# UTTARAKHAND OPEN UNIVERSITY

## Department of Remote Sensing & GIS

School of Earth and Environmental Science

# GUIDELINES FOR PREPARATION AND SUBMISSION OF PROJECT REPORT

**M.Sc. Geoinformatics: IV$^{th}$ Semester**

**Admission Session: July 2026**


## Department of Remote Sensing & GIS

School of Earth and Environmental Science

Uttarakhand Open University

Haldwani, Uttarakhand

## CONTENTS

1. Purpose and Scope

2. General Instructions

3. Organization of the Project Report

4.Preliminary Pages and Specimen Formats

5.Chapter-wise Content Requirements

6. References and Bibliography

7. Guidelines for Report formatting and Printing

Appendices / Annexures

## 1. PURPOSE AND SCOPE

These guidelines specify the recommended structure, technical documentation, formatting and submission requirements for the M.Sc. Geoinformatics fourth-semester project report under the Department of Remote Sensing & GIS, School of Earth and Environmental Science, Uttarakhand Open University.

The project should demonstrate the learner's ability to define a relevant problem, identify and evaluate appropriate spatial and non-spatial data, apply suitable GIS and/or remote sensing methods, interpret results, acknowledge limitations and communicate findings in a clear technical report.

The project may involve GIS analysis, remote sensing, cartography, spatial modelling, geospatial database development, web GIS, field-based mapping, environmental or resource assessment, or another topic approved by the Department.

## 2. GENERAL INSTRUCTIONS

- Project title and supervisor must be approved through the process notified by the Department of Remote Sensing & GIS. Students should obtain approval before undertaking substantial analysis or preparing the final report.
- The project must represent the student's own work. All data, methods, maps, text, code, figures and ideas taken or adapted from other sources must be acknowledged appropriately.
- Reports must include the required student and supervisor signatures. Any additional certification or forwarding requirements will be as notified by the University.
- Copied, substantially duplicated or falsely represented projects may be referred for action under applicable University rules. Students should not exchange complete reports or submit another learner's work as their own.
- Use legible original printouts if a hard copy is required. Photocopies or low-quality reproduced maps should not be used where they make the report difficult to read.
- Any change to the approved title, study area, objectives or principal methodology should be discussed with the supervisor and approved where required.
- Fieldwork is required only where appropriate to the approved project or specifically directed by the Department. For projects that do not require fieldwork, the student must explain the alternative verification or quality-control approach, where applicable.

***Note:** After completion of the dissertation work, learners are required to submit a hard copy of their dissertation, duly approved and signed by their respective supervisors, by post to their respective supervisors at the **Department of Remote Sensing & GIS, Uttarakhand Open University, Behind Transport Nagar, Teenpani Bypass Road, Haldwani – 263139, District Nainital, Uttarakhand**. **The tentative last date for submission is 31 January 2027.***

## 3. ORGANIZATION OF THE PROJECT REPORT

The report should be organized into preliminary pages, the main text, references and appendices (if required). The following sequence is recommended; any officially prescribed order takes precedence.

| Order | Section | Pagination guidance |
|---|---|---|
| 1 | Title page | No printed page number |
| 2 | Candidate's Declaration | Lower-case Roman numerals (e.g. ii) |
| 3 | Certificate from Supervisor | Continue Roman pagination |
| 4 | Acknowledgement | Continue Roman pagination |
| 5 | Table of Contents | Continue Roman pagination |
| 6 | List of Figures | Continue Roman pagination |
| 7 | List of Tables | Continue Roman pagination |
| 8 | List of Abbreviations and Symbols | Continue Roman pagination |
| 9 | Abstract (300 – 500 words) | Continue Roman pagination |
| 10 | Main chapters (i.e. Chapter 1, Chapter 2…. etc.) | Arabic numerals beginning with Chapter 1 |
| 11 | References / Bibliography | Continue Arabic pagination |
| 12 | Appendices / Annexures | Upper-Case Roman Numerals (i.e. I, II…) |

The Table of Contents should match the chapter and section headings used in the report. All page numbers must be checked after the report has been finalized.

## 4. PRELIMINARY PAGES AND SPECIMEN FORMATS

**4.1. Title page:** The title page should include the approved project title, the degree/programme name, the department and school, Uttarakhand Open University, student name, enrolment number, supervisor's name and designation, and the applicable submission year/session. Use the current approved University logo and branding only as authorized. **(Annexure I)**

**4.2. A Declaration by Candidate:** Include a signed declaration that the report is the student's own work, that sources have been acknowledged, that data have not been knowingly fabricated or falsified, and that the work has not been submitted elsewhere for an award unless explicitly permitted. (**Annexure II)**

**4.3. Certificate From Supervisor:** Use the certificate format approved by the Department. The certificate should identify the project title, student, enrolment number, programme and supervisor. Include coordinator or other institutional signatures only where required by the University. **(Annexure III)**

**4.4. Acknowledgement:** The acknowledgement should be brief and professional. Students may acknowledge genuine academic, technical, institutional or field assistance. It should not replace formal attribution or permissions.

**4.5. Table of Contents**: The contents shall enlist the titles of the chapters, section and sub-section using decimal notation, as in the text, with corresponding page number against them, flushed to the right. **(Annexure IV)**

**4.6.Tables, Figures, Maps and Abbreviation:** Include separate lists of figures and tables; include a list of maps or plates if numerous. Add an abbreviation list when specialized abbreviations are used repeatedly.

- Number tables and figures consistently, preferably chapter-wise (for example, Figure 3.2 and Table 4.1).
- Place table numbers and titles above tables; place figure numbers and captions below figures.
- Refer to every important figure and table in the text and explain its relevance.
- Provide a source note for material adapted or reproduced from another source. Obtain permission where required.
- Ensure that maps remain legible at printed size. Avoid relying on colour alone to communicate critical categories when a readable alternative is possible.
- Number equations consistently if equations are used, and define symbols and variables.
- Place lengthy tables, supplementary maps, questionnaires, field forms, parameter lists, additional validation outputs or other supporting material in appendices. Refer to each appendix in the main text.
- Do not include software screenshots merely to increase report length; include them only when they provide relevant evidence of a process or interface.

**4.7. Abstract:** Provide a concise abstract summarizing the problem, objectives, data, methods, principal results and conclusion. A length of approximately 300–500 words is suggested for departmental consideration.

## 5. MAIN CHAPTERS

### Chapter 1. Introduction

- Introduce the topic and explain its geographical, environmental, technical or planning context.
- Define the research problem or practical problem addressed by the project.
- Explain the rationale, need and significance of the work.
- State clear and achievable objectives. Objectives should be specific and consistent with the analysis actually performed.
- Include research questions or hypotheses where relevant.
- Define the scope, spatial and temporal limits, assumptions and key terms where necessary.
- Provide a brief outline of the remaining chapters.

### Chapter 2. Review of Literature

- Review relevant books, peer-reviewed articles, technical reports, authoritative datasets and other credible sources.
- Organize the review by themes, methods or research questions rather than listing papers without analysis.
- Compare methods and findings, identify limitations or unresolved questions, and explain how the present project relates to prior work.
- Use in-text citations consistently and include complete reference details in the reference list.

### Chapter 3. Study Area

- Describe the location and extent of the study area and include a well-designed location map.
- Provide coordinates or bounding extent, area, administrative units and relevant spatial context.
- Describe physical characteristics relevant to the topic, such as topography, geology, soils, climate, drainage, vegetation or land use.
- Include demographic, economic or infrastructure characteristics only when they support the project objectives.

- State the sources and reference years of study-area information. Avoid adding unrelated descriptive material.

**Chapter 4. Data and Methodology**

- List all spatial and non-spatial datasets, including source, date/year, scale or spatial resolution, format and intended use.
- Describe field instruments or survey methods if used; identify sampling design, sample size and data-collection dates where relevant.
- Identify software and versions used, along with important tools, algorithms, models and parameters.
- Explain preprocessing steps, including projection/CRS handling, clipping, mosaicking, resampling, correction, digitization, cleaning or database preparation, as applicable.
- Describe each analysis stage sufficiently for another GIS learner to understand and, where practical, reproduce it.
- Include a methodology flowchart showing inputs, processing steps, analytical methods, validation and outputs.
- Explain why the chosen method is suitable and note major assumptions or constraints.

**Chapter 5. Results and Analysis**

- Present outputs in an order that corresponds to the stated objectives.
- Use final maps, tables, graphs and summary statistics to communicate results.
- Describe spatial patterns and quantitative findings rather than merely inserting screenshots of software windows.
- Report area, distance, count, percentage or model outputs with appropriate units and a clear description of how they were calculated.
- Where applicable, assess classification accuracy, model performance, positional quality, uncertainty or other relevant validation measures.
- Distinguish observed results from interpretation, assumptions and inferred explanations.

**Chapter 6. Discussion**

- Explain the meaning and implications of the main findings.
- Compare results with relevant earlier studies or accepted reference information.

- Discuss plausible reasons for similarities and differences.
- Address data quality, methodological limitations, scale effects, uncertainty and any constraints that could influence the results.

**Chapter 7. Conclusion and Recommendations**

- Summarize the main work undertaken and present concise conclusions linked directly to each objective.
- State practical or scientific implications supported by the results.
- Provide recommendations where justified by the analysis.
- Identify limitations and realistic directions for future work.

**Note:** ***The number and titles of chapters may be adjusted to suit the approved project. A small applied project may combine Results and Discussion; a more extensive project may require separate chapters for data preparation, model development or validation. Any adapted structure should remain logical and be approved by the supervisor.***

## 6. REFERENCES AND BIBLIOGRAPHY (APA Style)

The learners should follow a uniform style of citation throughout their project report. The following examples illustrate the APA referencing style for Remote Sensing and GIS.

**A. For Journal Article**

Gorelick, N., Hancher, M., Dixon, M., Ilyushchenko, S., Thau, D., & Moore, R. (2017). Google Earth Engine: Planetary-scale geospatial analysis for everyone. *Remote Sensing of Environment, 202,* 18–27. https://doi.org/10.1016/j.rse.2017.06.031

**B. For Book**

Jensen, J. R. (2015). *Introductory digital image processing: A remote sensing perspective* (4th ed.). Pearson.

C. **For Website**

United States Geological Survey. (n.d.). *Earth Explorer*. https://earthexplorer.usgs.gov/

## 7. Guidelines for Report formatting and Printing

**Typing and Binding of Research Project Report**

**Font**

1. Chapter Names - 16 Times New Roman (Bold) All Caps

2. Headings - 14 Times New Roman (Bold) All Caps

3. Subheadings - 14 Times New Roman (Bold) Title Case

4. Sub –Sub Headings - 12 Times New Roman (Bold) Title Case

5. Body of Project - 12 Times New Roman

6. Text in Diagrams - 12 Times New Roman (All Lower Case)

7. Diagrams / Table Headings / Fig. Headings - 12' Times New Roman Title Case

8. If Any Text 12' Times New Roman (Title Case)

**Spacing**

1. Two (2) Line Spacing between Heading and Body Text.

2. Line Spacing in Body Text should be 1.5.

3. New Paragraphs Start with Single Tab.

**Margins**

Left 1.5' Right 1.0'

Top 1.0' Bottom 1.0'

**Page Numbers**

Position Bottom, Middle

**1. Front Pages Small Roman Numbers, i, ii, iii**

(Excluding Title Page)

**2. Body Pages 1, 2, 3 …….**

**3. Annexure I, II, III……...**

**(Separate For Each Annexure)**

**Pages: Bond Paper** **Size: A4 Paper** **Color: White**

**Documentation: Spiral Binding/ Hard binding**

Annexure I: Front/cover page

# Land Use/Land Cover (LULC) Mapping Using Remote Sensing and GIS: A Case Study of Haldwani, Uttarakhand

**A Project Report**

***Submitted to partial fulfilment of the requirements for the award of the degree of***

**Master of Science**

***in***

**Geo-informatics**

***Submitted by***

**Candidate Name**

**Enrollment No.**

***Submitted to***

***Supervisor Name***

**Department of Remote Sensing & GIS**

**Uttarakhand Open University,**

**Haldwani (Nainital), 263139, Uttarakhand**

**2026**

# CANDIDATE'S DECLARATION

I declare that this written submission represents on a comprehensive review in my work and I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated any idea source in my submission. I understand that any violation of the above will be cause for disciplinary action by the university and can also evoke penal from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

Name

Enrollment No:

# CERTIFICATE

I, the undersigned certify that the project work entitled "……" submitted by …….. (Enrolment No……..) in partial fulfillment of the requirements for the award of the Degree of **Master in Science (Geo-informatics)** to the Department of Remote Sensing & GIS, School of Earth and Environmental Science, Uttarakhand Open University, Haldwani is original piece of work carried out by the candidate under my supervision and guidance**.**

It is further certified that the matter embodied in this report has not been submitted by him / her for the award of any other degree or diploma of this or any other University / Institution to the best of my knowledge.

Name

Enrollment No:

Supervisor Name

Department

# ***Acknowledgement***

**Annexure IV**

# Table of contents


| Chapter No | Chapter Name | Page No. |
|---|---|---|
| 1 | Title page | No Page No. |
| 2 | Candidate's Declaration | ii |
| 3 | Certificate from Supervisor | iii |
| 4 | Acknowledgement | iv |
| 5 | Table of Contents | v |
| 6 | List of Figures | vi |
| 7 | List of Tables | vii |
| 8 | List of Abbreviations and Symbols | viii |
| 9 | Abstract (300 – 500 words) | ix |
| 10 | Arabic numerals beginning with Chapter 1 | Arabic numerals beginning with Chapter 1 |
| 11 | References and Bibliography | Continue Arabic pagination |
| 12 | Appendices / Annexures | Roman Capital letter (I, II) |

# List of Figures


| Figure No. | Description | Page No. |
|---|---|---|
| Figure 1 | | |
| Figure 2 | | |
| | | |
| | | |
| | | |
| | | |
| | | |

# List of Tables


| Table No. | Description | Page No. |
|---|---|---|
| Table 1 | | |
| Table 2 | | |
| | | |
| | | |

# List of abbreviation

| Abbreviation | Full Form |
|---|---|
| RS | Remote Sensing |
| GIS | Geographic Information System |
| GPS | Global Positioning System |
| GNSS | Global Navigation Satellite System |
| GIS | Geographic Information Science |
| DEM | Digital Elevation Model |
| DSM | Digital Surface Model |
| DTM | Digital Terrain Model |
| LULC | Land Use/Land Cover |
| LU | Land Use |
| LC | Land Cove |

## Abstract (300-500 words)

# Chapter 1 Introduction

# Chapter 2 : Review of Literature

## List of Learners and Allotted Supervisors for Project/Dissertation – M.Sc. Geoinformatics (Fourth Semester)

All the learners of M.Sc. Geoinformatics are hereby informed that the details of learners and their respective allotted supervisors for the Project/Dissertation are provided in the attached list.

Learners are advised to check their details and the name of their allotted supervisor carefully. They are also instructed to coordinate with their respective supervisors for further guidance and discussion regarding their project/dissertation work.

| S. N. | Enrolment No. | Candidate Name | Supervisor Name |
|---|---|---|---|
| 1 | 25358124 | Govindaraj V | Dr. Harimohan Bhandari |
| 2 | 24357233 | Priyanshu Maurya | Dr. Harimohan Bhandari |
| 3 | 25360954 | Avadhesh Verma | Dr. Nimala Taragi |