

## Micro Autonomous Systems Testing (MAST) Laboratory

### Flight Test Area

### Room 629

### James Watt South building

### CODE OF PRACTICE

*The adoption and practice of good safety procedures is of paramount importance both for the health of fellow workers and for the integrity of the fabric of the MAST laboratory.*

- 1) No work may be carried out in the MAST laboratory, Room 629, James Watt South building without the prior permission of Dr David Anderson.
- 2) No work may be carried out until all necessary safety documentation has been read, understood and the **safety book signed**. New staff and students should also make themselves aware of the positions of safety equipment in the lab.

These are:

Emergency telephone number: **4444**

First Aid kit (JWS Level 2: Workshop, Level 3: Janitors box, Level 4: Tuck lab)

Emergency exit (either through main or side entrance and then through James Watt North or Wind tunnel lane)

- 3) Work out with the 9am to 5pm working day requires the permission of Dr. Anderson. If permitted, the "Late working book" located in the foyer of the JWS building must be signed.

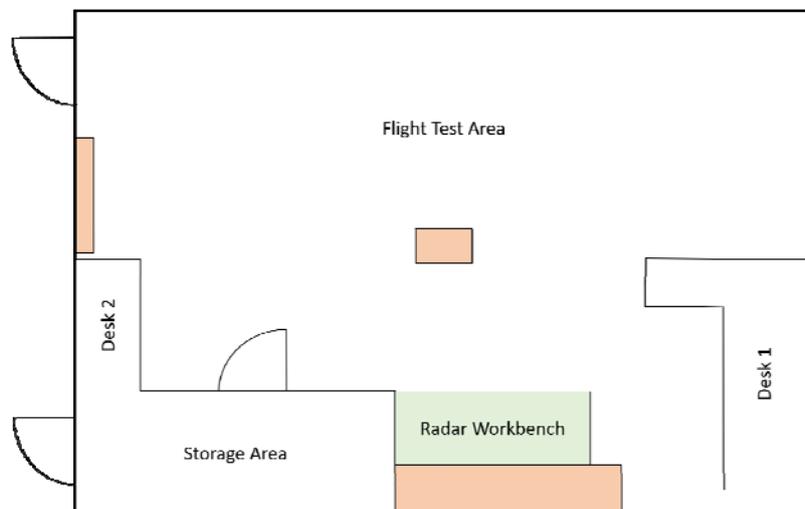


Figure 1: MAST-Lab floorplan

## **A. Use of lab equipment**

- 1) Prior to any flight test session, the following procedures MUST be followed sequentially,
  - i. Tracking quality of the OptiTrack motion capture camera system must be checked (using the marker wand) and if necessary a system re-calibration performed.
  - ii. Test to confirm that the unit-under-test receives operational commands from the ground-station (check RC binding/WiFi connection).
  - iii. By manually moving the unit-under-test around the flight test area, ensure that the on-board telemetry data is received and displayed by the ground-station.
  - iv. Check the OptiTrack system accuracy by performing a short manually-controlled flight. Only designated pilots can perform this task. See Dr. Anderson for details of appropriate personnel.
  - v. Check that the unit-under-test can operate in full autonomous control mode safely by using an approved, standard low-bandwidth controller prior to testing any new control schemes.
- 2) At least two persons must be present in the Lab during ANY flight test.
- 3) No-one is permitted to enter the flight test area (marked off with black/yellow tape) during operation.
- 4) The ground-station 'kill-switch' must be manned at all times.

## **B. General lab points**

- 1) If coats or bags etc are brought into the lab they should be stored in the viewing area.
- 2) Food and drink are not permitted in the lab.
- 3) Laboratory doors should remain locked at all times to ensure security.
- 4) If equipment is required to leave the lab, permission is required from Dr. Anderson and if necessary seek assistance.
- 5) If equipment breaks down or is not working, report the fault to Dr. Anderson immediately.

## **C. Covid-19 measures**

- 1) Guidance from the HSE, UK Government and Scottish Government to manage the risk related to Covid-19 pandemic must be applied to the Energy Lab. These include physical distancing, frequent hand washing and hygiene measures, cough etiquettes and face covering in enclosed public space. Considerations for codes of practice and risk assessment for the James Watt School of Engineering can be found here (Insert link)
- 2) Physical distancing within the MAST Lab means a maximum capacity of (2) persons working in the lab at any one time, occupying desks 1 and 2.
- 3) Demand to use the lab will be managed by the Lab Guardian in collaboration with the Safety Coordinator. Collaboration will be required between lab users, supervisors, PIs and the lab guardian to establish a

rota where necessary. Impact on the overall capacity of the James Watt South building will be reviewed by the Technical Services Manager.

- 4) Lab users must wash their hands regularly and wipe workstation surfaces, materials, and equipment at the start of their work and before leaving.
- 5) Emergency support (First Aiders and Fire Area Officer) might be constrained due to Covid-19 restriction on building capacity. Task risk assessments need to be reviewed to include the above measures and to review with personnel through the risk assessment, which work can be safely undertaken with reduced access to emergency support. A Covid-19 risk assessment template can be found here ([https://www.gla.ac.uk/media/Media\\_723618\\_smx.docx](https://www.gla.ac.uk/media/Media_723618_smx.docx)).