

Syllabus for Vocational Course
“Remote Sensing and GIS Applications”

Offered by
Department of Rural Technology and Social Development

Session 2024-2025 onwards
Under NEP-2020



GURU GHASIDAS VISHWAVIDYALAYA

(A Central University)

Koni- Bilaspur 495009 Chhattisgarh

Department of Rural Technology and Social Development
Guru Ghasidas Vishwavidyalaya, Koni- Bilaspur (C.G.)

Vocational Course: Credits: 04 (01 Theory + 03 Practical) Department of Rural Technology and Social Development		
Course Title: Remote Sensing and GIS Applications (Theory)		
Course Code: VOCRTT01 VOC/Level 3	Credits: 01	Total Marks:100 Internal Assessments: FA 15 Marks (Time: 01 Hr) SA 15 Marks (Time: 01 Hr) End Semester Exam: 70 Marks (Time 03 Hrs)
Semester: 4	Pass Marks: 40% marks out of total 100 marks	Teaching Hrs: 12

Course Outcomes:

1. Gain advanced knowledge of Remote Sensing
2. Gain advanced knowledge of GIS technologies.
3. Acquire skills in geo-referencing, image processing, and spatial data analysis.
4. Develop expertise in using GIS software for real-world applications.
5. Demonstrate capability to handle end-to-end projects integrating field and remote sensing data.

Introduction to Remote Sensing and GIS: Overview of Remote Sensing: Principles and Applications, GIS Basics: Concepts, Components, and Functions, Types of Data: Raster and Vector, Significance of Geo-referencing in Spatial Analysis.

Applications of Remote Sensing and GIS: Rural Planning and Disaster Management, Environmental Monitoring, Agriculture and Forestry, Water Resource Management

Suggested Readings

- Remote Sensing Principle & Interpretation- F.F.Sabins
- Digital Remote Sensing- Dr.P.Nag, Dr.M.Kudrat
- Principle of Remote Sensing – P.J.Curran

Course Outcomes and their mapping with Program Outcomes:

COs	POs						PSOs				
	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	1	1	3	3	3	2	2	3	1
CO2	3	3	1	1	3	3	3	2	2	3	1
CO3	3	3	1	1	3	3	3	2	2	3	1
CO4	3	3	1	1	3	3	3	2	2	3	1
CO5	3	3	1	1	3	3	3	2	2	3	1

Weightage: 1-Slightly; 2-Moderately; 3-Strongly

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Vocational Course: Credits: 04 (01 Theory + 03 Practical) Department of Rural Technology and Social Development		
Course Title: Laboratory Course of Remote Sensing and GIS Applications		
Course Code: VOCRTL01 VOC/Level 3	Credits: 03	Total Marks: 100 Internal Assessments: FA 15 Marks (Time: 01 Hr) SA 15 Marks (Time: 01 Hr) End Semester Exam: 70 Marks (Time 03 Hrs) Division of 70 Marks Lab Assignments (15) Geo-referencing Exercise (15) Project Report and Presentation (40)
Semester: 4	Pass Marks: 40% marks out of total 100 marks	Teaching Hrs: 36 Hrs

Course Outcomes:

1. Gain advanced knowledge of Remote Sensing
2. Gain advanced knowledge of GIS technologies.
3. Acquire skills in geo-referencing, image processing, and spatial data analysis.
4. Develop expertise in using GIS software for real-world applications.
5. Demonstrate capability to handle end-to-end projects integrating field and remote sensing data.

Course:

1. Geo-referencing and Spatial Data Handling
2. Hands-on GIS Training
3. Map Digitization: Creating and Editing Layers.
4. Buffering, Overlay, and Query Operations.
5. Field Data Collection and Project Work

Suggested Readings

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Course Outcomes and their mapping with Program Outcomes:

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CO2	3	3	1	1	3	3	3	2	2	3	1
CO3	3	3	1	1	3	3	3	2	2	3	1
CO4	3	3	1	1	3	3	3	2	2	3	1
CO5	3	3	1	1	3	3	3	2	2	3	1

Weightage: 1-Slightly; 2-Moderately; 3-Strongly