Policy on the Use of Remote Aerial Vehicles

2021-2024

May 2017 Version 2, SEMT

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Contents

1. Introduction

Recent industry changes

Up until 30th June 2020 all Unmanned Aerial Vehicles (UAVs) under 7 kgs have been treated the same.

- There has been a requirement for anyone using a drone commercially to hold a Permission for Commercial Operations (PfCO), which takes around 40 hours of study and costs around £1,000
- Holders of a PfCO have been allowed to fly a drone commercially, and to fly over congested areas

From 1 July 2020 there were:

- Different rules for different weights of drone
- Different rules for existing drones and for new drones coming onto the market
- Different rules during a two-year transition period
- A different focus: entirely on flight near or over people
- There are no restrictions on flying close to buildings in future
- Different and additional qualifications (three levels): Registration; A2 Certificate of Competence; General Visual Line of Sight Certificate.

From 31st December 2020

- From December 31, 2020, as part of new UK drone laws, the definition of which type of operator will require a drone licence will change – with the size of your drone and where you plan to fly it becoming more important considerations than whether or not your operation is for commercial purposes. To obtain a UK drone licence, you MUST conduct drone licence training with a CAA-approved provider,
- From December 31, 2020, any operator of a drone which weighs less than 250g but has a camera (other than a toy), must also be registered.

Unmanned Aerial Vehicles (UAVs) have become far more common in recent years and are beginning to feature in University activities. These activities fall into two broad areas:

1. Commercial use of UAVs operations such as filming and building maintenance surveillance.
2. Hobby/ recreational use of UAVs on University property by staff, student and visitors.

The purpose of this policy is to ensure that Unmannered Aerial Vehicle operation, associated with the University of Chichester, is carried out safety and in accordance with regulatory requirements.

2. Scope

This policy applies to all University of Chichester staff, (including visiting academics), students, visitors to the University and contractors employed by the University who use Unmanned Aerial Vehicles (UAVs).

This policy applies to all uses of UAVs on all University of Chichester sites including all Student residencies that are University managed as well as any University related work with UAVs that is carried out off-site.

Managers and supervisors have a duty of care placed upon them to actively monitor the implementation of this policy. As persons directing the work or managing a site, managers and supervisors have a crucial role in ensuring that any operation of UAVs is carried out safely and in accordance with all relevant legislation.

3. Equality Analysis

Consideration is given to the protected characteristics of all people groups identified in the Equality Act 2010. The protected characteristics are gender, age, race, disability, sexual orientation, religion/belief, pregnancy and maternity and marriage/civil partnerships.

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. Policy

Principles

1. A person must not recklessly or negligently cause or permit an aircraft to endanger any person or property.
2. A person shall not cause or permit any article or animal (whether attached or not attached to a parachute) to be dropped from a small aircraft so as to endanger persons or property.
3. The person in charge of a small unmanned aircraft may only fly the aircraft if reasonably satisfied that the flight can safely be made.
4. The person in charge of a small unmanned aircraft must maintain direct, unaided visual contact with the aircraft sufficient to monitor its flight path in relation to other aircraft, persons, vehicles, vessels and structures for the purpose of avoiding collisions.
5. Permission of the property owner/manager must be obtained before a UAV is operated on private land/property. This includes University land/property.
6. The collection of images of identifiable individuals, even inadvertently, may be subject to the General Data Protection Regulation and Data Protection Act 2018.
7. All hobby and recreational use of UAVs by staff, students or the general public are prohibited on all University properties.
8. Persons not otherwise associated with the University but impinge upon the University's airspace or grounds from the activities associated with UAVs should be reported to the relevant enforcing authorities including the police.

5. On site Procedures

- All UAV operations will be treated as hazardous work and subject to risk assessment (appendix 1). In assessing risks, restrictions and appropriate controls in relation to UAV activities, due consideration must be given to the competency and experience of the pilot.
- UAV operations involving vehicles in excess of 7kg (including the payload) shall be considered high risk and the risk assessment subject to sign off by the Director/Head of Department in consultation with the health and safety department and Insurance clearance.
- Where practicable, all University UAV operations will be conducted using aircraft with a mass of less than 7kg (including payload).
- Any intentions to develop or operate aircraft in excess of 20 kg must be advised to the health and safety department and University insurers at the earliest opportunity.
- All UAV operations must be conducted in accordance with the following limitations**.**
    - Within direct, unaided line of sight (VLOS) of the pilot.
    - No higher than 120 metres (400 feet) above the surface
    - 150 metres away from congested areas and not within 150 metres of an open air assembly of 1000 persons or more.
    - Not directly overhead (at any height) or within 50 metres of persons, vehicles, vessels and property, unless those persons are 'under the control of the person in charge of the SUSA'.
    - All drones or model aircraft between 250g and 20 kg must show a valid Operator ID on it.

Any autonomous/ semi-autonomous UAV operations must be under the command of a Remote Pilot; who is able to intervene and take control within a few seconds at any stage. The pilot must be presented with enough information to have continuous situational awareness.

6. Off Site Procedures

- These are the same as for the onsite procedures.
- Permission must be granted before flight with the land owner and CAA.

7. Operation Category

The operation of drones is regulated in a manner proportionate to the risk of the specific operation. Considering the broad range of operations and types of drones, three categories of operations and their associated regulatory regime are in operation with the CAA: Open, Specific and Certified.

- The Open operation category of drones, should not require an authorisation by an Aviation Authority for the flight but stay within defined limitations for the operation (e.g. distance from aerodromes, from people, etc.).
- The “specific” operation category will require an Operations Authorisation by an Aviation Authority with specific limitations adapted to the operation based on the CAA’s evaluation of a safety risk assessment that is produced by the UAS operator.
- Certification will be required for operations with a higher associated risk due to the kind of operation or might be requested on a voluntary basis by organisations providing services such as remote piloting or equipment such as detect and avoid.

8. Responsibilities

Directors are accountable for the provision of measures to ensure the following;

- Each Directorate that uses a UAV must have a member of staff who has a CAA approved qualification.
- A UAV Operational Manual MUST BE written which describes in detail the scope of the organisation and the procedures to be followed including operation, management, maintenance, training, and emergency handling
- Due consideration is given to the use of UAVs within their area of operation prior to their being in use.
- All UAVs used within their Directorate are assessed prior to use and that hazards are managed.
- All control measures which are deemed necessary are maintained and effective
- Staff and students have sufficient instruction and information and are adequately trained and supervised.
- Adequate arrangements are in place where facilities are shared or where staff and students are working on premises managed by other employers
- Adequate emergency plans and procedures are in place to deal with foreseeable adverse effects.
- Rules and procedures are implemented to ensure that UAVs are used appropriately.
- Sufficient resources are made available to enable compliance with this policy.

Managers and Supervisors (including academics) of staff and students are responsible for ensuring the following:

a) Ensure that any regulatory permits necessary for the intended work are in place.
b) Permission has been obtained from the property owner/manager (where required).
c) Prior to using UAVs, a suitable and sufficient risk assessment has been written, approved and documented.
d) Any control measures identified by the risk assessment have been fully implemented.

e) Work is only begun when a risk assessment has been undertaken. The Supervisor must ensure their 'reportee' has either carried out their own risk assessment or has read and fully understood any risk assessment that has been written for the particular activity.
f) That adequate information, instruction, training and supervision is provided.
g) That the Director/Head of Department and Health and Safety Department have 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 7kg.

Staff, Students and Visitors who work with UAVs must comply with the following requirements:

a) Ensure they hold any regulatory permits necessary for the intended work.
b) Permission has been obtained from the property owner/manager (where required)
c) A suitable and sufficient risk assessment must be carried out before working with UAVs. This risk assessment must be approved by an appropriate Supervisor/Manager.
d) Staff/Students must read and fully understand any risk assessment that has been completed by somebody else in relation to their use of UAVs.
e) Any measures identified by the risk assessment have been fully implemented and assessed prior to work beginning.
f) If a risk assessment identifies Personal Protective Equipment (PPE) as a control measure then staff/students must use it. Any PPE must be used and maintained in an appropriate manner.
g) To report any defects, errors or omissions in the procedure, PPE or equipment.
h) To report any accident or near miss that occurs whilst using UAVs to their Supervisor/Manager and through the University reporting procedure.
i) To undertake any training deemed necessary by the University.

Managers and Supervisors of contractors have the following responsibilities:

a) To make contractors aware of this policy and any other factors that may affect the contractors risk assessment.
b) To ensure contractors hold any regulatory permits necessary for the intended work.
c) To ensure permission has been obtained from the property owner/manager (where required).
d) To ensure that a written risk assessment has been undertaken where UAVs are to be used.
e) To monitor and ensure that any controls measures identified by the risk assessment have been implemented.
f) To advise contractors of any risk to them deriving from any University activities in the areas they are working in.
g) To ensure that any required Permit to Work is in place and is approved.

Contractors must comply with the requirements of this policy in the following ways:

a) Ensure they hold any regulatory permits necessary for the intended work.
b) Carrying out a risk assessment for any work that will require the use of UAVs prior to work commencing.
c) Implementing any control measures, including emergency procedures, identified by the risk assessment.
d) Providing adequate information, instruction, training and supervision to their staff and ensuring that they are competent to work with UAVs.
e) Providing any PPE that is required.

Health and Safety Manager/Officer have the following responsibilities:

a) Auditing compliance with this policy
b) Provision of advice, training and guidance to all persons within the University regarding compliance with this policy. This advice may be given directly or through the appointment of competent persons.
c) Ensuring this policy and accompanying guidance is current and correct.
d) Liaising with any relevant Regulatory authorities.

e) To investigate any adverse incidents arising during the use of UAVs in order to identify the root cause and effect measure to prevent reoccurrence.

9. Commercial operation

Meaning of Commercial Work (CAP722)

The term Commercial Operations allows a broad variety of flight applications, which are mostly based around aerial photography or the operation of sensors and other data-gathering devices.
Commercial operation is given the following meaning within article the Air Navigation Order:
"…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, is performed under a contract between an operator and a customer, where the latter has no control over the operator,

in return for remuneration or other valuable consideration."

10. Persons under control of the person in charge of the aircraft (CAA clarification)

- Persons solely present for the purpose of participating in the SUA flight operation.
- Persons under the control of the event or site manager who can reasonably be expected to follow directions and safety precautions to avoid unplanned interactions with the SUA. Such persons could include building site or other industrial workers, film and tv production staff and any other pre-briefed, nominated individuals with an essential task to perform in relation to the event. Spectators or other persons gathered for sports or other mass public events that have not been specially established for the purpose of the SUA operation are generally NOT regarded as being under the control of the person in charge of the aircraft. In principle persons under the control of the person in charge of the aircraft at a mass public event must be able to:
    - Elect to participate or not to participate with the SUA flight operations.
    - Broadly understand the risk posed to them inherent in the SUA flight operations
    - Have reasonable safeguards instituted for them by the site manager and SUA operator during the period of SUA flight operations and
    - Not have restrictions placed on their engagement with the purpose of the event or activity for which they are present if they do not elect to participate with the SUA operation.

As an example, it is not sufficient for persons at a public event to have been informed of the operations of the SUA via such means as public address systems, web publishing, e-mail, text and electronic or other means of ticketing, etc. without also able to satisfy the points above. Permissions have, however, occasionally been granted for SUA flights at public events and those involved a segregated take off site within the main event, with the SUA operating only vertically within strict lateral limits that keep it directly overhead the take-off site. Such flights were also limited by a height restriction and the tolerance of the SUA to wind effects and battery endurance.

11. Competence, Training and Briefing

Competence is based upon training and is equipping all staff, students (and others where the University has a duty of care) with relevant skills and knowledge to deal appropriately with a given health and safety situation.

Briefing is informing persons of relevant knowledge in relation to health and safety

Training and briefing will be made available in a range of formats according to the needs of the trainee and different groups of personnel.

Department managers should use a training matrix to assign levels of training required for any individual. The matrix should determine the competency of a particular individual as it relates to a particular task.

12. Accessibility

The duty to make reasonable adjustments, as far as possible, to ensure that all staff and students (others where the University has a duty of care) with a disability have equal access to everything they need to do a job or studies as those persons without a disability.

13. Legislative Context

The use of drones is regulated in the UK by the Civil Aviation Authority (CAA). Pilots and operators responsible for drones weighing between 250g and 20kg must be registered with the CAA and CAA rules require that any drones used by the media for filming must be operated by a certified drone pilot, who has CAA authorisation to fly, known as Permission for Commercial Operations (PfCO) and valid insurance. The operation of drones which weigh more than 20 kg is subject to even more onerous CAA requirements.

The legislative requirement affecting commercial UAS operations are set out in CAA guidance document CAP 722.

The legislative requirements affecting recreational UAS operations are significantly lighter and are set out in CAA guidance document CAP 658. This document also contains very useful general guidance and safety considerations.

14. Useful Links

Cap1763 Air Navigation Order 2018 and 2019 amendments - Guidance for small Unmanned Aircraft Users
CAP1763
CAP722
CAP 722 Eighth Edition
CAP658
CAP658 4 Edition Amend 1 June 2013.pdf
CAA- Model Aircraft
https://www.caa.co.uk/General-aviation/Aircraft-ownership-and-maintenance/Airworthiness/
British Flying Association
https://www.bmfa.org

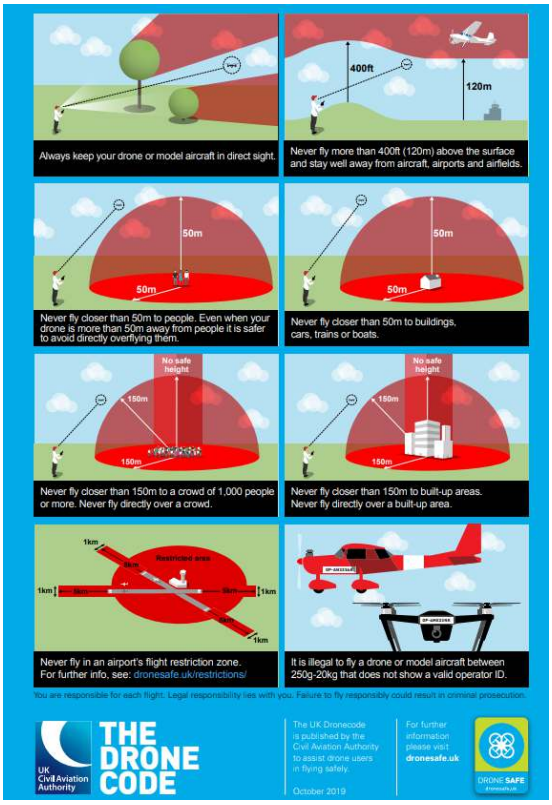
15. Appendix 1 UMAV Risk Assessment

UMAV GENERAL RISK ASSESSMENT FORM				Risk Assmt. Ref: /000				
Site/Department: CAA approval (if UMAV is greater than 7 kg). Give CAA approval evidence here:			Probability /Severity	Minor injury	Lost time/ Ill Health	Major / >7 days	Perm. Disability	Fatal / Site Loss
Task/Activity/Area:			Highly Unlikely	1	2	3	4	5
Permission to fly given by: Drone/aircraft flown by: Drone /aircraft supervised by if student is piloting:			Unlikely	2	4	6	8	10
RA Team: Mgr, Supervisor, EHS Adviser, Safety Rep, Employee,	Date of RA:	Review Date:	Possible	3	6	9	12	15
People at risk: (e.g., visitors, contractors, hauliers, members of the public, operators, engineers, other employees etc)			Probable	4	8	12	16	20
Dept Manager (Print Name):	Signature:		Certain	5	10	15	20	25

Ref No. or Task-Step	Hazards identified or clear Injury causes, highlighting risks (Injury focused - see checklist)	Score -No controls	Controls/Procedures/Key Behaviours (existing controls, information, training etc)	Score - Post Controls	Further action required	Score - Post Action	Post action Completion Date	Signed off by
Example Entry 1	***Setting up equipment to ensure all running gear and controls work before flight. Risk of aircraft being out of control causing harm and damage.***	***3 x 4 =12***	***Operator/pilot will check all working equipment to ensure that aircraft is flight ready***	***2 x 4 =8***	***Put out signage warning of potential flight***	***2 x3 =6***	***12/6/2017***	***Bill Bloggs***
1	Setting up equipment to ensure all running gear and controls work before flight. Risk of aircraft being out of control causing harm and damage.		Operator/pilot will check all working equipment to ensure that aircraft is flight ready					

2	Unauthorised use of UMAV.		Permission to be fly and all CAA rules to be adhered to. Strictly to be flown for academic and commercial purposes only					
3	Risk of aircraft crashing into property causing damage or Risk of aircraft crashing into people causing harm		Unless specified by research all aircraft would be of 0 -7 kg range					
			Propeller guards are fitted to the aircrafts rotors					
			Only one drone to fly at any one time					
			Where the flight is piloted by a student under staff supervision a verbal induction must be given detailing how to safely land the aircraft					
			Full dimensional restrictions for flight are adhered to. Ref. UMAV Policy and procedure document including no direct flight over any persons.					
			First aid procedure applies using emergency 6363 on site or measures for obtaining first aid off site					
4	Risk of fire from over charged batteries		Batteries are stored within a fire proof container whilst charging. Length of charge time is monitored by staff to ensure overcharging does not occur.					

16. Appendix 2 The Drone Code



17. Appendix 3 Students Permission to Fly

1. Any use of remote piloted aircraft system (RPAS) that is not a hobby is considered commercial work by the Civil Aviation Authority ("the CAA"); this includes any research or student work that feeds into their degree.

1.1. Given this definition of commercial work, students must therefore be CAA approved. This requires a test for the pilot, a CAA approved Operations Manual (OM) and RPAS insurance that is fully compliant with EU regulation (EC) No 785/2004. OM are only approved for commercial entities, which means the student will have to form a company or have a pre-existing company to submit an OM to the CAA. In general, commercial SUA/RPAS must only be flown:

- Within direct, unaided visual line-of-sight (VLOS) of the pilot.
- No higher than 400 feet above the surface and no further than 500 metres from the SUA/RPAS operator.
- 150 metres away from congested areas (unless SUA/RPAS weight does not exceed 7kg) and not within 150 metres of an open-air assembly of 1,000 persons or more.
- Not directly overhead (at any height) or within 50 metres of persons, vehicles, vessels and property, unless those persons are 'under the control of the person in charge of the SUA/RPAS'.

OR

1.2. Students must use a company who are CAA approved. A list of these companies can be found at: HERE

2. If flying abroad, Students must comply with the requirements of the country they wish to fly in. A starting point for this information is http://www.dronelaw.in and the country's aviation regulator can be consulted for further guidance. If the standards abroad are not as strict as the UK, advice can be sought from one of the University's trained RPAS Pilots and the standards set out in the University OM should be followed as an example of good practice. This should be referred to in the Risk Assessment.

3. Procedure to gain permission

3.1. Advice and guidance can be sought from the University's trained RPAS Pilot(s).

3.2. Insurance for Students using Non-University RPAS owned equipment. It should be noted that the University does not insure and is not responsible for students' own RPAS equipment or equipment that may have been hired or loaned from other parties. When using own RPAS equipment, students are required to have their own Public Liability insurance that is fully compliant with EU regulation (EC) No 785/2004. RPAS equipment must not exceed 7kg in weight excluding fuel but inclusive of any articles or equipment installed in or attached to the vehicle at the commencement of flight.

3.3. If there are any ethical issues, these must be considered and an application be made to the Ethics Committee if appropriate. E.g. to comply with the law - collection of images of identifiable individuals may be subject to the Data Protection Act.

3.4. Working to their OM, the student must produce a risk assessment and submit it to their Head of Department for approval and permission.

3.5 The Student, or a commercial company hired by the student, must comply with their Operations Manual at all times.

Permission for students to use footage or data obtained using small unmanned aircraft (SAU) or remotely piloted aerial system (RPAS) as part of their studies, e.g. research, dissertations and projects

Permission to fly is granted on the condition that the student holds a CAA approved licence and follows their own Operations Manual and abide by the requirements of University Policy on the use of Unmanned Aerial Vehicles.

Permission is given to ……..

Permission is granted by ……

Date……

On behalf of the……. Department.