

Liverpool John Moores University

Title: Drone Construction
Status: Definitive
Code: **7302DRO** (125806)
Version Start Date: 01-08-2020

Owning School/Faculty: Engineering
Teaching School/Faculty: Engineering

Team	Leader
Frederic Bezombes	Y

Academic Level: FHEQ7 **Credit Value:** 10 **Total Delivered Hours:** 22
Total Learning Hours: 100 **Private Study:** 78

Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	2
Practical	20

Grading Basis: 50 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Portfolio	AS1	A portfolio documenting the build progress	50	
Practice	AS2	Final assessment of the built quality and setup configuration of the Drone	50	

Aims

To enable students to acquire the knowledge and practical skills needed to build and configure a functional Drone.

Learning Outcomes

After completing the module the student should be able to:

- 1 Demonstrate the practical skills necessary to successfully build a fully functional Drone.
- 2 Accurately document the Drone build process to form the basis of a maintenance manual.
- 3 Program and test all sub-systems in a safe and effective manner.

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Build Portfolio	1	2
Build Assessment	3	

Outline Syllabus

An initial lecture will review the building procedure.

Students will commence the module with a commercial UAV kit. They will, under supervision, acquire the skills necessary to assemble the UAV airframe and all the necessary electronic components.

A second lecture, delivered at the mid-point of the module, will focus on programming the UAV's systems and failsafe mechanisms and discuss current practice with regard to firmware updating policies in UAV practice.

Students will then proceed with the gain information to the setup configuration of the UAV and transmitter.

Learning Activities

There will be 2 one hour lecture sessions in the module, as described in the syllabus. The bulk of the module will be delivered via supervised practical hands-on UAV construction in the laboratory.

Notes

This module provides experience in the practice of drone construction using a commercial off-the-shelf kit. It does not provide experience in the design or construction of bespoke aircraft.