SAE Aero Regular Class Capstone Team Charter

**1. Project Manager:**

As a team, it was agreed that James Seganti will be the project manager.

**2. Team Purpose:**

The purpose of this team is to design and manufacture an RC aircraft to compete in the SAE West Region competition. The team will build a fixed wing aircraft to compete in the regular class of the competition. The stakeholders of the project are: our client, John Tester, Sarah Oman, Northern Arizona University, Flagstaff Flyers, Associated Students of Northern Arizona University, and any sponsors that our team is able to obtain. All of these groups and individuals will be impacted by the outcome of our project. These stakeholders are expecting our team to represent NAU in a positive manner, and to provide maximum effort in the design and creation of our aircraft.

**3. Team Goals:**

The SAE Aero Regular class team set a goal to place in the top ten teams at the 2019 West Region Competition. In order to accomplish this, the team has determined that all deliverables and required tasks will be completed as early as possible. This will help with being able to deal with any unforeseen problems and have a fully functioning remote control aircraft to bring to the SAE Aero Regular Class competition, the weekend of April 5-7, 2019. Because the SAE Aero West Region Competition is earlier in the year than the actual capstone projects due dates, this team will hold themselves to a separate schedule for deliverables than the one which is currently in the class syllabus. The team has a goal to have a final design decided on by the first week of November and to have a flying aircraft one month before the competition, in order to make needed adjustments to perfect the design. Additionally, competition deliverables such as the technical design report and presentation will be finished a minimum of a month before the competition as a large part of the design report is due at the beginning of March.

All team members fully support the goal of this capstone project and are willing to put forward the best work and performance in order to achieve this goal. Collectively, the team is expecting itself to put forth work eligible for an ‘A’ grade on all deliverables.

**4. Team Member Personalities/Roles/Responsibilities:**

James Seganti, who was appointed project manager, has the personality type of an extrovert and an introvert. James is approachable and detail oriented. He has industry experience and currently works in the machine shop. His manufacturing experience will be a good contribution to the project. Caleb Hatcher was designated as the Budget Liaison. Caleb is generally an introverted personality type but can be extroverted in situations that require his full attention and participation. Caleb has exceptional communication skills and is a good team member. He also has a basic knowledge of aerodynamics from classes taken and intermediate experience with MATLAB. Damian Lumm was tasked with being the team’s client contact, he is an extrovert personality type with industry experience and exposure to professional settings. He will be able to communicate well with potential sponsors and clients as well as provide knowledge on manufacturing engineering. Damian also has some experience with CAD and arduino programming, which will prove useful with project design. Braden Weiler was appointed to the position of secretary, he is an introvert personality type who is well organized and is able to work well in a team. He has experience with Python, Java, and MATLAB, so he can contribute to any coding that may be needed. Braden will be able to manage all the documents associated with the project and will ensure that all editing and formatting is done before turning in assignments. Angel Montiel took on the role of Website developer; this extroverted team member has competent communication skills as the rest and works well in a group setting. He also possesses exceptional artistic abilities, places emphasis on detail and has a fair understanding of concept generation techniques.

The team was strategically assembled as we realized that our combined skills would yield excellent communication and maximize productivity.

 **5. Ground Rules:**

The team will meet every week at 10:30am on Mondays. Depending on the needs of the project, the location of the meeting will be in the Engineering building or the NAU Fabrication Shop. Each member will be responsible for attending all team, staff and client meetings. After each meeting the team will produce documentation of the content discussed through weekly meeting minutes, and the website will be updated with any relevant information. The team members will be expected to complete individual efforts toward every assignment, which will be delegated every week. When making group decisions for the project, the team will take a vote. Since the team is small and consists of an odd number of people the vote will not end in a tie. For any crucial decisions in the project, consultation with John Tester will be expected before any decision is to be made. Each member will be held accountable every week by providing their portion of work and giving updates at weekly meetings of personal progress. In case there is a member that provides inadequate work, the project manager will have a one on one discussion with that member on how to rectify the work, and see if the member needs assistance. If performance from a team member continues to be unsatisfactory, a meeting will be set up with Dr. Oman and member’s grade will be reflected in peer evaluations.

The work on the SAE Aero Regular Class Capstone is expected to be challenging, however participation is expected from all team members; meetings are mandatory and input from all persons is encouraged. All team members should show a mutual degree of commitment, enthusiasm, interest and respect throughout the duration of the project.

**6. Potential Barriers and Coping Strategies:**

Working in groups can be challenging and issues may arise throughout the duration of our project. The potential barriers that may occur during the year are decision making, opposing views, incomplete work by individuals, absence or tardiness to meetings, and lack of communication.

Decision making and opposing views can be resolved by a team vote. We have five members in the team which means that there will always be a tie-breaker when voting on any decisions that may impact the team.

The remaining potential barriers can be coped with by a simple five step process:

1. Confront the individual about the conflict.
2. Communicate as a team about how the conflict can be resolved.
3. Ask the individual in question if assistance from the team is needed in completing future tasks and assignments.
4. Come to a consensus on how the conflict can be avoided in the future.
5. If the issue pertains, notify Sarah Oman and communicate about the controversy.