capable of achieving the goals.

**5. Ground Rules – Author: Cole:** This team will meet at least, once a week in person or virtually to discuss our progress and what we need to continue to work on in the future. The team will try to be on time and attentive for every meeting, or be able to communicate to each other the circumstances in which we were not on time or unable to attend at all. We will run an open discussion of all topics led by each of the team members representative roles. the team will provide constructive criticism to other ideas when appropriate. We expect equal participation from all team members and understanding of all other's opinions. These will be the rules that the team will follow so that there is a cohesive unit that will be able to function properly and be as efficient as possible to ensure we reach our goals and purpose.

**6. Potential Barriers and Coping Strategies – Author: Mark:** Some barriers include: dealing with tests from other classes that might disrupt our schedule, disapproving ideas that lead to a halt in productivity, dissimilar goals for the quality of work, work not distributed evenly among the group members, lack of communication, lack of funding. When dealing with tests and various other important and time-consuming projects it is imperative that we communicate with the group what is coming up so that we can plan accordingly. If there comes a time when members have opposing ideas our group has agreed to have a debate on the issue. Each member will voice the pros and cons of their idea. Afterwards, we will vote as a team which idea we think is better. in the event of an even split, we will bring up each idea to Dr. Ciocanel and see which idea he likes better. Our goal of quality is to do whatever is necessary to meet and sometimes exceed the expectations of Dr. Ciocanel. We all believe that we can achieve this goal and are driven to do so. To keep us in line that that ideal, we will be looking over each other's work to make sure that it is up to the quality standards that have been set. When it comes to lack of communication it is really up to the individual to make sure that their voice is heard. As a group we will do all we can to be open minded about ideas and not to shun away creativity. To make sure that the work is distributed evenly we will assign sections to each part of the developmental process and double check as a group that no one person is doing all/none of the work. We will be occasionally checking in on our team members to make sure they are doing what needs to be done for their part of the project.

If a lack of funding does occur, then it is up to us to alter the project so that it fits the financial parameters set by Dr. Ciocanel.

**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.**