



SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)

Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai



19ASO303 FUNDAMENTALS OF UAV

Unit-I- INTRODUCTION TO UNMANNED AIRCRAFT SYSTEMS

Topic- Basic terminology of Drone

UAV – Unmanned Aerial Vehicle

UAS – Unmanned Aircraft System(s)

sUAS – Small Unmanned Aerial System – drones under 55 pounds.

Drone – Common term most often used by the media and general public to define an unmanned aerial vehicle.

Multirotor – Drone with more than one rotor

Tricopter – A multirotor drone with three motors

Quadcopter – A multirotor drone with four motors – Example: DJI Phantom

Hexacopter – A multirotor drone with six motors

Octocopter – A multirotor drone with eight motors

Fixed Wing Drone – A drone that flies using a wing to generate lift vs. a rotary wing (helicopter) or multirotor vehicle

Rotary Wing Drone – A one rotor (helicopter) or multirotor drone

RPA – Remotely Piloted Aircraft

RPAS – Remotely Piloted Aircraft System

RPV – Remotely Piloted Vehicle

ROA – Remotely Operated Aircraft

UA – Unmanned Aircraft

Ardupilot – Open source system which allows fully autonomous flight and navigation.

FAA – Federal Aviation Administration – US national aviation authority

FAR – Federal Aviation Regulations

FMRA – FAA Modernization and Reform Act of 2012 Subtitle B pertains to Unmanned Aircraft systems

ATC – Air Traffic Control

ATM – Air Traffic Management

CoA – Certificate of Waiver or Authorization – FAA certificate of approval for specific flight operation.

NAS – National Airspace System

SAA – Sense and Avoid
NPRM – Notice of Proposed Rulemaking
NTSB – National Traffic Safety Board
NOTAM – Notice to Airmen
RTCA – Radio Technical Commission for Aeronautics
RCAPA – Remote Control Aerial Photography Association
AMA – Association of Model Aeronautics
AUVSI – Association for Unmanned Vehicle Systems International
FPV – First Person View – Method of flight in which a pilot controls the drone via a camera mounted on the vehicle which provides a view as if the pilot/operator were flying aboard it, having a pilot’s perspective.
FCC – Federal Communications Commission
LOS – Line of Sight. Method of flight in which the drone pilot/operator maintains direct visual site of the vehicle.
VLOS – Visual Line of Sight
BVLOS – Beyond Line of Sight
GCS – Ground Control Station
RTL – Return to Launch – Programmed function by which a drone can return autonomously to its original launch point.
PIC – Pilot in Command
VTOL – Vertical Take Off and Landing
GPS – Global Positioning System
Part 107 – FAA Small Unmanned Aircraft Rule
Photogrammetry – Method of making measurements based off photographs
Photogrammetric Mapping – Method of map making using measurements from photographs
Multispectral Image – Image that captures data at specific frequencies across the electromagnetic spectrum.
Hyperspectral Imaging – Method of measuring across the electromagnetic spectrum to obtain the spectrum for each pixel in an image in order to find objects, identify materials or detect processes.
Lidar – Light Detection and Ranging. Remote sensing technology that measures distance with a laser.
UV Sensor – Sensor used to detect Ultraviolet light
Thermal Sensor – Sensor used to detect heat
EO/IR – Electro-optical/Infrared – Pertains to Electro-optical/Infrared sensors
Gimbal – Pivoted support that allows rotation about a single axis – Often used to stabilize a video camera on a drone.
Precision Agriculture – Farming management concept based on observing, measuring and responding to inter and intra-field variability in crops
AGL – Above Ground Level
R/C – Radio Control

LiPo – Lithium Polymer Battery – Commonly used type of battery for small drones.

SAR – Search and Rescue

VO – Visual Observer – drone flight crew member who assists pilot with collision avoidance

