

**To** : Dr. Kyle Winfree  
**From** : AmpEd  
**Date** : 30<sup>th</sup> October 2019  
**RE** : Team By-Laws

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Dear Dr. Winfree,

Attached below is the Team By-Laws document from team AmpEd. In this assignment, we define responsibilities and roles of each member of the team, as well as that of the faculty, client, and graduate teaching assistant (GTA). Furthermore, we outline procedures for topics such as how meetings are run, how decisions are made when quick action needs to be taken, and how documents will be organized.

Very respectfully,

Team AmpEd



**Augmented Mobility Platform Education (AmpEd)**  
**Daniel Beckett, Khaled Khaled, Lauren May, Taylor Yee**

**Project:**  
**Augmented Power Mobility**

**Emails of Team-members:**

<a href="mailto:Kaa325@nau.edu">Kaa325@nau.edu</a> –	Khaled Khaled
<a href="mailto:Dbb72@nau.edu">Dbb72@nau.edu</a> –	Daniel Beckett
<a href="mailto:Lm933@nau.edu">Lm933@nau.edu</a> –	Lauren May
<a href="mailto:Tey24@nau.edu">Tey24@nau.edu</a> –	Taylor Yee

**Client & GTA emails:**

<a href="mailto:Kyle.Winfree@nau.edu">Kyle.Winfree@nau.edu</a> –	Dr. Winfree
<a href="mailto:si229@nau.edu">si229@nau.edu</a> –	GTA Shafkat

**Faculty Advisors:**  
**Client: Dr. Kyle Winfree**  
**Sponsor: Dr. Kyle Winfree**  
**Faculty Mentor: Shafkat Islam**

# Augmented Power Mobility

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## Responsibilities Section

- Faculty Technical Consultant(s) - Who on the faculty or in the community has agreed to, or has been approached and asked to be your technical advisor for each project
  - Dr. Winfree ([kyle.winfree@nau.edu](mailto:kyle.winfree@nau.edu), Office: (928) 523-7165, Mobile: (928) 853-0114) and Shafkat Islam ([si229@nau.edu](mailto:si229@nau.edu)). Responsible for providing technical guidance in areas where the team does not possess sufficient knowledge

## Team Leader: Lauren

- Internal Scheduling Coordinator
  - Sets times/agendas and notifies team members of meetings and work sessions
- Presentation Coordinator
  - Responsible for creating outlines for each presentation
  - Responsible for assigning sections to team members
  - Responsible for final powerpoint touches

## Secretary: Khaled

- Document Coordinator
  - Responsible for keeping all documents up to date and organized
- Project web site Coordinator
  - Responsible for creating and updating website
- Responsible for minutes of team meetings and meetings with sponsors/faculty/vendors/etc.
  - Minutes will be kept in the shared drive folder labeled “Minutes”
  - Logs and takes notes for team phone calls

## Treasurer: Daniel

- Accountant
  - Responsible for budgeting and keeping track of finances
- Vendor Liaison
  - Responsible for contacting sellers, ensuring that the product meets the required specifications
- Purchaser
  - Responsible for purchasing any necessary materials or products

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## **Liaison: Taylor**

- Sponsor liaison
  - Responsible for maintaining contact with the sponsor for the project
- Faculty technical advisor liaison
  - Responsible for maintaining contact with the faculty partner, being proactive in addressing technical concerns and seeking guidance

## **Procedures Section**

- How meetings are run and how minutes are kept / distributed
  - Weekly meetings will be conducted on Wednesday evenings at 5:30 pm and should be expected to run an hour
  - All minutes will be uploaded to the team Google Drive
  - Time limits can be set for any discussion that is holding progress back
  - It should be clarified when meetings are expected to run long
  - If a conflict should arise during a meeting, Robert's Rules of Order should be instituted to ensure the issues are properly addressed
- How decisions are made (consensus, majority, in case of ties)
  - When scheduling meetings, the team as a whole needs to be informed and coordinated with before establishing contact
  - Decisions will be put to a majority vote
  - In cases of a tie, consult either Dr. Kyle Winfree or Shafkat Islam for a final vote
- How team records, emails, and correspondences are kept
  - It will be shared / all emails & records will be exported to Google Drive
  - Each email will be recorded by date to keep in order
  - Emails should be organized in one location for quick referencing

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## Signatures:

<b>Names</b>	<b>Signatures</b>
Daniel Beckett	DB
Khaled Khaled	K.Khaled
Lauren May	LM
Taylor Yee	TY

## Augmented Power Mobility

**To** : Dr. Kyle Winfree  
**From** : AmpEd  
**Date** : 30<sup>th</sup> October 2019  
**RE** : Team Standards

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Dear Dr. Winfree,

Attached below is the Team Standards document from team AmpEd. In this assignment, we list some of the tools that our team will use for specific topics, such as version tracking, task managing and distribution, and composition and review leaders for deliverables.

Very respectfully,

Team AmpEd

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**Designs Files:** What mechanism will you use to share/maintain/manage your growing set of design files? Be specific: what are the standards for tracking design files from draft to ready for use.

- For design files, Google Drive and a proper naming scheme are the easiest methods for sharing these files with the rest of the team.
- For software design files, **Git** is an easy-to-use code repository that operates on a local machine, as opposed to the cloud. Git is especially useful for tracing back to previous versions of code, especially when many changes are made simultaneously and code no longer works.
- **GitHub** is a common repository used to track software development, updates, and work on making changes to software, without losing the progress of an already-functioning program. In general, GitHub is a Git repository service, while also being an *open-source forum* where others can help improve code and give suggestions.
- As a standard, members will upload design files to the respective repository each time major functional changes are made. In the case of software, for example, each time a new functional block of code is added to the project, a new file should be uploaded to the repository, preferably with a revision date in the title or description of the code.

**Issue tracking:** What will you use to document open tasks, assign them to team members, and monitor task completion? There are many CS tools for exactly this, including plugins for Slack.

- **Asana** allows members of a group in Slack to post tasks and make changes as needed to the content, due date, assignee(s), and status of tasks and assignments.
- **Kanban** will be utilized to visualize the work required and will help us to identify bottlenecks and decide on the appropriate order to follow in our design process.

**Word Processing and Presentation:** Outline what tools you will use for word processing/typesetting, presentation, graphical design, or any other task on which the whole team must be coordinated.

- **LaTeX** will be our primary tool for formatting written documents.
- Presentations will be made as drafts in a shared google slide for easier team collaborations. Presentations will be exported and finalized in Powerpoint for aesthetic purposes. Once finished, presentations will be uploaded as a .pptx file into our shared google drive.
- **Processing.org** will be used for the creation of the GUI.

**Composition and Review:**

- Specifying lead editor for each deliverable that will be large/most likely different sections written by different people.
  - For each individual deliverable, a lead editor will be promptly chosen upon its assignment.



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- Establishing deadlines for when contributed sections must be presented to the editor (a) as a rough draft and (b) as a final version
  - In general, for deliverables that will be shorter in length, final versions will be due 12-24 hours prior to the due date.
  - For deliverables that prove to be greater in length and/or complexity, final versions will be due to the editor at least 3-5 days in advance.
  - The above deadlines serve as a rule of thumb: depending on circumstances such as different deliverables, as well as different lead editors and schedules, these deadlines will be revised.

## Augmented Power Mobility

**To** : Dr. Kyle Winfree  
**From** : AmpEd  
**Date** : 30<sup>th</sup> October 2019  
**RE** : Team Conflict Resolution Plan

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Dear Dr. Winfree,

Attached below is the Team Conflict Resolution Plan document from team AmpEd. In this assignment, we address how our team will handle conflict - both within the team, and with our client, faculty mentor, and graduate teaching assistant (GTA). Special emphasis is placed on both professional and interpersonal conflicts.

Very respectfully,

Team AmpEd



**Augmented Mobility Platform Education (AmpEd)**  
**Daniel Beckett, Khaled Khaled, Lauren May, Taylor Yee**

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<a href="mailto:si229@nau.edu">si229@nau.edu</a> –	GTA Shafkat

**Faculty Advisors:**  
**Client: Dr. Kyle Winfree**  
**Sponsor: Dr. Kyle Winfree**  
**Faculty Mentor: Shafkat Islam**

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## Conflict Resolution

- How our team handles individuals who do not perform.
  - Failures to perform will be reported to Shafkat Islam/Dr. Winfree
  - When a team member fails to hold up their responsibilities they will be subject to monetary compensation.
- Unexcused no-shows and tardiness will be handled.
  - Excuses will depend on the team voting.
  - Reasons for missing meetings have to be expressed to the team at least 24 hours prior, unless an emergency situation arises.
- If a member fails to notify the team of their absence.
  - First offence: contact will be established through either slack, text, or email to ensure that everything is okay and provide information on what they missed.
  - Second offence: Explain how exactly their continued absence is hurting ability to perform.
  - Third offence: Involve both Dr. Winfree and Shafkat in an email that details their lack of contributions and how it has affected the team.
- How to handle when a team member drops the ball on an assignment because they felt overwhelmed.
  - Peer review assignments distributed by Dr. Winfree allow us to communicate potential shortcomings of individual team members. These do affect each person's final grade and will be used as the primary incentive for each of us to complete our assigned tasks.
  - First offence: Ask for any and all reasons that had left the team member feeling overwhelmed, emphasize the importance of communication and knowing when to ask for help.
  - Second offence: Involve both Dr. Winfree and Shafkat in a group email that focuses on outlining how missed assignments have affected the team as well as discuss a potential redistribution of tasks amongst team members.

## Address both professional and interpersonal conflicts

- Professional - conflicts related to project decisions.
  - Allot time for proper discussion and put it to a majority vote. In case of a tie, seek external assistance.
- Interpersonal - conflicts between two or more people [how your personality could conflict with others].
  - Team members should first talk to one another if any personal conflicts arise.

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- 24 hour conflict rule - If arguments become heated, let it sit for 24 hours, see if it's worth pursuing.
- If conflicting personalities continue to create problems, a group discussion should be held to voice the opinion of each member on the matter.
- If this does not lead to a compromise that works, contact either Dr. Winfree or Shafkat to intervene.

## Augmented Power Mobility

**To** : Dr. Kyle Winfree  
**From** : AmpEd  
**Date** : 30<sup>th</sup> October 2019  
**RE** : Team Inventory

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Dear Dr. Winfree,

Attached below is the Team Inventory document from team AmpEd. In this assignment, a team inventory will be included to list some of the individual strengths of each team member. These include engineering-specific technical skills, artistic talents, and other general know-how.

Very respectfully,

Team AmpEd

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Team Member	Skills
<b>Lauren May</b>	Languages: C, Python Programs: MATLAB, SolidWorks, Pyxis Experience coding and working with Arduino Graphic Design software: Adobe Photoshop, Illustrator Power Systems
<b>Khaled Khaled</b>	Programs: SolidWorks, MSP430 series, and MATLAB Expert in designing systems & plans, website design Expert in Gen1 & Gen2 electric engines and systems Some experience in automatic control systems Talent in rebuilding and modifying cars / motorcycles engines
<b>Taylor Yee</b>	Languages: C, Python, Java, Linux, SystemVerilog Programs: MATLAB, SolidWorks, MultiSim Experience in 3D printing, soldering, Arduino and MPS430 series Emphasis in embedded systems/programming Visual artist and musician
<b>Daniel Beckett</b>	Languages: C, MATLAB Programs: Solidworks Experience with Arduino and MSP430 series Supervised machine learning models Wireless communications Signal processing and manipulation