



INDIA'S FIRST UNIVERSITY FOR STARTUP

VALUE ADDED COURSE

Swarnim Institute of Technology

Course Code: VACDSF

Year: 2021-2022

Semester: Even



Swarnim Institute of Technology
Swarnim Startup & Innovation University

University Campus, Bhojan Rathod, Near ONGC WSS, Opp. IFCCO, Adalaj Kalol Highway,
Gandhinagar, Gujarat, INDIA 382420 Phone: 095123 43333

Subject: Drone Surveying Fundamentals: Mapping and Data Analysis

Program:	Bachelor of Technology	Branch:	All
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Hours:- 30 hrs.

Objective:-

- Understand the principles of drone surveying and mapping
- Plan and execute efficient drone surveys
- Process and analyze aerial data for various applications
- Extract valuable insights from drone-collected data
- Integrate drone surveying with traditional surveying methods

Detail Syllabus

Sr.	Content	Total Hrs
1	Introduction to Drone Surveying - Overview of drone surveying and its applications - Regulations and legal considerations - Drone systems and sensors for surveying	6
2	Planning and Executing Drone Surveys - Mission planning and flight preparation - Flight modes and data collection strategies - Best practices for aerial data capture	8
3	Aerial Data Processing - Introduction to photogrammetry and LiDAR - Data processing software and workflows - Generating orthomosaics, DSMs, and 3D models	7
4	Data Analysis and Visualization - Extracting insights from aerial data - GIS integration and spatial analysis - Visualization techniques for effective communication	4

5	<p>Case Studies and Applications</p> <ul style="list-style-type: none"> - Real-world examples of drone surveying in various industries - Lessons learned and best practices - Future trends and advancements in drone surveying 	5
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Reference Books:

Sr. No.	Author/s	Name of the Book	Publisher
1	John W. McArthur	Drone Surveying: A Practical Guide	ASPRS, 2020
2	Daniel I. Katz	Drone Mapping: A Guide to Creating High-Resolution Maps with Drones	Packt Publishing, 2020

Online Resources:

1. <https://www.udemy.com/course/drone-surveying-fundamentals/>
2. <https://www.coursera.org/specializations/drone-mapping-surveying>

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