MechMayhem 2026 Program Document

Structured timeline and workshop delivery plan.

Timeline

Blue lettering is for internal dates, Bold lettering is for schools

- *[University Week 11: Volunteer Training and Lab Induction]*
- **May 25–27 (Mon–Wed), 9:00am–1:00pm: CAD / Design Workshops,** *[University Week 13]*
- *[May 18 – June 1: Volunteer team prepares student CAD designs]*
- **June 2–4 (Tue–Thu), 9:00am–1:00pm: Soldering / Assembly Workshops,** *[University SWOTVAC]*
- **July 17: Final Competition**

Program Overview

Each school receives a basic robot build kit while retaining meaningful design freedom over their final robot, including choices around weapon systems, chassis structure, layout, and strategy.

Program Stages:

1) CAD / Design Workshop

2) Intermission

3) Soldering / Robot Assembly Workshop

MEETING PLACE FOR SCHOOLS: O BLOCK LEVEL 3 BALCONY

CAD / Design Workshop (9:00am – 1:00pm)

1. 9:00am (30 min) — Program Introduction: Welcome and housekeeping; competition overview and rules; build kit explanation; timeline; hear from current university students.
2. 9:30am (30 min) — Engineering Design & Trade-Offs: Strength vs weight; stability vs aggression; simplicity vs complexity; examples from past designs.
3. 10:00am (30 min) — Robot Design Brainstorming: Weapon type, chassis style, drive layout, team priorities.
4. 10:30am (1 hr) — CAD Session: Guided by student experience level.
5. 11:30am (30 min) — Lunch.

6. 12:00pm (30 min) — CAD Extension / Finalisation: Finish parts, refine designs, export files, check dimensions, brief overview of manufacturing.
7. 12:30pm (30 min) — Design Review / Wrap-Up: Team presentations, feedback surveys, next workshop briefing, optional campus tour.
8. 1:00pm Finishing time

Intermission

The MechMayhem team manufactures student-designed parts using 3D printing and laser cutting, then prepares build kits for the assembly workshop.

High School students are encouraged to build basic understanding of circuits, motors, and electrical systems before the second workshop, and may further develop creative weapon concepts within the rules outside of the workshops.

Soldering / Robot Assembly Workshop (9:00am – 1:00pm)

9. 9:00am (15 min) — Workshop Introduction: Safety briefing, session goals, overview of robot systems.
10. 9:15am (30 min) — Learn to Solder: Tool use and safety, basic solder joints, practice activity.
11. 9:45am (45 min) — Build Electronics: Assemble robot circuit, connect motors/controller/battery, guided support.
12. 10:30am (30 min) — Initial Testing & Troubleshooting.
13. 11:00am (30 min) — Lunch.
14. 11:30am (45 min) — Mechanical Assembly: Assemble chassis, mount electronics, integrate structure.
15. 12:15pm (45 min) — Final Testing / Driving / Buffer Time: Practice, troubleshooting, reinforcement, readiness checks, surveys.
16. 1:00pm Finishing time