1. Multirotor Basics

- 1.1. <u>Multirotor aircraft, Quadcopter definitions</u>
- 1.2. <u>Motions of a quadcopter</u>
- 1.3. <u>Difference between Fixed wing and Quad</u>
- 1.4. Parts of a Quadcopter
- 1.5. Frame types and sizes
- 1.6. Selection of components

2. Electronics

- 2.1. Motors and Propellers
- 2.2. **ESCs**
- 2.3. Receiver and Transmitter
- 2.4. Telemetry
- 2.5. GPS
- 2.6. Battery
- 2.7. Power Module
- 2.8. Flight controller
 - 2.8.1. FC Basics
 - 2.8.2. APM vs Pixhawk
 - 2.8.3. Firmware
 - 2.8.4. Calibration

3. Assembly and setup

- 3.1. Connections
- 3.2. <u>Integration of electronics</u>
- 3.3. <u>Mission Planner basics</u>
- 3.4. Common errors

4. Flight test

- 4.1. Flight test requirements
- 4.2. Mission Planning
- 4.3. Flight modes

4.4. PID autotuning