

VALUE ADDED COURSE

Swarrnim Institute of Technology

Course Code: VACDSF

Year: 2021-2022

Semester: Even





Subject: Drone Surveying Fundamentals: Mapping and Data Analysis

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

Objective:-

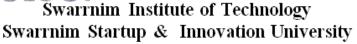
- Understand the principles of drone surveying and mapping
- Plan and execute efficient drone surveys
- Process and analyze aerial data for various applications
- Extract valuable insights from drone-collected data
- Integrate drone surveying with traditional surveying methods

Detail Syllabus

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







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5	Case Studies and Applications	
	 Real-world examples of drone surveying in various industries Lessons learned and best practices Future trends and advancements in drone surveying 	

Reference Books:

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

Online Resources:

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





