COLBY COLLEGE
UAS OPERATORS PROCEDURE
REVISION HISTORY

The UAS Procedure will be reviewed and revised annually by the EHS Director. Additional revisions may be completed if an incident or accident indicates deficiencies in the Procedure, new hazards which must be addressed immediately, or changes to the FAA drone regulations.

<table>
<thead>
<tr>
<th>REVISION</th>
<th>DESCRIPTION OF CHANGE</th>
<th>REVISION EFFECTIVE DATE</th>
<th>REVISION COMPLETED BY: NAME / COMPANY</th>
<th>MANAGER APPROVAL / DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>• Initial program</td>
<td>1/2017</td>
<td>Wade Behnke / Colby College</td>
<td>Mark Crosby</td>
</tr>
<tr>
<td>B</td>
<td>• Updated the permission required by staff to operate on and off campus</td>
<td>8/2018</td>
<td>Wade Behnke / Colby College</td>
<td>Mark Crosby</td>
</tr>
<tr>
<td></td>
<td>• Revised Appendix D</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Increase allowable weight limit to 55 pounds for FAA licensed pilots</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Removed former soccer fields from Appendix C</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TABLE OF CONTENTS:

1.0 PURPOSE
2.0 SCOPE
3.0 RESPONSIBILITIES
4.0 UAS RISK CONTROL REQUIREMENTS
5.0 TRAINING
6.0 UAS INCIDENTS
7.0 RECORDKEEPING

APPENDICES:

Appendix A: Flight Plan
Appendix B: Preflight Inspection Form
Appendix C: Map of approved UAS operation areas on Campus
Appendix D: Colby College UAS Operator Requirements Acknowledgment
1.0 PURPOSE
1.1 Colby College established this UAS Procedure in order to protect students, employees, and general public from the privacy issues and safety hazards related to the operation of unmanned aircraft systems (UAS) on campus property or as part of College business off campus.

2.0 SCOPE
2.1 The Procedure applies to all UAS equipped with recording devices and/or UAS weighing more than 10 ounces (but less than 55 pounds). The Procedure applies to all outdoor operations on campus property as well as indoor operations in areas not specifically established for the operation of UAS. All students, faculty, and staff must comply with the UAS Procedure if they choose to operate an applicable UAS on Colby property or for College business off campus. Under this Procedure, UAS may only be utilized in a productive manner that fully meets institutional, public safety, and legitimate educational needs/purposes. The operation of UAS greater than 10 ounces or with recording devices for recreational purposes or commercial interests not related to the College is not allowed on Colby property.

3.0 RESPONSIBILITIES
3.1 Responsibilities for oversight and implementation of Colby College’s UAS Procedure are assigned below. Identified personnel may designate tasks assigned to them to a qualified employee, as appropriate.

3.2 Environmental, Health, and Safety (EHS) Director
3.2.1 Oversee the program and complete annual reviews of the Procedure.
3.2.2 Conduct incident and accident investigations related to UAS operations.
3.2.3 Provide guidance and training (Moodle) on this Procedure with the applicable College Departments and operators.
3.2.4 Maintain the list of registered UAS and operators.
3.2.5 Review flight plans and approve the use of UAS allowed under the Procedure.

3.3 Office of the Provost and Dean of Faculty
3.3.1 Support the EHS Director in regards to faculty compliance with the requirements of the UAS Procedure.

3.4 Colby Security
3.4.1 Enforce the compliance requirements listed in this UAS Procedure and report deficiencies to the EHS Director.

3.5 Academic ITS
3.5.1 Oversee and assist in the compliance efforts and UAS use by the academic departments and report deficiencies to the EHS Director.
3.5.2 Operate the department UAS in compliance with the program.
3.6 Faculty Researchers Utilizing UAS:

3.6.1 Ensure that the operation of UAS under their supervision is in compliance with this Procedure.

3.6.2 Ensure that all personal who have access and permission to operate UAS demonstrate proper training and are supervised.

3.6.3 Contact the EHS Director to report any safety or privacy incidents related to UAS operation.

3.7 Student Researchers and Colby Drone Club Operators

3.7.1 Follow all requirements listed in this UAS Procedure or specific instructions from the Faculty, EHS Director, or Colby Security.

4.0 UAS RISK CONTROL REQUIREMENTS

4.1 Only members of the Colby community (possessing a Colby ID) may operate a UAS on Colby property. Case by case exceptions (contractors) may be authorized by the VP of Administration, Provosts or the EHS Director.

4.2 All approved third party UAS operations must also meet legal requirements, represent a legitimate need, and comply with the additional requirements of this Procedure. In addition, liability insurance must be verified by Colby’s Director of Risk Management.

4.3 Student UAS operators on the Drone Club and non FAA licensed students conducting UAS based research must complete the following before operation:

Note, non FAA student pilots may only operate UAS that weigh 10 pounds or less fully loaded. Student pilots that intend to fly larger drones independently (not supervised by a licensed pilot) must complete the FAA certification process listed in Section 4.4

4.3.1 Complete the UAS certification/training program (Section 5.0) and pass the Moodle based quiz.

4.3.2 Register the UAS with the FAA and College EHS Director, and mark the UAS with the specific FAA number.

4.3.3 Notify the EHS Director or Risk Director, in the EHS Director’s absence, one business day prior to operating the UAS with a completed online flight plan available at:

http://www.colby.edu/humanresources/2017/01/20/preflight-notification-form-uas/ (Appendix A, reference only). Flight plans submitted with less than a day notice will not be approved.

4.3.4 The online form will also automatically notify the Robert LaFleur Airport when submitted.

4.3.5 Colby related student operations off campus within 5 miles of an airport must have necessary control tower approval prior to the flight. It is the responsibility of the student pilot to know these requirements and make these notifications when required off campus.
4.3.6 Complete a full preflight inspection checklist (Appendix B) and ensure airworthiness before flying.

4.4 Effective August 29, 2016, faculty, staff, and students (optional-see above) conducting Colby business meeting the commercial FAA definition, must obtain a Small Unmanned Aerial Systems (sUAS) certificate (vetted) from the FAA before operation:

4.4.1 To obtain sUAS certificate the operator must pass an initial aeronautical knowledge test at an FAA-approved knowledge testing center or hold a part 61 pilot certificate other than student pilot, complete a flight review within the previous 24 months, and complete a small UAS online training course provided by the FAA.

4.4.2 Register with the FAA by completing form 8710-13, for a remote pilot certificate (FAA Airman Certificate and/or Rating Application). The registration can be submitted by using the electronic FAA Integrated Airman Certificate and/or Rating Application system (IACRA).

4.4.3 Register the UAS with the FAA (online) and College EHS Director, and mark the UAS with the specific FAA number.

4.4.4 Notify the EHS Director, and Security, 24 hours prior to operating the UAS with a completed online flight plan available at http://www.colby.edu/humanresources/2017/01/20/preflight-notification-form-uas/ (Appendix A, reference only). Note, any certified and vetted Colby pilot operating in the areas/altitudes listed in Appendix C are exempt from this requirement. Flight plans submitted with less than a day notice will not be approved unless critical for Colby operations.

4.4.5 The online form will also automatically notify the Robert LaFleur Airport when submitted.

4.4.6 Complete a full preflight inspection checklist (Appendix B) and ensure airworthiness before flying.

4.5 All operators must follow the FAA and Colby specific requirements listed below when operating on campus or off campus on Colby business:

4.5.1 Have the aircraft registration card immediately available when flying.

4.5.2 All Colby Drone Club flights must be done within the flight areas listed in Appendix C. When possible, operate the UAS below tree level and remain clear of surrounding obstacles. Operation above the tree level on Campus must never exceed an altitudes listed in Appendix C.

4.5.3 Flight operations outside of the defined areas in Appendix C or by non FAA pilots must be approved by the EHS Director per Section 4.4.4.

4.5.4 Any licensed staff, student or Faculty piloted operation off campus must comply with applicable FAA requirements based on the type of airspace.

4.5.5 Never exceed a ground speed of 25 miles per hour.

4.5.6 Per this Procedure, two people are required to operate the UAS. One person must act as the remote pilot and maintain visual line of sight with
the unaided eye of the aircraft at all times. The second person will act as the visual observer and ensure that environmental conditions remain safe throughout the flight. Specifically, the visual observer will look for people entering the flight area, incoming planes, or other potential developing safety risks in the flight area. The visual observer must also be able to see the UAS at all times.

4.5.7 Do not operate the UAS in poor conditions where the visual observers’ visibility is compromised. In addition, do not operate in conditions where communication between the visual observer and remote pilot may be confused.

4.5.8 Do not operate UAS a half hour after sundown or a half hour before sunup per officially listed times.

4.5.9 Never interfere with manned aircraft operations and ground the UAS if there is any potential for interference.

4.5.10 Never operate a UAS near groups of people, team practices or stadiums.

4.5.11 FAA Licensed pilots may not fly an aircraft with a flying weight of more than 55 pounds in total, including all cargo and fuel.

4.5.12 Student pilots may not operate an aircraft with a flying weight of more than 10 pounds without specific permission from the EHS Director.

4.5.13 Careless or reckless operations of the UAS will result in immediate loss of privilege to operate a UAS on Colby property.

4.5.14 Never operate a UAS if impaired by drugs or alcohol.

4.5.15 Operation of UAS shall not violate any person’s reasonable expectation of privacy.

5.0 TRAINING

5.1 Independent student researchers and drone club operators must complete the following training requirements:

5.1.1 Complete the online FAA course Part 107 for sUAS available at: https://www.faasafety.gov/login/reg/Register.aspx

5.1.2 Complete the Moodle quiz with a score of 80% or higher.

5.1.3 Agree to follow the requirements of this Procedure and sign the Colby Operator Requirements Acknowledgment form (Appendix D).

5.2 Pilots that successfully complete the sUAS certification process with the FAA are not required to take any additional Colby specific training. FAA certified operators must also agree to follow the requirements of this Procedure and sign the Colby Operator Requirements Acknowledgment form (Appendix D).

6.0 UAS INCIDENTS

6.1 In the event of a UAS incident that results in damage to the UAS, property damage, bodily injuries or privacy concerns, the incident must be reported to
your supervisor, Faculty in charge, Academic ITS, and/or EHS Director as soon as possible.

6.2 If immediate medical assistance is required, dial 5911 to reach Security Dispatch to summon emergency responders.

6.3 The EHS Director and Academic ITS will review the incident to determine root cause and prevention measures.

6.4 Within 24 hours of the incident a written accident report must be submitted to the EHS Director.

6.5 Any incidents that results in property damage over $500.00 or serious injury are required to be reported to the FAA within 10 days. The EHS Director will submit the report.

7.0 RECORDKEEPING

7.1 This written program will be available for review upon request by any employee during work hours. It is located in the EHS Directors’ office.

7.2 The list of all registered UAS, UAS operators, and UAS Operator acknowledgments will be maintained by the EHS Director.

7.3 All completed preflight inspections and flight plans will be retained by the EHS director indefinitely space permitting.
Appendix A: Flight Plan
UAS FLIGHT PLAN (Reference Only)

Operator Information

Remote Pilot:____________________________________________________________(print)
Phone Number:__________________________________________________________

Visual Observer:_________________________________________________________(print)
Phone Number:__________________________________________________________

Flight Information

Date of Flight:______/______/______
Time of Flight:___________________________

Location of operations:_________________________________
Max Estimated Altitude:______________ (must remain below 400ft)

Educational Need/Purpose For Flight:

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

Data or Imagery to be Collected:

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

***Note reactional operation on Colby property is not permitted

UAS Information

UAS Model and Brand:_________________________________________________________________________________

FAA Registration Number:___________________________________________________
Clearly Marked on UAS? ☑ YES

EHS Director Signature______________________________
Date:______/______/______

Remote Pilot Signature:______________________________
Date:______/______/______

VO Signature:________________________________________
Date:______/______/______ ***Maintain a copy of the flight plan when operating on Colby property
Appendix B: Preflight Inspection Checklist
**UAS Preflight Inspection**

At a minimum complete the following preflight inspection immediately before the operation of the UAS. Do not operate the UAS if a deficiency cannot be corrected.

<table>
<thead>
<tr>
<th>OK</th>
<th>NA</th>
<th>Maintenance Required</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Confirm Airport has been notified of the flight
- Ensure UAS is in a level location safe for takeoff, away from obstructions, people, and power lines
- Verifying all transmitter, on-board aircraft and camera batteries are fully charged; (confirm voltages)
- Checking all control surfaces for signs of damage, loose hinges, and overall condition; Looking over the wing/rotors to ensure they are in good structural condition and properly secured
- Check motor/engine and mounting attached to the airframe
- Study propellers / mounting hardware (tight) / rotor blades for chips and deformation
- Check the landing gear for damage and function
- Test electrical connections, plugged in and secure
- Ensure photo / video equipment mounting system is secure and operational.
- Check the IMU movements in the ground control software
- If using a video recorder, turn on camera system
- All transmitter controls move freely in all directions
- All transmitter trims in neutral position
- All antennas are in the proper position
- Transmitter throttle to zero

**Turn on the radio transmitter:**

- Connect / power on battery to airframe
- Ensure led indicators and audible tones are correct
- Timer on (if applicable)
- Scan for nearby cars / people / animals
- Arm flight controller
- Check for GPS lock
- Increase altitude slightly, listening for any abnormalities
- Short 20-30 second hover at 3-5 feet (listen for vibrations / loose items)
- Confirm Voltage levels are correct
- Ensure that UAS is in the proper mode, with all control surfaces moving towards the correct positions

Note any pertinent issues/corrective actions:

______________________________________________________________________________________________________________________________

______________________________________________________________________________________________________________________________

______________________________________________________________________________________________________________________________

Remote Pilot Signature: ___________________ Date: ___________________.

Appendix C: Map of Approved UAS Operation Areas on Campus
Appendix C: Approved UAS Operation Areas
Appendix D: Colby College UAS Operator Requirements Acknowledgment Form
The following operational requirements must be followed at all times when operating UAS on Colby College property or College business off campus:

- Abide by all applicable FAA UAS regulations and the Colby UAS Policy.
- Stay below tree height when possible and never exceed 400 feet of altitude.
- Stay below a ground speed of 25 mph.
- All UAS must be less than 55 pounds in total including all cargo and fuel.
- Allowed operation times are a half hour before sunrise until a half hour after sundown.
- An online flight plan must be submitted, 24 hours before each flight for all student piloted flights or staff flights outside of the areas specified in Appendix C.
- A submitted flight plan will automatically notify Robert LaFleur Airport for on campus flights. Operations off campus must be evaluated by the pilot to determine airspace and notification requirements.
- All student operators must complete FAA course Part 107 and pass a Moodle quiz before on campus operations.
- All staff and Faculty must adhere to and complete the training and certification process required by the FAA and Colby College for small UAS used in commercial operations.
- Maintain copy of the aircraft registration cards on hand during flight operations.

The following actions are **not permitted** under Colby’s UAS policy.

- The use of UAS on Colby property for pleasure or recreation is not permitted. All UAS flights must have a clear educational agenda and purpose beneficial to the College or student research.
- Never operate a UAS while under the influence of alcohol or drugs.
- Never operate a UAS without a second person to act as a visual observer. The visual observer must be able to maintain unaided eye contact with the UAS at all times.
- Never operate a UAS on Campus that is not registered with the FAA and properly marked.
- Never operate the UAS over any people not directly involved in the planned flight.
- Never violate any person’s reasonable expectation of privacy

I agree to comply with the requirements listed on this form and the UAS Policy (available for full review on the Colby Safety Office webpage). I understand that I could be subject to disciplinary action and loss of privilege at Colby College for any UAS operation violation.

Print Name:__________________________

Signature:__________________________ Date:____________________