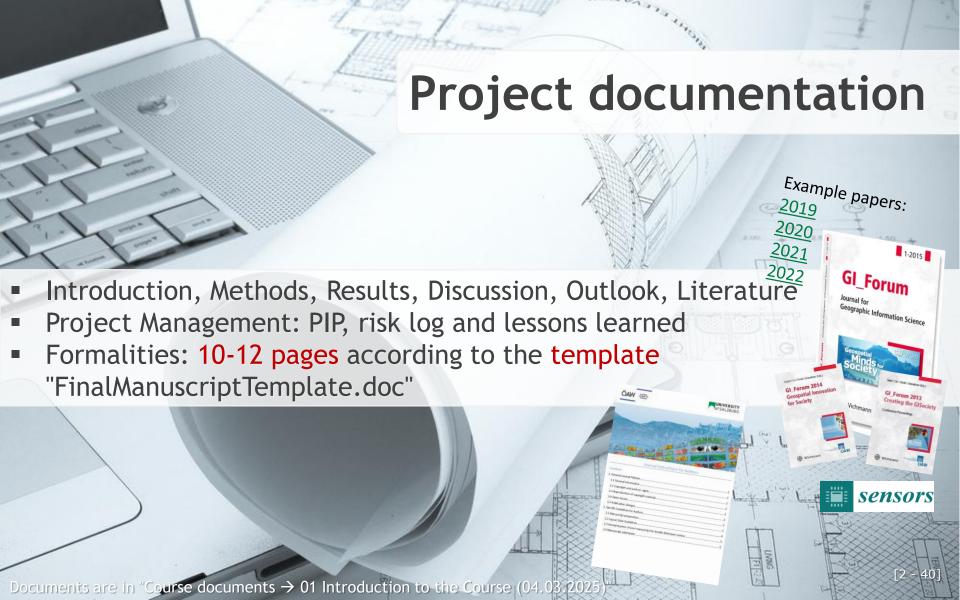


INTEGRATED PROJECT INTERDISCIPLINARY | INTEGRATED | INTERACTIVE

Lecture 11 | Final preparation

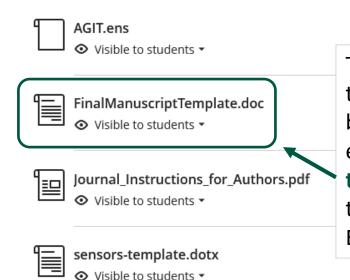
Short presentations

- Part 1: Poster preparation, design and presentation in mini conference
- Part 2: Project documentation, Geodata & Metainformation



Submission of the project achievements (no courseattendance) (30.06.2024) Visible to students •

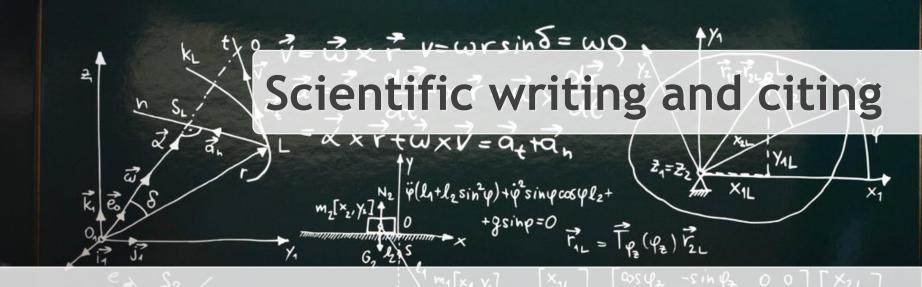
Final submission



The project must be documented as 'living' document in the projects Gitlab wiki. Gitlab final state will be evaluated by the 30th of June and will count 5% of the overall evaluation mark. The final manuscript must be delivered in the given template by June 30th and accounts for 45% of the overall evaluation mark. Bibliographic citation with Endnote/Citavi (not Word) reference manager is mandatory.

This template is NOT to be used for writing the final manuscript of the I3 course. However, this template shows well the structure of a paper and what has to be written in each of the given headings.

Delivery as Lastname_FinalManuscript.docx



Remember what you learned in the 'scientific methods & writing' course!

Literature search

- University Bibliotheca
 - → http://ubsearch.sbg.ac.at
- Google Scholar
 - → http://scholar.google.at
- Scopus
 - → http://www.scopus.com
- ScienceDirect
 - → http://www.sciencedirect.com
- Web Of Knowledge / Science
 - → http://apps.webofknowledge.com
- CiteSeer
 - → http://citeseer.ist.psu.edu/index
- Research Gate
 - → http://www.researchgate.net





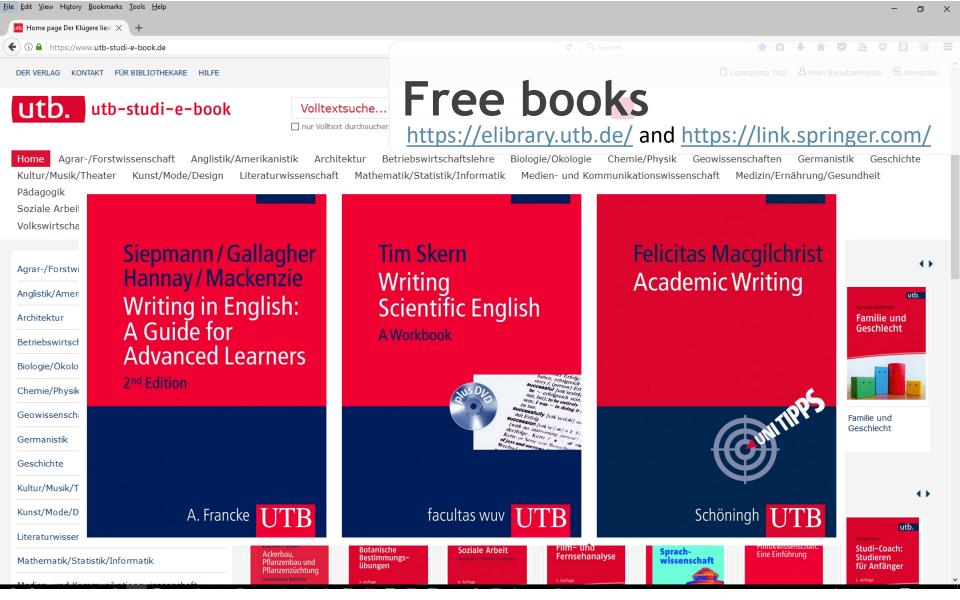












Literature management





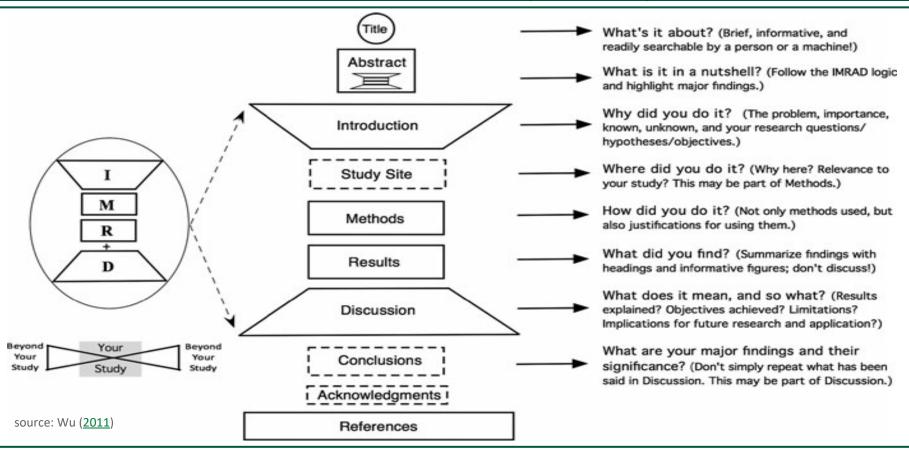




zotero

Common structure - IMRAD

Introduction, Methods, Results And Discussion



Part	Function	Should	Should not
Title	Tells what the paper is about	Describe contents clearly and precisely; provide keywords	Include wasted words ('studies on', investigation of'); use abbreviations and jargon

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Title	Tells what the paper is about	Describe contents clearly and precisely; provide keywords	Include wasted words ('studies on', investigation of'); use abbreviations and jargon
Abstract	Summarizes the results of the paper, & sometimes the interpretation	State main objectives; describe methods; summarize important results; state major conclusions & significance	Be too long (+300 words); include references; include information that is not in the paper
Introduction	Sets the framework of the paper: Why it is important or interesting?	Describe the problem investigated; review and summarize relevant research; briefly describe the experiment or design	Vaguely relate to other work; cite exhaustive lists of references

Part	Function	Critical reading	Relaxed reading
Materials and Methods	Gives details of materials used and of experimental methods	Worth detailed attention; tells exactly how experiments were done; the place to look for weaknesses in approach	Important only when methods are not standard, or paper is otherwise unbelievable; usually obscure to someone not working in the field

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Materials and Methods	Gives details of materials used and of experimental methods	Worth detailed attention; tells exactly how experiments were done; the place to look for weaknesses in approach	Important only when methods are not standard, or paper is otherwise unbelievable; usually obscure to someone not working in the field
Results	Reports what the researchers found; data may be in graphs, tables, or photographs	Ultimately the most important section of the paper: "just the facts"	Important: a careful reader will evaluate whether the results support the stated hypothesis and if they also support alternative views or raise additional questions

Part	Function	Critical reading	Relaxed reading
Discussion	Discusses two sets of issues: (1) The adequacy of the experiments themselves (2) The relationship of the results to other work in the field	Not so important: the reader should evaluate the data and place them in context	The best window into the author's context, revealing the level of confidence in the conclusions

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Discussion	Discusses two sets of issues: (1) The adequacy of the experiments themselves (2) The relationship of the results to other work in the field	Not so important: the reader should evaluate the data and place them in context	The best window into the author's context, revealing the level of confidence in the conclusions
Bibliography	Lists other papers relevant to experiments or conclusions	Shows where to find details of methods and context	Source of additional information

Verb Tense in Scientific Writing



I Items from the

-t-based que

- Write about what you have done in the past tense.
- Write about generally-accepted truths and published research in the present tense.



Conciseness - Say only what needs to be said!

Completeness - Be accurate and include all necessary information!

Clarity - Be clear and avoid wordiness!



Avoid being pompous

- "It is significant to note the fact that the application of Ryan's principles will facilitate the effectiveness of one's writing."
 - → "Using Ryan's rules will help you to write effectively."

Avoid being wordy

- "Tests were run for a period of three weeks." → "Tests were run for three weeks."
- "It is plainly demonstrable from the curves presented in Figure 2 that ..."
 - → "Figure 2 shows that ..."

Clarity and Completeness

Avoid faulty constructions & aim for grammatical correctness

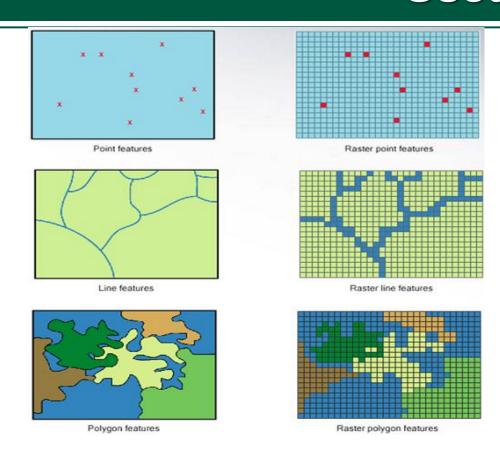
- "Cats eat more than mice" > "Cats eat more than mice do."
- "Goggles were required to perform the experiment"
 - → "Participants were required to wear goggles to perform the experiment."

Avoid vague language & use precise language

- "Numerous authors have cited similar results"
 - → "Smith and Johnson (1995) and Petry, Jones, and Emmett (1996) have cited similar results."
- "Several pits were dug at each forest site, and soil samples were collected from three different depths in each pit" becomes
 - → "Four randomly located pits were dug at each forest site and soil samples were collected from three depths at each pit: 0-5 cm, 6-11 cm, and 12-17 cm."

Annex 1 to the final manuscript: Geodata

The annex 1 should include all used and result datasets!







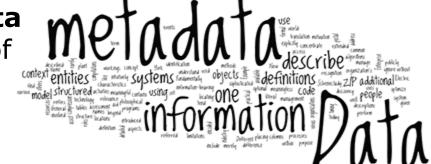
Annex 2 to the final manuscript: Metadata

The Simple **Dublin Core Metadata** Element Set (DCMES) consists of

15 metadata elements:

1.	Title	9.	Format

- 10. Identifier Creator
- 11. Source 3. Subject
- 12. Language Description
- 13. Relation Publisher
- 14. Coverage 6. Contributor
- 15. Rights 7. Date
- Type



Also see ISO 19115

The central focus of metadata

Who did what to whom, when, why, where and how? Contacts Additional Adaptation, Information on countermeasure, actions Location observations, exposure, Reason (region, Recipient impacts, vulnerabilities, state) (pressure contact policy framework Date/Time trigger)

IP I3 Metadata documentation

- P-i3: store XML (ISO 19139) metadata files for the layers used in Gitlab repository or reference geospatial metadata
- Use /metadata as repository directory as documentation directory for your ISO 19139 XML files
 - Naming convention: layer_name.xml



- Definition
 - "data about data"
 - "structured information that describes, explains, locates, or otherwise makes it easier to retrieve, use or manage an information resource"
- Catalogued / archived information
 - automated information processing or by manual work
 - vocabularies used to assemble metadata (meta-content) statements
 - Using models / DB structures / schemata / ontologies / semantics / SQL queries
 - Solution Standards / Dublin Core → requirements which are intended to establish a common understanding of the meaning or semantics of the data



- Geographic metadata
 - Descriptive metadata describes a resource for purposes such as discovery and identification
 - Includes such elements as title, abstract, author, and keywords
 - Structural and Technical metadata indicates how compound objects are put together
 - Includes file size, software needed, file type(s), presentation instructions, etc.
 - Administrative (a.k.a. "meta-metadata") metadata provides information to help manage a resource
 - Rights metadata deals with intellectual property rights (e.g. copyright ownership, use privileges, etc.)
 - Management metadata, typically by/for owning agency, price paid, circulation restrictions, etc.
 - Preservation metadata, which contains information needed to archive and preserve a resource



- Geographic metadata OGC
 - Discovery data needed to identify and locate the sets of geographic data that exist for a geographic location.
 - Access data needed to acquire an identified set of geographic data.
 - Fitness for use data needed to determine if a set of geographic data meets the user's need and to support the user in applying the geographic information appropriately.
 - Transfer data needed to get a copy of a set of geographic data.



- Geographic metadata schema ISO 19115:2003/19115:2014-1
 - The ISO metadata standards were derived from inputs from the various national bodies and their implementations of the respective metadata standards assisted by metadata software.
 - ISO 19115:2003/19115-1:2014 provides an abstract or logical mode organization of geospatial metadata.
 - ISO 19115:2003/19115-1:2014 is a content standard that discusses information should be included in geographic metadata.
 - It allows for detailed descriptions of geographic resources, but has a small number of mandatory elements. There are about 400 (minus) metadata elements (86 classes, 282 attributes, 56 relations).
 - A companion specification, ISO 19139:2003/ISO 19115-2:2016, standardizes the expression of 19115 metadata using the Extensible Markup Language (XML) and includes the logical model (UML)
 - The ISO Metadata standard is a list of possible metadata elements, use a metadata profile to document your resources

19115



- ... the schema required for describing geographic
- information and services...
- ... information about the identification, the extent, the quality,
- the spatial and temporal schema, spatial reference, and
- distribution of digital geographic data.
- ... applicable to the cataloguing off datasets, clearinghouse activities, and the full description off datasets for a wide range off geographic applications.
- applicable to geographic datasets, dataset series, and individual geographic features and attributes
- ... may be used for other forms off geographic data such as map, charts, textual documents

Geoinformation Management OGC Catalogue Information Model (CSW 2.0)

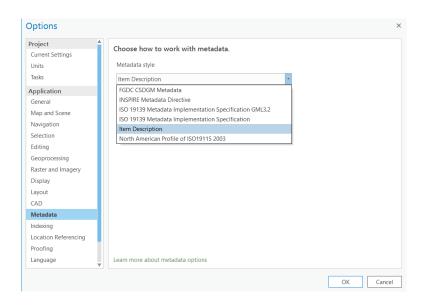
- Catalogue services support the ability to publish and search collections of descriptive information (metadata) for data, services, and related information objects.
 - Enable publishing and searching structured information (metadata) about geographic resources
 - Enable a requester to dynamically discover and communicate with a suitable resource provider
- Metadata act as generalized properties that can be queried and returned through catalogue services for resource evaluation and, in many cases, invocation or retrieval of the referenced resource.
- OGC Catalogue interface standards specify the interfaces, bindings, and a framework for defining application profiles required to publish and access digital catalogues of metadata for geospatial data, services
 - and related resource information.
- OGC has defined several profiles of the Catalogue specification to meet the needs of stakeholders

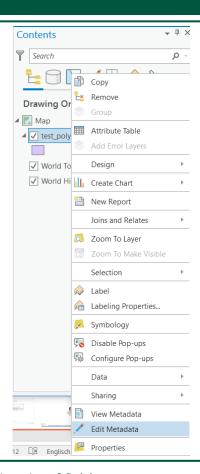
Geospatial metadata Editors & CSW Services

- Geoportal Sandbox Editor or
 - https://github.com/Esri/geoportal-servercatalog
 - https://esri.github.io/geoportal-server/
- Geonetwork Opensource metadata editor
 - https://geonetwork-opensource.org/
- INSPIRE Geoportal Austria
 - https://geometadatensuche.inspire.gv.at/metadatensuche/inspire/eng/catalog.search#/home

Geospatial metadata Editors & CSW Services

- ArcGIS Online
- ArcGIS / ArcGIS Pro Editor





Metadata Creation Example European Population dataset (Eurostat)

- Population on 1 January (Eurostat)
 - Eurostat aims at collecting from the EU-28's Member States data on population on 1 January. The recommended definition is the 'usually resident population' and represents the number of inhabitants of a given area on 1 January of the year in question (or, in some cases, on 31st December of the previous year).
 - Download
 - Population on 1 January
 - https://ec.europa.eu/eurostat/data/database Database by themes/Population and social conditions/ Demography and migration (demo) Population on 1st January by sex and age(demo_pjan) Data Browser: https://ec.europa.eu/eurostat/databrowser/view/demo_pjan/default/table?lang=en (adopt accordingly
 - + metadata https://ec.europa.eu/eurostat/cache/metadata/en/demo_pop_esms.htm
 - Reference geo data
 - https://ec.europa.eu/eurostat/web/gisco/geodata/reference-data/administrative-unitsstatistical-units/countries



Monthly timesheet for MSc Geoinformatics IP

IDENTIFICATION OF THE PROJECT & PARTICIPANT(S)		
Firstname Lastname	Hermann Klug	
Project Acronym	RETIFEDS	
Project Title	A real-time framework for environmental decision support	

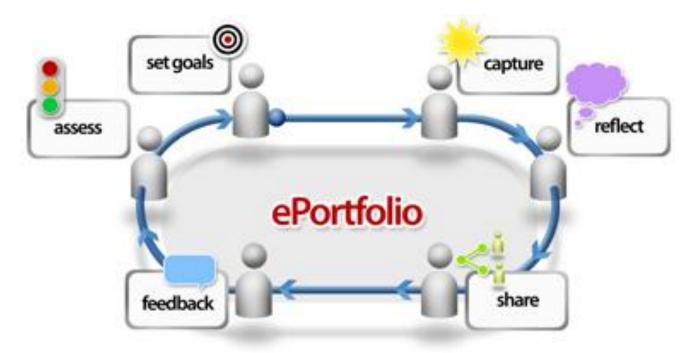
TIME	Summer Semester 2016

	Project related activities			
Day	Time		Hours	Activity (description of activity and concerned work package)
	(from)	(to)	Hours	Activity (description of activity and concerned work package)
1.	8:00	12:00	4:00	Course participation (WP1 Management)
	15:00	16:00	1:00	Abstract upload to Blackboard (WP1 Management)
2.			0:00	
3.			0:00	
4.			0:00	
5.			0:00	
6.			0:00	
7.			0:00	
8.			0:00	
9.			0:00	
10.			0:00	
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			5:00:00	

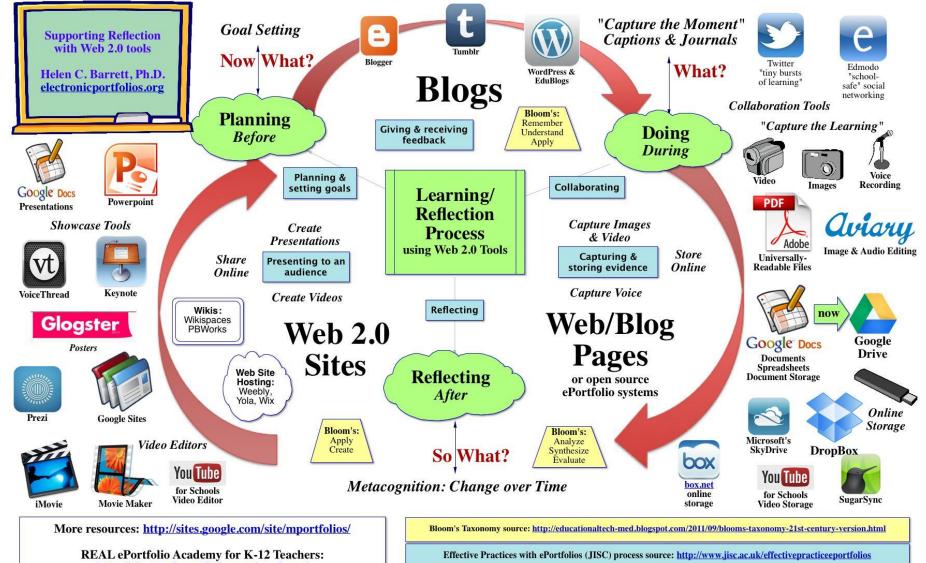
Annex 3: Time Sheets

- Recording per hour on a day
- Using the
 - TimeSheetTemplate.xls
- Recording work package hours

ePortfolio



https://www.plus.ac.at/geoinformatik/education/agi/courses/eportfolio/?lang=en



http://electronicportfolios.org/academy/ eportfolios@gmail.com

Self-Regulated Leaning Process source: http://www.cjlt.ca/index.php/cjlt/article/viewArticle/507/238

ArcGIS Online



https://zgis.maps.arcgis.com/home/index.html



Homework



Design a poster for the final presentation on June 24, 2025!

For each presentation a student is assigned to be moderator, timekeeper, and discussant. The students introduces the next presenter and structures the discussion process after the poster presentation. For both, presentation and the poster 10 % of the overall mark will be accounted.

- Please name your poster FirstnameLastname_Poster.pdf
- Study your 'Pitch' presentation:1 min Intro + 5 min presentation + 3 min discussion
- Send the poster to the eLearning platform (deadline is above)



Homework



Finalise your manuscript

Use the guidelines as discussed in this lecture and use the files for help on the eLearning platform!



Homework



Finalise your manuscript ATTACHMENTS in Gitlab

- Attach used and result datasets
- Provide the metadata for the datasets
- Upload the timesheets