



THE UNIVERSITY OF AUCKLAND

**The University of Auckland
Formula SAE Team Inc.**

**Team Constitution
2019**

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1. Name

- 1.1. The name shall be The University of Auckland Formula SAE Team.
- 1.2. There are NO provisions for a naming right sponsor. This matter must be discussed with the University of Auckland or Faculty of Engineering.

2. Interpretation

In this constitution except where a contrary intention appears:

- 2.1. "University" shall mean "The University of Auckland"
- 2.2. "Faculty" shall mean "The University of Auckland Faculty of Engineering"
- 2.3. "Team" shall mean "The University of Auckland Formula SAE Team"
- 2.4. "FSAE" shall mean "Formula SAE"
- 2.5. "Competition" shall mean "Formula SAE Australasia" or other applicable Formula SAE or Formula Student competition
- 2.6. "Rules" and "rule" shall mean "Formula SAE Australasia Rules"
- 2.7. "Section" shall mean "Section of the Constitution"
- 2.8. "AGM" shall mean "Annual General Meeting" of the Team
- 2.9. "SGM" shall mean "Special General Meeting" of the Team
- 2.10. "Team Manager", "Design Manager" etcetera shall mean "Team Manager of the Team", "Design Manager of the Team" etcetera
- 2.11. "Year" shall mean "financial year of the Team" as defined in Section 21
- 2.12. "Management" shall mean members of the team management as defined in Section 8
- 2.13. "General Meeting" shall mean the weekly full team meetings which occur on Mondays
- 2.14. "Management Meeting" shall mean any meeting that only the Management team are present at and have sole voting rights in, unless other team members are invited
- 2.15. "Officer" shall mean "Officer of the Team", pertaining to the Team Leader, Chief Engineer/s, and two other members elected by the team in accordance with Section 10
- 2.16. "Discrete Vote" is any vote other than an abstention
- 2.17. "ESO" shall mean Electrical System Officer as defined in Rule A5.3

3. Objective & Purpose

3.1 Mission Statement:

The purpose of the team is to allow interested students at the University of Auckland gain an in-depth understanding and working experience of engineering design, manufacture and development principles in a racing context. The outcome of the student's education will be tested by the building of a car to be raced at the annual Formula SAE Australasia competition.

4. Membership

- 4.1. Application for Ordinary Membership shall be open to all students at The University of Auckland.
- 4.2. Applicants must go through a recruitment process as defined by an officer of the Team.
- 4.3. Applicants may only be granted membership following a four (4) week trial period commencing after the recruitment process has been completed.
- 4.4. Team members must be undertaking degree seeking undergraduate or graduate studies. Team members that have graduated during the seven (7) months prior to the event remain eligible (in accordance to Rule 2.1).
- 4.5. Honorary membership may be extended to persons other than those students described above, on a voting or non-voting basis, upon approval by the Team's Management.
- 4.6. Membership is subject to approval by Management upon completion of the appropriate application and recruitment processes.
- 4.7. Membership shall be granted upon payment of the annual subscription. Membership will require the completion of a membership agreement (as attached in Appendix A).
- 4.8. All members attending competition must be current paid member of SAE (in accordance to Rule 2.1).
- 4.9. All members not in management must reapply for a position on the team after competition with the form provided by the Team Leader. Management is responsible for the acceptance or denial of applications with decisions able to be appealed and mediated by Faculty Advisor(s) where necessary.
- 4.10. Persons who have served a minimum of 18 months as a financial member of the team may apply to the current team leader for an official participation certificate stating only their official position for each year of their involvement with the team. The applicant must cover any cost associated with printing of the certificate. The team leader reserves the right to decline any application upon gaining the permission of a faculty advisor.
- 4.11. Each team member will release their latest academic transcript, whether from The University of Auckland or any other academic institution, to the Faculty Advisors at the conclusion of each semester.

5. Subscriptions

- 5.1. The subscription is NZ\$200 for all ordinary members. This is subject to change at the discretion of Management.
- 5.2. The subscription fee is inclusive of ONE uniform shirt and ONE (safety coloured) casual tee shirt.

6. Resignation

- 6.1. Any member may resign from membership by giving to the Team Leader notice to that effect.
- 6.2. Under ordinary circumstances no refunds shall be given, however, refunds may be given at the discretion of Management.

7. Expulsion

- 7.1. The Management may terminate the membership of or suspend from the Team any member whose conduct either in or out of the Team is deemed by it, after suitable enquiry, to be injurious to the character and interests of the Team or in breach of the safety guidelines.
- 7.2. The Management may terminate the membership of or suspend from the Team any member that it decides is not fulfilling their obligations to the team. If any member fails to attend three consecutive general meetings unless he/she has first obtained from the Management leave of absence for any length of time, or apologises to any officer of the Team prior to the beginning of the meeting. Similarly, if any member fails to attend seven general meetings regardless of apologies, he/she may be expelled at the discretion of Management.
- 7.3. The Management will terminate the membership of any member who fails two or more papers in one semester.
- 7.4. Refunds will not be given under any circumstances.

8. Team Management Breakdown

- 8.1. The Management shall consist of the Team Leader, Deputy Team Leader, Chief Engineer/s, Workshop Foreman, Marketing Manager, Aerodynamics Team Leader, Chassis Team Leader, Electrical Team Leader, Driveline Team Leader, Suspension Team Leader, Race Engineer and Research and Development Leader. Management may also include other team members elected in accordance with Sections 11 and 14.38.1
- 8.2. Further members of the Team may be elected to Management should a majority of members present and voting at any AGM or SGM of the Team deem it necessary or desirable to do so (in accordance with Section 18).
- 8.3. It shall be a condition precedent to nomination for the position of Team Leader that the candidate shall have been a member of the Team during some part of the two years immediately preceding their election.

9. Roles of Management

- 9.1. Team Leader:
 - 9.1.1. Is responsible for handling the coordination of the team.
 - 9.1.2. Has the final say on all non-technical decisions, including budget and timelines
 - 9.1.3. Has a weekly meeting with all other managers.
 - 9.1.4. Liaises with the University.
 - 9.1.5. Is responsible for allocation of human resources and equipment.
 - 9.1.6. Is involved in Sponsorship
 - 9.1.7. Creates agendas for meetings
- 9.2. Deputy Team Leader
 - 9.2.1. Reports to the Team Leader
 - 9.2.2. Acts as an understudy to the Team Leader
 - 9.2.3. Is responsible for maintaining an accurate budget
 - 9.2.4. Is responsible for keeping cash journals up to date
 - 9.2.5. Is responsible for preparing financial material when required for meetings, the companies' office or any other party.
- 9.3. Chief Engineer/s:
 - 9.3.1. Reports to the Team Leader
 - 9.3.2. Is responsible for ensuring the chosen design philosophy is followed
 - 9.3.3. Has the final say in all technical decisions
 - 9.3.4. Overlooks production timelines
 - 9.3.5. Has a weekly meeting with all Design Leaders throughout the design phase
- 9.4. Marketing Manager:
 - 9.4.1. Is responsible for generating and maintaining sponsorship
 - 9.4.2. Ensures the team has sufficient funds to achieve the mission statement

- 9.4.3. Is responsible for publicity and marketing
- 9.4.4. Is responsible for event organization and logistics
- 9.4.5. Oversees all activities of the Marketing Team.
- 9.4.6. Publishes newsletters.

9.5. Race Engineer:

- 9.5.1. Reports to the Chief Engineer
- 9.5.2. Organises test venues and times
- 9.5.3. Is responsible for the running of the car at testing and competition
- 9.5.4. Is responsible for the driver selection process
- 9.5.5. Ensures the car is in safe working order before operation
- 9.5.6. Is responsible for ensuring personnel safety at testing

9.6. Workshop Foreman:

- 9.6.1. Is responsible for safety in the workshop.
- 9.6.2. Is responsible for the upkeep of workshop facilities and machines.
- 9.6.3. Is responsible for ensuring the required tools are available for use
- 9.6.4. Has the final say on all decisions relating to the workshop.
- 9.6.5. Monitors and responds to the Hazard Identification and Incident logs.

9.7. Research and Development Leader

- 9.7.1. Is responsible for approving research and development projects
- 9.7.2. Is responsible for overseeing research and development projects
- 9.7.3. Is responsible for liaising with the Team Leader and the Chief Engineer/s to determine allocation of funding and resources for research and development projects

9.8. Manufacturing Subgroup Leaders

- 9.8.1. Report to the Chief Engineer/s.

10. Officers of the Team

- 10.1. The officers of the Team shall be the Team Leader, Chief Engineer/s and two other management members elected by the team in accordance with section 11.
- 10.2. The officers of the Team shall be ex-officio members of all committees and sub committees.
- 10.3. Should a vacancy occur within the officer's team, the remaining officers have the power to appoint any member of management into an interim officer position.

11. Election of Management

- 11.1. Nominations shall be called from all financial members of good standing within the Team and shall be presented 1 week prior to the SGM.

- 11.2. Election of Management shall be by vote at a SGM, notwithstanding that members may be elected to vacant positions on the Management at any AGM or SGM of the Team. A reasonable effort shall be made to notify all financial members of the details of the SGM.
- 11.3. Nominated candidates must not be present for the vote.
- 11.4. The vote will be chaired by the most senior member of management, in accordance with Section 12.5.
- 11.5. Only members of the Team may vote in an election.
- 11.6. Should no nominations be made for a position, a further week will be given for nominations with a week of consideration prior to voting on the position.

12. Management Meetings

- 12.1. An officer of the Team may call a Management meeting at any time.
- 12.2. Notice of any Management meeting shall be given to every member of the Management at least twenty-four (24) hours before the meeting.
- 12.3. At each meeting of the Management, three (3) Management positions shall constitute a quorum. Two (2) officers of the Team shall be present at any Management meeting.
- 12.4. At each meeting of the Management, other team members may be present if the Team Leader approves it.
- 12.5. At all Management meetings the chair shall be the Team Leader unless otherwise nominated by the Team Leader. In the absence of the Team Leader and otherwise nominated chairperson, the Team Leader shall nominate a suitable replacement chair prior to the meeting.
- 12.6. An emergency meeting may be called by any officer of the Team, or by any three (3) positions of the Management, provided that every effort is made to give notice to as many members of Management that is practicable in the circumstances.
- 12.7. Meeting minutes must be published within 24 hours after meetings.

13. Powers of Management

- 13.1. The entire management of the Team and its property is deputed to the Management, and is therefore given full power to govern and control the Team except for those matters arising from any general meeting, AGM, or SGM of the Team, which may supersede an ordinary Management meeting.
- 13.2. The Management may by resolution delegate any of its powers to sub-committees and individuals provided that the Management shall nevertheless remain responsible to the Team in a general meeting, AGM or SGM for the actions of such sub-committees and individuals.
- 13.3. The letterhead of the Team shall not be affixed to any documents without approval from either the Team Leader, Chief Engineer/s or Marketing Manager.

14. Vacancies on Management

- 14.1. A vacancy is created:
 - 14.1.1. If such a member ceases to be a member of the team.
 - 14.1.2. If such a member gives the Team Leader notice in writing to that effect at least seven (7) days prior to the date the resignation is to become effective, and that such notice is accepted by the Management.
 - 14.1.3. If such a member fails to attend three consecutive ordinary meetings of the Management to which he/she has been duly summoned, unless he/she has first obtained from the Management leave of absence for any length of time, or apologises to any officer of the Team prior to the beginning of the meeting.
 - 14.1.4. If a member of the Management is decided by a team vote at an AGM or SGM to be not performing his/her duties, he/she will be removed from his/her position, but will be allowed to stay on the team. The member must be notified at least forty eight (48) hours before the meeting
 - 14.1.5. If three (3) substantiated complaints are received about an officer of the team regarding their eligibility to continue in the roll.
 - 14.1.6. If three (3) substantiated complaints are received about a non-officer member of Management regarding their eligibility to continue in the roll and a vote within management and the relevant sub-group determines that the Management member is no longer fit for their position. The Team Leader is responsible for notifying the management member when a substantiated complaint is received.
- 14.2. Members may be expelled from membership of the Management by a resolution passed at an AGM or SGM of the Team excepting that this resolution must have been specified in the meeting agenda and reasonable effort must have been made at least seven (7) days before the meeting to notify the member or members to be expelled. An officer of the Team should do this notification.

14.3. Filling vacant positions on Management.

- 14.3.1. If a vacancy occurs among the Management, the remaining members of the Management shall have power to appoint a member of the Team to an interim position. It shall be a priority of the Management to hold an election according to Section 11 at the next convenient time decided by the Management.

15. Non-Management Roles

- 15.1. Non-management roles shall include of the Business Presentation Leader, Cost Leader, Design Event Leader, Aerodynamics Design Leader, Chassis Design Leader, Driveline Design Leader, LV Electrical Design Leader, Powertrain Design Leader, and Suspension Design Leader. These roles are filled by team members gaining greater than 50% of the vote at a management meeting where at least two thirds (66%) of the management team is present.
- 15.2. Business Presentation Leader:
- 15.2.1. Reports to the Team Leader
- 15.2.2. Is responsible for the Business Presentation event at competition
- 15.3. Cost Leader:
- 15.3.1. Reports to the Team Leader
- 15.3.2. Is responsible for the Cost Presentation at competition
- 15.4. Design Event Leader:
- 15.4.1. Reports to the Chief Engineer
- 15.4.2. Is responsible for the Design Event at competition
- 15.5. Design Leaders:
- 15.5.1. Reports to the Chief Engineer/s

16. Annual & Special General Meetings of the Team

- 16.1. AGMs/SGMs of the Team shall be called by Management:
- 16.1.1. Upon its own initiative
- 16.1.2. Within seven (7) days of receiving a request to do so, in writing, signed by ten (10) or more members of the Team.
- 16.2. Items to be included on the agenda shall be given to the Team Leader in writing not less than four (4) days before the meeting.
- 16.3. The Team Management, not less than four (4) days before any AGM or SGM of the Team, shall notify or make reasonable effort to notify all members of the time, date and place of the meeting. An agenda shall also be available forty-eight (48) hours before the meeting.
- 16.4. The quorum at any AGM or SGM of the Team shall be two-thirds (66%) of the team's current membership list.

- 16.5. The chair of a general meeting shall be in accordance with Section 12.5, or in their absence the meeting shall elect a chair from any financial member of the Team.
- 16.6. Every member shall have one vote and in the case of equality of votes a second vote shall be taken between the equally voted on options. The chairperson shall have second or casting vote if the options remain deadlocked. Voting shall be by voice but if any member desires, the Chairperson shall call for a show of hands or secret ballot. Where there is voting by ballot the meeting shall appoint two or more scrutineers. The scrutineers shall not have a vote and should preferably, be non-members.
- 16.7. Any regulations passed by the Management or passed by a General Meeting shall be binding on the Team and shall have effect as if incorporated in this constitution for the year.

17. Annual General Meeting of the Team

- 17.1. The AGM shall be held at a date to be determined by the Management, but preferably after the FSAE competition.
- 17.2. The Treasurer shall prepare and make available at the AGM:
 - 17.2.1. Statement of financial performance and position.
 - 17.2.2. The current bank balance/s of the Team
 - 17.2.3. A list of current financial members and a report containing the years adopted minutes to date.

18. Alteration of Constitution

- 18.1. Alteration, addition or rescinding of Sections in the constitution may be done by the Team Management, and may be accepted by the Team at a Special (or Annual) General Meeting. The presence of changes must be specified in the aforementioned meeting agenda, and will be carried by a vote of more than two-thirds (66%) of the discrete vote from those present and entitled to vote, on the condition that at least 1/6th of the Team have made discrete votes.

19. Control of Funds

- 19.1. Control of team funds resides ultimately with the Team Leader.
- 19.2. Purchases may only be approved by the Team Management.

- 19.3. Any income or benefit must be used in accordance with the mission statement of the Team.

20. Assets Management

- 20.1. The FSAE cars produced and the trailer cannot be sold solely for the purpose of generation of funds.
- 20.2. The FSAE cars are to be kept in a presentable manner for displays and use by sponsors.
- 20.3. Upon the dissolution of the Team, ownership of all vehicles produced by the Team shall be transferred to the Faculty.
- 20.4. Upon the dissolution of the Team, all assets owned by the Team (excluding vehicles) shall be sold to repay any debt. Surplus shall be donated to a charitable organisation registered under the Charities Act 2005 of the team's choice at the time of dissolution.

21. Financial Year

- 21.1. The financial year of the team shall end on 31st of January each year, to which the accounts shall all be current.

22. Suggestions Complaints & Disputes

- 22.1. Any suggestions, complaints or disputes in regard to Team matters, or other activities, not including a suspected misappropriation of funds, shall be referred to the Management whose decision will be final, notwithstanding that the Management may delegate this power. No member except for the purpose of pleading his/her case shall take part in the determination of any dispute in which he/she is personally involved.
- 22.2. Any member who suspects that misappropriation of funds has occurred shall forthwith,
- 22.2.1. Inform an officer of the Team who is not implicated in the misappropriation of funds within seven (7) days.
- 22.2.2. Or should there be no officer of the Team Management who is not implicated the member shall inform a Faculty Advisor within seven (7) days.
- 22.3. A tribunal shall forthwith be formed to consider the allegation and if necessary decide upon disciplinary action.
- 22.3.1. The tribunal shall be made up of:

- 22.3.1.1. A Faculty Advisor
 - 22.3.1.2. Two members of the engineering faculty – to be selected by the Faculty Advisor.
 - 22.3.1.3. Two members of the Team who shall not be Team Management members – selected by the Faculty Advisor.
 - 22.3.1.4. Two members of the Team – to be selected by resolution at a Team Management meeting.
- 22.4. Wherever possible the Faculty Advisor shall not be made aware of the names of the people suspected of misappropriation at the time of selection of council members. All members of the tribunal shall be unprejudiced and not implicated. Should it not be possible to select two Team officers who are not prejudiced or implicated, the tribunal shall be made up of the five members above excluding the two Team Management representatives.
- 22.5. The decision of the tribunal shall be binding.

23. Research Projects

- 23.1. Pairs (or individuals) undertaking research for the benefit of the team must be previously approved by the Research and Development Leader, in accordance with Section 11.

24. Safety guidelines

- 24.1. General
 - 24.1.1. Safety in the workshop and on the track will be of the highest priority. No unsafe conditions will be tolerated.
 - 24.1.2. All team members must sign the Health and Safety contract in the Membership form, as shown in Appendix A of this constitution. These contracts will be kept on file until they leave the team. These will be kept private.
 - 24.1.3. These guidelines are in addition to existing workshop rules as laid down by the Faculty. In cases of conflict, the Faculty's rules will be used.
 - 24.1.4. Failure to comply with these guidelines will result in an official warning from the Management. For severe or recidivist breaches expulsion from the team could result.
 - 24.1.5. At the weekly Management meetings safety will be addressed. Any areas of concern will be acted upon within three (3) working days.
 - 24.1.6. In the event of a serious incident, work in that area will stop pending an investigation into the accident. This will help to ensure problems are addressed.
 - 24.1.7. Only Team members will be permitted within the workshop and at testing events, unless permission has been obtained from the Team Management.

24.1.8. The Management and the University will not be held responsible for any accident resulting from a team member not abiding by the given guidelines or rules.

24.2. Access Levels

24.2.1. There are six (6) levels of access for the Newmarket workshop and all team members must abide by the restrictions associated with their acquired level of access.

24.2.2. Failure to comply with access level guidelines will result in an official warning from Management. For severe or recidivist breaches expulsion from the team could result.

24.2.3. To acquire a level of access, team members must pass the associated safety test/s, as shown in Appendix B

24.2.4. Safety tests serve as a valid record of team members' eligibility for twelve (12) months from the date of the test

24.2.5. Guests to the workshop are required to pass the appropriate access level safety test if they are undertaking work at the Newmarket workshop.

24.2.6. To pass a safety test requires a score of one hundred per cent (100%)

24.2.7. Team members are permitted to re-sit a safety test up to five (5) times

24.2.8. General access entitles team members to:

24.2.8.1. Use hand tools

24.2.8.2. Use flammables

24.2.8.3. Access the assembly area

24.2.8.4. Access the fabrication area

24.2.8.5. Access the grinding room

24.2.8.6. Access the project lab

24.2.9. Level A access entitles team members to:

24.2.9.1. Access the machine room

24.2.10. Level B access entitles team members to:

24.2.10.1. Access the composites room

24.2.11. Level C access entitles team members to:

24.2.11.1. Access the welding bay

24.2.12. Level D access entitles team members to:

24.2.12.1. Access the high voltage area

24.2.13. Testing Access entitles team members to:

24.2.13.1. Attend and be involved in testing sessions

24.3. First aid

24.3.1. All officers must hold current first aid certificates. Other team members are welcome to attend training.

24.3.2. A fully stocked first aid kit will be attached to the wall within the workshop. At testing a first aid kit will need to be taken and kept within reach.

24.3.3. A detailed record of all incidents will be kept in an Accident and Near Miss record book.

24.4. Workshop Safety

- 24.4.1. Whenever hazardous work is carried out there must be more than one person present within the workshop. This includes but is not limited to using any of the machines, power tools, pneumatic tools/equipment, high voltage equipment.
- 24.4.2. Safety shoes, eye protection (if required) and hearing protection (if required) must be worn within the workshop area. Process specific safety equipment will be supplied and must be used, e.g.: welding gloves and helmet.
- 24.4.3. A policy of “If you don’t know, then ASK” will be enforced. Whereby if a student is not sure how to use a tool or process they should ask and find out how to use/do it correctly.
- 24.4.4. If you observe incorrect use of a tool or equipment, you are obliged to correct them.
- 24.4.5. The workshop area will be kept clean at all times; you will be expected to clean up after yourself and put your tools away.
- 24.4.6. Since machines will be shared, they need to be left in a safe and clean condition. E.g.: not leaving chuck keys in chucks.
- 24.4.7. Any faults and breakages need to be reported and recorded.
- 24.4.8. Hazard identification signs will be posted next to machines and tools to inform team members of the hazards associated with the equipment.
- 24.4.9. Any hazards seen around the workshop must be noted on the Hazards Identification form, located in the First Aid box.
- 24.4.10. Any incidents or near misses must be recorded in the Incidents and Near Misses book, located in the First Aid box.

25. Security

- 25.1. Security of the workshop during open hours is the responsibility of all of those present at the workshop. It is the responsibility of the last person to leave the workshop to ensure the premises are secure.

26. Testing procedure

- 26.1. To be completed before testing:
 - 26.1.1. Receive permission from the landowner where testing will occur.
 - 26.1.2. Ensure the car is in a safe and roadworthy condition before it leaves the workshop. The Race Engineer will sign this off.
- 26.2. Each testing session must be sanctioned by the Race Engineer
 - 26.2.1. The Race Engineer, if not present or if present and driving may appoint a competent team member to oversee the session. The person overseeing the session cannot be the driver or one of the two (2) marshals.
- 26.3. During testing:

- 26.3.1. All testing is to be carried out in a controlled environment, a safe distance away from members of the public.
- 26.3.2. A First Aid kit will be on site and at least two (2) marshals will man fire extinguishers while the isolation switch is on.
- 26.3.3. An ESO must be present during testing of an electric car.
- 26.3.4. A detailed record of all incidents will be kept in an Accident and Near Miss record book.
- 26.3.5. Drivers must meet the requirements stated in the Formula SAE rule 2.1.1
- 26.3.6. The driver must wear safety equipment consistent with the Formula SAE rule 3.4.2.
- 26.3.7. Common sense must be used during testing.

27. Intellectual property

- 27.1. All products and processes developed by team members while working on the project will remain property of the team.
- 27.2. All components produced by team members while working on the project will remain property of the team.
- 27.3. Team members may be required to sign a non-disclosure agreement, prohibiting them from releasing information about the project.
- 27.4. No area of the project may be reproduced without prior written consent from the Management.
- 27.5. Ownership of intellectual property shall be transferred to the faculty upon the dissolution of the team.

28. Harassment & Discrimination

- 28.1. All members must be aware of harassment of other members. Harassment and/or discrimination due to:
 - Race
 - Colour
 - Sex
 - Religion
 - Nationality
 - Any other form of harassment of discriminationis not tolerated within the team

- 28.2. If a member of the team is feeling harassed in any way, they should inform the appropriate person.
 - 28.2.1. In the first instance, the member should inform the Team Leader.
 - 28.2.2. In the second instance, the member should inform another officer of the team.
 - 28.2.3. In the third instance, the member should inform a member of Management.
 - 28.2.4. In the final instance, the member should inform a Faculty Advisor.

29. Recreational Equipment

- 29.1. If a team member is using a piece of the team's recreational equipment, then they understand that the team, and any of its members, is not responsible for the condition of the equipment and its suitability for its use.
- 29.2. Members understand that the equipment can be dangerous and must be treated as such. Common sense and consideration for personal safety, the safety of those around you and property must be employed at all time.
- 29.3. Members understand that, if they disrespect these rules, that they may lose the right to use recreational equipment.
- 29.4. Members understand that they use the equipment at their own risk, and indemnify the team, and any of its members, from responsibility for their injury or death resulting from use of the recreational equipment.

Appendix A: Health & Safety Contract
The University of Auckland Formula SAE Team Inc.
Membership / Health & Safety Contract

Surname: _____ First Name(s): _____

Student ID: _____ UPI: _____

Home Phone: _____ Mobile: _____

Email: _____

Degree: _____ Year: _____

Major(s)/Specialisation: _____

Date of Birth: _____

Address: _____

Health Conditions | Medication | Allergies | Disabilities

Next of Kin | Emergency Contact

Surname: _____ First Name(s): _____

Home Phone: _____ Mobile: _____

Email: _____

Address: _____

I certify that the above information is true and correct. I agree to abide by the Formula SAE 2018 Constitution, and the safety guidelines set by the Faculty of Engineering. I realise that I may be dismissed from the team after two (2) verbal warnings from team management. These will be issued at their discretion for such reasons as having an insufficient contribution or bringing the team into disrepute. I realise that my membership fee will not be refunded, and that I may reapply to join the team at any time.

Signed: _____ Date: _____

Membership Fee Paid: _____ Date: _____

Appendix B-1: General Safety Test

Name:

Date:

General Safety

1) On the attached map, Label:

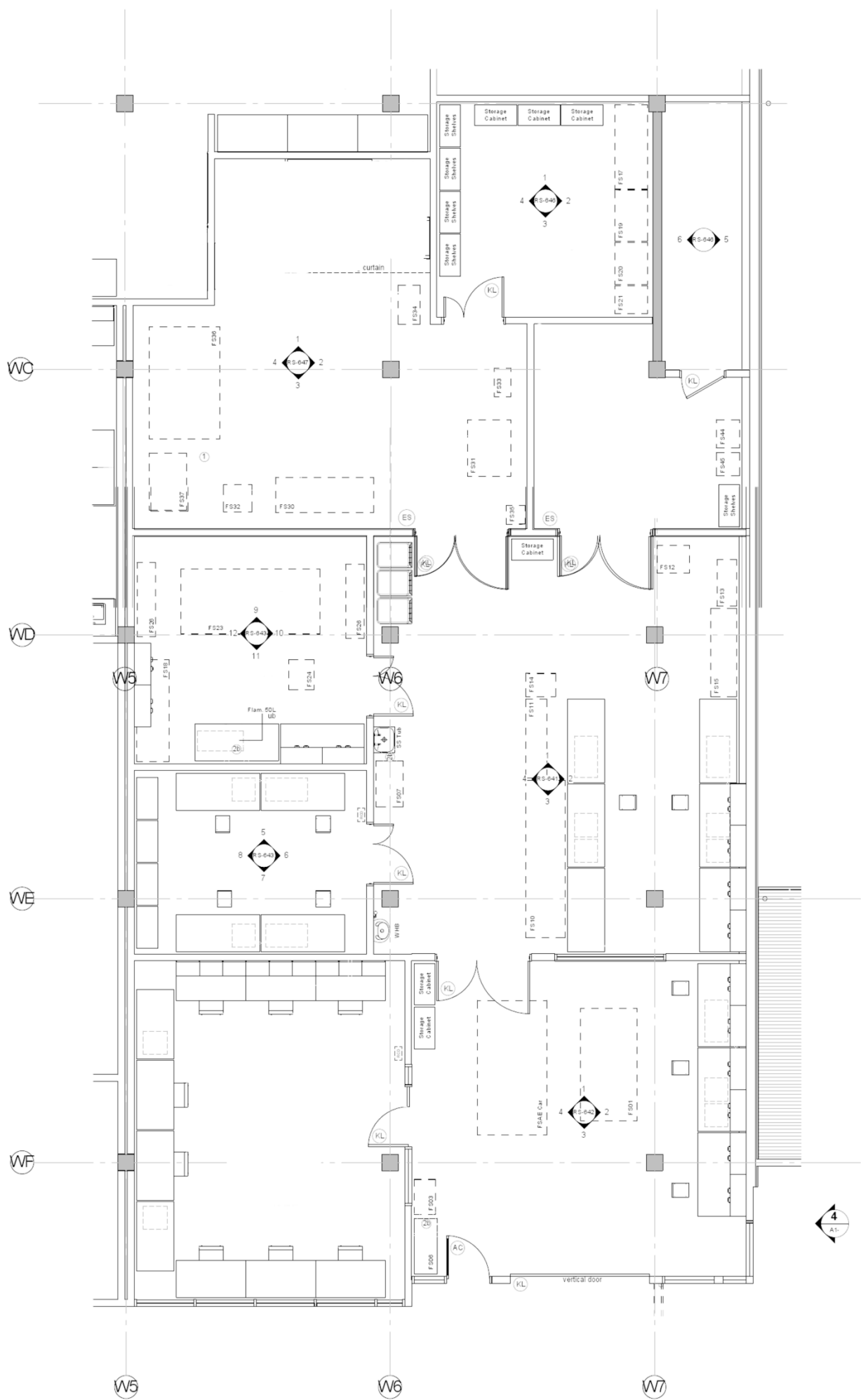
- Room names
- The fire exits (with arrows)
- The fire extinguisher locations and type
- First aid box
- PPE (Personal Protection Equipment) Cupboard
- Flammables cupboard
- The Spill kit

**2) In an emergency, what is the quickest way to the nearest 24/7 A&E
(start turning onto Khyber Pass Road)**

**3) What is the evacuation procedure for the Newmarket Workshop?
Where is the assembly point?**

Workshop Safety

- 4) Where is the Hazard Identification register? And when should you use it?
- 5) Where is the Accident and Near Miss Log book? Why do we have this?
- 6) What are the safety rules for using the linisher?
- 7) What PPE is required when using an angle grinder?
- 8) What conditions make a cutting disc unsuitable for use?
- 9) Which cutting discs are safe for cutting steel?
- 10) Which cutting discs are safe for cutting aluminium?



Appendix B-2: Level A Safety Test

Name:

Date:

Machine Shop Safety Test

1) What are the two fundamental rules of using machinery at the workshop?

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2) What should you do if you see something breaks or you find something broken?

Bench Grinder

3) What PPE is required when using the Bench Grinder? (circle all applicable)

Safety Glasses

Steel Capped Boots

Earmuffs

Gloves

Dust mask

4) Which are you not permitted to grind on the Bench Grinder?

Aluminium

Stainless steel

Small stock

Components with sharp edges

5) Where should you stand in relation to the grinding wheel when using the Bench Grinder?

In front of it

To the side of it

One metre from it

Any of the previous

The Mill (Milley)

6) What PPE is required when using the Mill? (circle all applicable)

Safety Glasses Steel Capped Boots Earmuffs Gloves Dust mask

7) Who is permitted to use the Mill and supervise all other users of the mill?

8) Entanglement whilst the tool (spindle) is rotating is a grave possibility. List 2 possible causes of injury when using the mill while the spindle is not rotating. Also list the precaution for the situation:

-
-

9) List 3 things that should always be done prior to starting the mill:

-
-
-

10) You are at the workshop alone and need to use the mill. You should:

- i. Use milley
- ii. Call someone and let them know you are using the mill then use Milley
- iii. Go next door, let Bob know you are using the mill and then use Milley
- iv. Wait for someone else to come out and then use Milley

11) When is it Okay to leave the mill running unattended

- v. If you will be back in 30 minutes
- vi. If you are still at the workshop
- vii. It is never alright to leave the Mill running unattended
- viii. If you are still downstairs

12) How do you turn off the Mill in an emergency

The Lathes (Chester and Harry)

13) What PPE is required when using a Lathe? (circle all applicable)

Safety Glasses Steel Capped Boots Earmuffs Gloves Dust mask

14) What is the primary rule of using any lathe?

15) Who is permitted to use the Chester and supervise all other users of Chester?

16) Who can use Harry?

17) List 5 possible causes of injury when using a lathe. Comment on any preventative measures that can be taken

-
-
-
-
-

18) How do you turn off each lathe in an emergency?

- Harry:
- Chester:

19) List 3 things that should always be done prior to starting a lathe:

-
-
-

20) When is it Okay to leave a lathe running unattended

- i. If you will be back in 30 minutes
- ii. If you are still at the workshop
- iii. It is never alright to leave a lathe running unattended
- iv. If you are still downstairs

The Press

21) What PPE is required when using the Press? (circle all applicable)

Safety Glasses Steel Capped Boots Earmuffs Gloves Dust mask

22) How should the load(s) be applied to the part:

-

Drop Saw

23) What PPE is required when using the Drop Saw? (circle all applicable)

Safety Glasses Steel Capped Boots Earmuffs Gloves Dust mask

The Bandsaw

24) What PPE is required when using the Bandsaw? (circle all applicable)

Safety Glasses Steel Capped Boots Earmuffs Gloves Dust mask

25) How do you change the speed on the bandsaw?

26) What precautions should you take to prevent damage to your hands while using the bandsaw?

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Note: If you are in any doubt as to the serious injury the machines we use can cause, please google 'lathe accident' but be aware that it is reasonably graphic.

Appendix B-3: Level B Safety Test

Name:

Date:

Composites Safety Test

- 1) What PPE should you use when working with resins?

- 2) What PPE should you use when grinding or sanding composite materials and where should you carry out the process?

- 3) Please list two hazards to yourself and others when using composites
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- 4) What do you need to do before using any form of resin/hardener/other chemical?

- 5) Where is the nearest extinguisher to the composites room and what type of extinguisher is it?

Appendix B-4: Level C Safety Test

Name:

Date:

Welding Safety Test

1) What Safety Equipment should you use when welding?

2) Please list five personal hazards of using a welder:

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-
-
-
-

3) Please list three hazards to others of using a welder:

-
-
-

4) What do you need to check before you weld?

5) Where is the nearest extinguisher to the welding bay and what type of extinguisher is it?

Appendix B-5: Level D Safety Test

Name:

Date:

- 1) What personal protective equipment is required when operating high-voltage equipment in the powertrain room?

- 2) Specifically, what items are strictly not permitted in the powertrain room when high-voltage equipment is in use?

- 3) When are you not permitted to enter the powertrain room?

- 4) How much current does it typically take to stop a person's heart?

- 5) List the maximum voltage and current that each of the M016/M017's cells can deliver
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- 6) Where is the nearest defibrillator located and what does it look like?
- 7) What type of fire extinguisher is used to douse electrical fires? Where can these be found?
- 8) What type of fire extinguisher is used to douse accumulator fires? Where can these be found?
- 9) List 6 things that can be used to form a potentially dangerous short circuit when working with electrical equipment
- -
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10) List 4 actions that can potentially cause lithium polymer cells to enter thermal runaway

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-
-
-

11) What do you do in the event of a cell entering thermal runaway?
[Tick correct answer(s)]

- ☐ Douse the flames with water
- ☐ Extinguish the fire using a dry power extinguisher
- ☐ Leave the cell alone and walk away – let it burn out
- ☐ Try to save any cells that are nearby as they are expensive
- ☐ Pour sand over the fire to put it out

12) In the event that someone near you is electrocuted, list (in order) 4 actions that you need to take

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-

13) List 2 actions that you are NOT to do if a person nearby is being or has been electrocuted

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-

14) List 6 things that can happen if you drop a metal tool on a live electric circuit

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-
-
-
-
-

15) Where will electricity always flow?

16) List 2 actions you can take to make yourself a hard path for electricity

-
-

17) What is the number one rule regarding high voltage electricity?

18) How do you reduce the risk of creating a short circuit across your heart when working on HV?