

Assessment Details of the IRDR0004 Module (Part-B)

As part of the IRDR0004 module assessment (Part-B), you must submit a technical report (50% marks). All the submissions will be in a group, and you should already know your group members and assigned PGTA's for getting additional support.

The coursework for this part will reflect the skills you have acquired throughout the lectures from weeks 6-10, computer practical and independent learning. Please note that this is a group submission where you have between 4-5 members in each group. We expect your attendance in the computer cluster labs, a mandatory requirement. Please also organise regular group meetings with your PGTA, where we will provide additional support, explain the tutorial materials (PDFs and videos), help solve your module-related problems, answer your questions, and discuss your technical report content. You are strongly advised to spend adequate time in the computer labs, utilise the office hours/ the dedicated MS Teams platform, and take assistance from the module team (consisting of the module lead and PGTA's).

The lectures will mainly cover the theory, whereas the computer cluster sessions will provide you with hands-on experience interactively and engagingly. By engagement, we mean you have to interact with your group members and the module team, share ideas, work as a team (one of the mandatory competencies required for your professional career in the future), and contribute equitably to the coursework. You should also read the recommended literature and practice materials and watch the videos outside the classroom as part of your independent study.

Please design your project by maintaining a clear and well-articulated approach where you should scientifically define your project aim, objectives, and method.

Coursework-2 (GIS/RS)

Technical Report

Technical report (group) = **50% of the module mark**

[Submission Deadline = Tuesday, 31st January 2023 at 4 pm UK time]

Students are recommended to give themselves ample time for working as a team, and writing up their reports, as marks are provided for the quality of research and teamwork capabilities.

Please submit your report in **MS Word (.docx)** format via **AssessmentUCL**.

Topic

For your chosen area of interest and particular natural hazard, you should conduct a risk assessment using GIS and remote sensing techniques.

- **Step 1:** Select a suitable study area; it should have an official/administrative boundary and represent anywhere in the world. Do not select an entire country or a large area as your area of interest (Aoi).
- **Step 2:** Select a **natural hazard** in the context of **disaster risk reduction or humanitarian crisis**. This is not a multi-hazard risk assessment task.
- **Step 3:** Search for the necessary datasets. Prepare the Aoi boundary, relevant vector, and raster data (satellite images and other shapefiles).
- **Step 4:** You will be applying the simplified equation for risk assessment:

$$\text{Risk} = (\text{Hazard}) \times (\text{Exposure}) \times (\text{Vulnerability})$$

- **Step 5:** At least three (and not more than five) raster layers should be prepared for each hazard, exposure, and vulnerability component.
- **Step 6:** Please apply a weight-based method for risk assessment.
- **Step 7:** Justify your Aoi and hazard selection and method, compile your results and write a technical report following the template.

Report Content

This is just a guideline; please note that report writing is a creative task and should involve critical thinking and generating innovative ideas. The technical report should contain the following:

- Title page – project title, group number, student numbers, module details, word count, and a signed statement: “I declare the following work is our own and, where the work of others has been used, it has been clearly identified”.
- Abstract – stating the critical elements of the technical report, including the findings (maximum 250 words).
- Introduction - outline the project and clearly state the aim and objectives. If necessary, include a focused and brief literature review (keep this section short).
- Methods – explain the methodology used (e.g., sources of data, study area profile, datasets used, and data analysis methods). The justification for

selecting Aol, hazard in a specific disaster context, layers preparation, weights for hazard, exposure, vulnerability, and risk mapping should be included.

- Results – clearly display the key findings using tables and figures. Use figures and tables to help explain and clarify your ideas. If possible, validate your risk map.
- Discussion and Conclusion (should be combined) - analyse and interpret the results. Justify how you have achieved the objectives.
- Author contributions – please mention who has done what; it should be a gender-neutral statement, and please put your student number, not your name.
- References – include full details of all references used in the report (do not make it long) and ensure that the references are all correctly formatted and cited in the text.
- Appendices – these can be used for additional material. Please note that the report should be able to stand alone without appendices, and therefore students should consider the use of appendices carefully.

Report Format

The report should be a maximum of **1,500 words (+15% allowed)**, **excluding** the title page, declaration, abstract, all captions, figures, tables, author contributions, footnotes, citations and references, and appendices.

You will **fail the coursework** if you write less than 1,500 words, and a maximum of 10% marks will be deducted if you write more than **1,725** words as per the specifications above. [In the case of coursework submitted over- or under-length and late, the greater of any penalties will apply].

Follow this formatting: Size – A4 page, Margins – Normal, Orientation – Portrait, Font – Arial, Font size – 12, Font Colour – Automatic, Line Spacing – 1.5, Paragraphs – Align Left/Justify, and Insert page number – position bottom of the page and right alignment.

Use **APA style** (latest Edition) or any other standard style for referencing (e.g., Harvard) and citations. Citations and references should be consistent throughout the report.

Any submission with a Turnitin score over **15%** will be investigated for signs of plagiarism. We will follow the university procedure in this regard:

https://www.ucl.ac.uk/academic-manual/sites/academic-manual/files/student_academic_misconduct_adjudication_and_penalties.pdf



The report should demonstrate that you can:

- Construct a well-structured, organised, and clear report
- Apply GIS-RS tools and techniques in risk assessment
- Present a valid argument using scientific evidence
- Provide clear visual aids
- Understand the material you are presenting

Mark Scheme

Report structure and style (5 marks)

- A clear and coherent structure
- Fluidity of sentences
- Paragraphs should follow a logical order
- Diagrams and tables referenced in the text
- The reference section should be complete
- References cited correctly throughout
- Spelling and grammar

Figures and tables (10 marks)

- Original figures and tables
- Relevance and effectiveness
- Clarity, appropriateness, captions, legends, and high quality
- Cartographic elements and high standards

Content (30 marks)

- Application of appropriate GIS and remote sensing tools and techniques
- Scientific and quantitative competence
- Emphasise data analysis and generate meaningful results and interpretation of your findings
- Originality and interesting topic
- Reliability of your data and accuracy of your results
- The competence of working as a team

Individual contribution (5 marks)

- Contribute as an active member of the team
- Attending PGTA meetings and computer labs regularly
- Data analysis, interpretation, and writing
- Creating an environment of critical thinking, creativity, and originality
- Ensuring academic integrity and ethics

Total = 50

Additional instructions

- Deadlines must be adhered to, and **no late submissions will be allowed** as the submissions will be in a group.
- Marks will be deducted for any instructions not followed, such as deadlines, structure, font, word limits, cartography, format and so on. Failure to comply with regulations and some instructions (i.e., missing the deadlines) can cause fail the coursework.
- The coursework will be first and second marked by the module tutor and postgraduate teaching assistants (PGTAs).
- The instructions can be changed/modified as necessary; please always download the latest version and read the entire document thoroughly before submitting.
- Before formulating your project aim and objectives and selecting your study area and the specific hazard, please ensure you have access to the necessary datasets.
- You can use single or multiple datasets from single or multiple sources.
- Take your time with data from any person or organisation; you might need more time to get it. Finding a quick source of publicly and freely available data is essential in designing your project.
- You can rely on any authentic source(s) for geospatial data analysis.
- **Do not put your name** anywhere in the report. Please only put your group and student number. This is to allow blind marking.
- Please do not copy from the template; use it for reference purposes only.
- Please read the [report writing tips](#) document.
- The individual contribution will be assessed based on feedback from your PGTAs and group members and your performance in computer labs and take-home exercises.



Expectations (Report)

Numeric Mark	Overall Criteria
70 – 100%	<ul style="list-style-type: none"> ▪ Excellent report structure and format. ▪ Excellent and original research aims and objectives. ▪ Strong method plan and methodological justification. ▪ Properly analysing existing geospatial data. ▪ Excellent, appropriate, and correct production of quantitative analysis, including GIS maps, tables, and associated charts and graphs. ▪ Rigorous, logically developed, and correct data analysis. ▪ Results and analysis are critically discussed. ▪ Well-articulated and logical conclusions. ▪ High levels of critical analysis and presented in a logical flow. ▪ Excellent teamwork capability.
60 – 69.99%	<ul style="list-style-type: none"> ▪ Very good report structure and format. ▪ Very good research aims and objectives. ▪ Sound analytical method plan, little to no methodological justification. ▪ Good use of analysing existing data. ▪ Good and correct production of quantitative analysis, including GIS maps and associated charts and graphs. ▪ Very good and correct geospatial data analysis. ▪ Articulated and insightful discussion and conclusion. ▪ Robust analysis and presented in a logical flow. ▪ Very good performance in groupwork activities.
50 – 59.99%	<ul style="list-style-type: none"> ▪ Good report structure and format. ▪ Satisfactorily developed research aims and objectives. ▪ A good description of the method plan, no methodological justification. ▪ Some production of quantitative analysis, including GIS base maps, charts, and graphs. ▪ Good data analysis. May have some weak areas or are generally descriptive and show little to no analytical thought. ▪ Broadly valid conclusions. ▪ Lack structure and/or logical flow. ▪ Moderate performance in groupwork activities.



Numeric Mark	Overall Criteria
40 – 49.99%	<ul style="list-style-type: none"> ▪ Fail ▪ Little to broad report structure and format. ▪ Attempts to outline research aims and objectives. ▪ Lack of method plan, no methodological justification. ▪ Lack of scientifically analysing geospatial data. ▪ Little to no analysis, with no structure and/or logical flow. ▪ Some data analysis with weak areas and descriptive and show little to no analytical thought. ▪ Weak conclusions. ▪ Inadequate groupwork activities.
1 – 39.99%	<ul style="list-style-type: none"> ▪ Fail. ▪ Demonstrate little knowledge of the field. ▪ Little or no skill demonstrated in geospatial data analysis. ▪ Poor and inconsistent analysis. ▪ Inability to work as part of a team.
0 – 0.99%	<ul style="list-style-type: none"> ▪ Fail. No attempt or minimal attempt.



Assessment criteria guideline: We will follow the general UCL assessment criteria for the HEQF Level 7 Masters level.

HEQF Level 7 Masters level

Marks	0-39	40-49	50-59	60-69	70-85	86-100
	Fail	Fail	Pass	Merit	Distinction	Distinction
Knowledge and understanding of field, and intellectual skills <i>e.g. analysis and synthesis; deploying logical argument supported by evidence; focus on topic; drawing conclusions</i>	Demonstrates little knowledge of the field. Demonstrates significant weaknesses in the knowledge base, and/or simply reproduces knowledge without evidence of understanding. Shows little or no critical ability. Poor, inconsistent analysis.	Demonstrates knowledge of the field and awareness of current evidence and issues, but with some notable weaknesses. Lacks knowledge and understanding of some key areas. Offers some appropriate analysis, but with some significant inconsistencies which affect the soundness of argument and/or conclusions. Demonstrates very limited critical ability.	Demonstrates a sound knowledge and understanding of material within a specialised field. Demonstrates an understanding of current theoretical and methodological approaches and how these affect the way the knowledge base is interpreted. Provides evidence of relevant and sound analysis within the specialised area, with some critical evaluation. Is able to analyse complex issues and make appropriate judgements.	Produces work with a well-defined focus. Demonstrates a systematic knowledge, understanding and critical awareness of current problems and/or new insights, much of which is at, or informed by, the forefront of the academic discipline, field of study or area of professional practice. Is able to evaluate methodologies critically and, where appropriate, to propose new hypotheses. Is able to deal with complex issues both systematically and creatively, making sound judgements in the absence of complete data.	Produces work of exceptional standard, reflecting excellent understanding. Displays mastery of a complex and specialised area of knowledge and skills, with notable critical awareness of current problems and/or new insights at forefront of field. Shows excellent ability to evaluate methodologies critically and, where appropriate, to propose new hypotheses. Deals with complex issues systematically and creatively, making excellent judgements.	This work meets and often exceeds the standard for distinction, as described in the 70-85 band, across <i>all</i> sub-categories of criteria: knowledge and understanding of subject; intellectual skills; research skills; use of research-informed literature and other scholarly practices; and skills for life and professional employment. This work is of publishable quality, with only very minor amendments, and would be likely to receive that judgement if submitted to a peer-reviewed journal.
Research and enquiry <i>e.g. framing and creating questions; using appropriate methods for gathering evidence; awareness of methodological benefits/ limitations; ethics and integrity; analysis of evidence; communicating findings for a given context and audience</i>	Little or no skill demonstrated in selected techniques applicable to own research or advanced scholarship. Lacks any understanding of how established techniques of research and enquiry are used to create and interpret knowledge	Demonstrates some skill in selected techniques and/or approaches applicable to own research or advanced scholarship, but with significant areas of weakness. Lacks sufficient understanding of how established techniques of research and enquiry are used to create and interpret knowledge	Demonstrates understanding of and skills in selected techniques/ approaches applicable to own research or advanced scholarship. Shows some originality in the application of knowledge, and some understanding of how established techniques of research and enquiry are used to create and interpret knowledge in the discipline. Able to communicate effectively with a given audience.	Displays a comprehensive understanding of and skills in techniques/approaches applicable to own research or advanced scholarship. Shows originality in the application of knowledge, and a good understanding of how established techniques of research and enquiry are used to create and interpret knowledge in the discipline. Able to communicate very effectively arguments, evidence and conclusions to specialist and non-specialist audiences.	Conducts research highly effectively, using technical and/or professional skills as appropriate. Displays exceptional grasp of a range of techniques applicable to own research or advanced scholarship. Shows originality in application of knowledge, and excellent grasp of how knowledge is created and interpreted in the discipline. Able to communicate at a very high level arguments, evidence and conclusions to diverse audiences	Work is of such a quality that the student is clearly highly capable of doctoral research in the discipline and, in principle, should be prioritised for a postgraduate research grant.
Scholarly practices <i>e.g. use of relevant literature; academic writing; academic honesty; referencing and citation</i>	Fails to evidence or discuss/apply appropriate examples of literature relating to current research and advanced scholarship in the field. References to literature/ evidence and use of academic conventions are flawed/irrelevant.	Can evidence and discuss/apply examples of literature relating to current research but lacks critical engagement. References to appropriate literature/ evidence and use of academic conventions are insufficient and/or inconsistent.	Can evaluate critically examples of literature relating to current research and advanced scholarship in the field. Makes consistently sound use of appropriate academic conventions and academic honesty.	Is able to evaluate critically a range of literature relating to current research and advanced scholarship in the discipline. Makes consistently good use of appropriate academic conventions and academic honesty.	Is able to evaluate critically, with notable insight, a range of literature relating to current research and advanced scholarship in the discipline. Makes consistently excellent use of appropriate academic conventions and academic honesty	
Professional skills and attributes <i>e.g. creativity; digital literacies and practices; presentation skills; ethical awareness and integrity; collaboration and team-working; self-management; project and time management; leadership; ability to recognize own strengths and weaknesses, and to take steps to improve, by identifying and choosing appropriate methods (online resources, courses, peer learning etc.).</i>	Significant weaknesses evident in key areas such as digital literacy, communication, problem-solving and project management. Inability to adapt. Inability to work flexibly, independently and/or as part of a team.	Demonstrates generally effective employability skills, including communication and problem-solving, but with some problematic areas of weakness. Limited ability to adapt. Ability to work flexibly, independently and/or as part of a team, but with areas of weakness.	Shows a consistently good level of employability skills, including team working, project management, IT/computer literacy, creativity and flexibility. Demonstrates capabilities to support effective communication in a range of complex and specialised contexts. Shows consistent ability in tackling and solving demanding problems. Can plan and direct own learning. Demonstrates ability to advance own knowledge and skills. Demonstrates the independent learning ability required for continuing professional development.	Shows a high level of employability skills, including team working, project management, digital literacy, creativity and flexibility. Demonstrates very effective communication in a range of complex and specialised contexts. Demonstrates self-direction in tackling and solving demanding problems. Can act autonomously in planning and implementing tasks at a professional or equivalent level. Demonstrates attitudes needed to advance own knowledge, understanding, and skills. Demonstrates the independent learning ability required for continuing professional development.	Shows a very high level of employability skills, including team working/leadership, project management, digital literacies and practices, creativity and flexibility. Demonstrates very high level communication skills in a range of complex contexts, and ability to write at publishable standard. Demonstrates autonomy and notable originality in tackling and solving demanding problems. Shows a high level of consistency and autonomy in planning and implementing tasks at a professional or equivalent level. Demonstrates the skills and attitudes needed to advance own knowledge and understanding, and to develop new skills to a high level. Demonstrates the independent learning ability required for continuing professional development.	
Level 7: Marks	0-39	40-49	50-59	60-69	70-85	86-100

Please download the PDF file from the link below for better readability:

https://moodle.ucl.ac.uk/pluginfile.php/4351317/mod_resource/content/1/UCL_Assessment_Criteria_Masters.pdf

Module Assessment Regulations (UCL Academic Manual)

The Pass Mark at **Level 7** (Taught Postgraduate level) must be **50%**.

Numeric Marking Scale:

	Modules at Levels 4, 5 and 6	Modules at Level 7
70.00 – 100%	Pass	Pass
60.00 – 69.99%		
50.00 – 59.99%		
40.00 – 49.99%		
1.00 – 39.99%	Fail	Fail
0.00 – 0.99%	No Attempt or Minimal Attempt	No Attempt or Minimal Attempt

Late Submission Penalties

Where there are no Extenuating Circumstances (applicable when the majority of your group members have ECs), the following penalties must apply to all components which are submitted **after the published date and time**:

Component Mark of 50-100% (applicable for the technical report)

- Up to 2 working days late: Deduction of 10 percentage points, but no lower than 50.00%
- 2-5 working days late: Mark capped at 50.00%
- More than 5 working days late: Mark of 1.00%

<https://www.ucl.ac.uk/academic-manual/chapters/chapter-4-assessment-framework-taught-programmes/section-3-module-assessment>

Sources of data

Your work should be primarily based on secondary geospatial data analysis. In most cases, it is possible to get access to geospatial datasets for free from open-source platforms. Sometimes different public institutions or multilateral/intergovernmental organisations share data from their official portals. Here is a list of possible sources of data (this list is not exhaustive):

- **Country Boundary Shape Files:** https://gadm.org/download_country_v3.html
- **Satellite Images:** <https://glovis.usgs.gov/>

USGS Earth Explorer: <https://earthexplorer.usgs.gov/>

ArcGIS Open Data: <https://www.esri.com/en-us/arcgis/products/arcgis-open-data>

UN Humanitarian Data Exchange: <https://data.humdata.org/>

Other resources for self-learning

NASA MOOC: <https://arset.gsfc.nasa.gov/>

Esri MOOC: <https://www.esri.com/training/catalog/search/>

Esri Community: <https://community.esri.com/>

Esri YouTube Channel:
<https://www.youtube.com/channel/UCgGDPs8cte-VLJbgpaK4GPw>

ArcGIS Books (Esri): <https://learn.arcgis.com/en/arcgis-book-series/>

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