1. Unmanned Aerial Vehicle (Drone) Safety Management

1.1 Executive Summary
The following policy applies to the use of Unmanned Aerial Vehicles (UAV) (also known as drones) in any manner on University premises, or in connection with the business of the University at any location away from University premises.

Safe UAV use is managed through the collective responsibilities of those involved at all levels within the University including visitors and contractors. Within the areas covered by this policy UAV can be used for Teaching, Research and Consultancy Activities, and by special permission University events and very rarely for recreational activities.

1.2 Purpose
The purpose of this policy is to ensure, as far as is reasonably practicable, the safe operation of Unmanned Aerial Vehicles (UAV) associated with the University of Dundee, and ensure their usage is in accordance with regulatory requirements.

1.3 Objectives
The objective of this policy is to set out the requirements in respect of persons using UAV in any manner on University premises or in connection with the business of the University at any location away from University premises. All directorates or schools that intend to use drones shall have local arrangements in place that comply with this Policy.

1.4 Scope
This Policy applies to all University of Dundee staff (including visiting academics), students, visitors and contractors hired by the University who make use of UAV.

The Policy applies to the use of University of Dundee owned UAV both on and off University of Dundee premises. This policy also applies to recreational use of UAV owned by the University or others on University of Dundee premise by any person. Within this document the “use of” refers to the taking off or landing of a UAV on University premises or flight over (including adjacent to University premises, but nearer than the minimum distances specified in legislation, see below) University premises by any UAV.

2. Policy Statement
The University of Dundee recognises that the use of Unmanned Aerial Vehicles (UAV) (Drones) can pose a number of safety issues to the operator and those in the immediate vicinity of operation. The University is committed as far as is reasonably practicable, and in accordance with the relevant legislation, to ensuring the health and safety of staff, students and visitors to the University with respect to the use of UAV/Drones.
2.1 Responsibilities

2.1.1 Deans and Directors
- Providing permission and approving the use of UAV in respect of teaching, learning, research, undertaking surveys and any other legitimate use connected with the business of the University.
- Ensuring compliance with this policy, the University Flight Unit and CAA regulations and guidance.

2.1.2 University Flight Unit
- To be consulted before the purchase of ALL UAV equipment for use within the University
- To help ensure compliance with the University policy on use of UAVs
- To ensure that all pilots and others involved in UAV operations within the Flight Unit are qualified and competent to the level required in the University policy on use of UAVs
- To maintain the Flight Unit Operations Manual and ensure that all pilots and others involved in UAV operations fully understand and adhere to the requirements of the manual
Further information regarding the University Flight Unit can be found in Appendix 1

2.1.3 Managers and Supervisors (including academic) of staff and students
- Ensuring that suitable and sufficient risk assessments are completed by competent persons in respect of each flight.
- Ensuring that only fully trained, qualified and competent individuals will be involved in the operation of the UAV.
- That the Dean/Director and Safety Services/School Health & Safety Advisor has been informed of any activity where the risk assessment has indicated that there is a high residual risk associated with a particular activity, or ANY UAV operations involving vehicles in excess of 7 kg.
- Ensuring that if the activity is off campus, that the landowner/Leaseholder or other occupier has granted written permission that the UAV can be used.
- Ensure any operation is undertaken with the necessary public liability insurance cover.

2.1.4 Staff, Students and Visitors (including contractors) who operate UAV
- Must hold and maintain the Permission for Commercial Operations (PFCO) (following issue by the CAA) and any other regulatory permits necessary for the intended work.
- Staff/Students must read, fully understand and agree to follow the requirements of any risk assessment in relation to their use or involvement in the use of UAV.
- Must report any defects, errors or omissions in the procedure or equipment to Safety Services.
- Must report any accidents or near misses that occur whilst using UAVs via the University’s online reporting procedure.
- Agree to undertake any training deemed necessary by the University.

2.2 National Regulations

2.2.1 Air Navigation Order 2016 (as amended)
The primary legislation is the Air Navigation Order 2016 (ANO). The ANO is enforced by the Civil Aviation Authority (CAA), which has powers of prosecution. The ANO does not distinguish between different types of aircraft. It covers ALL aircraft, of all sizes. The CAA grants “exemptions” from certain provisions of the ANO. If there is no explicit exemption,
then the provisions of the ANO apply. Particular attention should be payed to the ANO when operating UAV in close proximity to airports, including approach and take-off flight paths, for example the Riverside Sports Facility. The ANO does not regulate the use of UAV indoors, however it is prohibited to fly UAV indoors on University premises without prior written permission from the Heads of Safety Services and Estates and Buildings.

### 2.2.2 Commercial Aviation

The ANO 2016 (as amended) defines a ‘commercial operation’ as:

“...any flight by a small unmanned aircraft except a flight for public transport, or any operation of any other aircraft except an operation for public transport -

(a) which is available to the public; or
(b) which, when not made available to the public—

(i) in the case of a flight by a small unmanned aircraft, is performed under a contract between the SUA operator and a customer, where the latter has no control over the remote pilot; or

(ii) in any other case, in return for remuneration or other valuable consideration.”

Any commercial operation requires the operator to meet all of the legal requirements of a commercial operator that apply to their type of aircraft. Any UAV use must be assessed for risk. This will include the risk to persons who might be affected by malfunction or pilot error, as well as risks to operators from hazards such as manual handling and hazardous substance, for example.

### 2.2.3 General Health and Safety Considerations

UAV used in connection with business activities are considered to be work equipment, as defined by the Provision and Use of Work Equipment Regulations 1998. The UAV must therefore be:

- suitable for the intended use.
- safe for use, maintained in a safe condition and inspected to ensure it is correctly constructed and does not subsequently deteriorate.
- used only by people who have received adequate information, instruction and training.
- accompanied by suitable health and safety measures, such as protective devices and controls. These will normally include emergency devices, adequate means of isolation from sources of energy, clearly visible markings and warning devices.

The full regulations that apply to UAV under the CAA regulations are summarised as follows:

1. All flights should be taken with satisfaction that it will be safe.
2. The person responsible for the flight must maintain direct, unaided, visual contact.
3. Flights must not exceed 400 feet above take off height unless in Class A, C, D or E (*) as long as it flies in accordance with their respective regulations. (*Refers to categorisation of airspace – (controlled or uncontrolled)
4. Vehicle must not be used for aerial work unless permission granted by the CAA.
5. Flights must not take place over or within 150m of any congested area or an open-air assembly of more than 1000 people.
6. Must not fly within 50m of any vehicle/structure that is not under control of the person in charge of the aircraft.
7. Must not fly within 50m of any person, except that who is charge of the aircraft.
8. During landing / take off it must not fly within 30 meters of any person, except those who are in charge of the aircraft.

(*Please see references below for links to CAA, European Safety Agency and “DroneSafe UK” safety guidance and other resources including the “Drone Assist” App and “Drone Aware” safety video.)

2.3 Use of Unmanned Aerial Vehicles for Research and Consultancy Activities
The University requires that all UAV use for research or commercial purposes must be undertaken in accordance with any applicable Permission for Commercial Operations (PFCO). Any School or Directorate which wishes to undertake teaching, research or consultancy using a UAV should seek guidance from the University Flight Unit.

2.4 Use of Unmanned Aerial Vehicles for Teaching Activities
Flying of UAV on campus for teaching purposes is permitted provided that:
- CAA regulations and rules are complied with fully.
- The flight is undertaken by an appropriately qualified/experienced person and the responsibilities and requirements in section 2.1 of this policy are followed.
- A risk assessment is undertaken and provided to the University Safety Service a minimum of 1 week in advance for their comment.

2.5 Use of Unmanned Aerial Vehicles for Events
It may sometimes be desirable to use UAV for events held on University of Dundee premise (e.g. for demonstration purposes or to obtain aerial imagery). Their use in such circumstances can present additional health and safety considerations owing to the larger number of people who may be impacted.

A formal request for permission must be made to Safety Services and Estates and Campus Services. Approval will be subject to the operator having a valid CAA Permission for Commercial Operations, compliance with the CAA guidance on drone safety, observance of agreed operating procedures, completion of appropriate risk assessments, and satisfactory insurance provision. There is no guarantee that permission will be granted.

2.6 Recreational and all other Unmanned Aerial Vehicles activities
The recreational use of UAV on University of Dundee premises is prohibited unless the pilot has obtained the necessary permission from Safety Services. There is a presumption against recreational use of UAV by individuals on University premises. Exceptions may be made however, and permission given subject to;
- Compliance with general health and safety considerations (See section 2.2.3)
- The UAV pilot demonstrates competence by providing evidence of suitable qualifications and training and experience or is operating under the direct supervision of a competent person.
- A risk assessment has been undertaken, provided to Safety Services a minimum of 1 week in advance for their comment and approved.
- There is a compelling case for the recreational use, including why it cannot be undertaken at
a more appropriate location.

3. Further information

3.1 References
- Unmanned Aircraft System Operators in UK Airspace – Guidance
- “The Drone Assist” App, “Drone Aware” video and other resources
- CAA Unmanned Aircraft - Requirements for operating in airspace
- European Aviation Safety Agency - drone safety video

3.2 Further Assistance
If further assistance in understanding this policy or advice in relation to this policy is required, please contact safety@dundee.ac.uk.

3.3 Definitions & Abbreviations

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<th>UAV</th>
<th>Unmanned Aerial Vehicle also commonly known as drones.</th>
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<td>CAA</td>
<td>Civil Aviation Authority</td>
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<td>ANO</td>
<td>Air Navigation Order</td>
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<td>Pilot</td>
<td>The person operating the UAV</td>
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<td>Commercial Operation</td>
<td>Work or flight of a UAV for which a benefit (e.g. money) is given or promised.</td>
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<td>Congested Area</td>
<td>Any area of a city, town or settlement which is substantially used for residential, industrial, commercial or recreational purposes.</td>
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<td>PFCO</td>
<td>Permission for Commercial Operations</td>
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4. Document Information

4.1 Equality Impact Assessment
Consideration is given to the protected characteristics of all people groups identified in the Equality Act 2010.

The University recognises the need for specific measures to ensure the health and safety of each of these groups. This policy and all other associated Health and Safety related policies take this into account.
### 4.2 Approvals & Renewals

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5. Appendix 1

Dundee University UAV Flight Unit

Terms of Operation

Background

Dundee University UAV Flight Unit (henceforth called “Flight Unit”) was formed to formalise and coordinate the use of Unmanned Aerial Vehicles (UAVs) throughout the University of Dundee. Use of UAVs requires compliance with a set of conditions laid out in the Air Navigation Order (ANO). Under the ANO, UAV use is classed as recreational or commercial operations and there are different obligations. Flying as part of UoD work is paid and falls under the definition of commercial activity, as such it is the remit of the Flight Unit to operate within the rules and responsibilities of a Permission for Commercial Operation (PfCO) from the Civil Aviation Authority.

The Flight Unit is not responsible for any UAV work carried out by third parties either on UoD property or on behalf of the UoD. But it may be consulted where third party UAV work is commissioned by the UoD.

Role of the Flight Unit

The Flight Unit is recognised within the University policy on use of UAVs for University business and has the following key roles in regard to ALL UAV use that requires compliance with the policy:

- To be consulted before the purchase of ALL UAV equipment for use within the University
- To help ensure compliance with the University policy on use of UAVs
- To ensure that all pilots and others involved in UAV operations within the Flight Unit are qualified and competent to the level required in the University policy on use of UAVs
- To maintain the Flight Unit Operations Manual and ensure that all pilots and others involved in UAV operations fully understand and adhere to the requirements of the manual

Management of the Flight Unit

All people who operate UAVs under circumstances where the ANO applies are part of the Flight Unit and are bound by the Operations Manual governing the work of the Flight Unit. However, the Flight Unit is composed of University staff from different Schools. The formal line management of these people in relation to their contract of employment is also within their respective Schools. However, the Flight Unit as an entity sits outside the formal line management structure of the University.

For there to be a hierarchy within the management of the Flight Unit, a named “Chief of Operations” exists whose job it is to take overall accountable management control of the Flight Unit. All other people within the Flight Unit are under the management control of this individual in relation specifically to their activities associated with the Flight Unit.

Deans of Schools with members of staff who are part of the Flight Unit are required to formally agree in writing that the Chief of Operations within the Flight Unit has line management authority as
stated above and to ensure that their staff understand this. Deans will undertake this by formally
writing to all other Deans in the group who have members of staff within the Flight Unit, copying in
the Chief of Operations of the Flight Unit and the Head of Safety Services.

Relevant Documents

- Air Navigation Order
- Civil Aviation Authority (CAA) Drone Code
- Dundee University UAV (Drone) Safety Management

March 24th 2019
As Dean of _____________________________ I hereby agree to all the statements laid out in the attached “Terms of Operation” document relating to the University Flight Unit. I will ensure that all people within my School who are part of the Flight Unit understand that they operate under the management structure of the Flight Unit for all activities associated with the Flight Unit.

_______________________________
(Sign)

_______________________________
(Print Name)

______________
(Date)

Copies to be sent to:

- All other Deans who have members of staff within the Flight Unit
- Chief of Operations of the Flight Unit
- Head of Safety Services