



Spatial Information Systems

Advanced basics of geographic information systems



Exercise WiSe 2024/25

(Course notes for internal use only!)



Final project

- (1) Administration (exercise status, examination, evaluation)
- (2) Summary Exercise 4
- (3) Final project

Current status of the exercises

January 17, 2025		
<u>Current status of the exercises</u>		
group/name	What?!	
Chehreghani, Gupta, Kumari, Recalde	exercises canceled	
Exercises 1-3 of all active groups are ok.		
Exercises 4: evaluation is still outstanding		

Examination information

Written examination

- February 18th at 1 pm
- Audimax and Lecture Halls B & D (presumably)
- Details about Location and classification (by degree program) will follow soon.
- Exam registration is mandatory for all students planning to complete the course during this winter semester. The registration process takes place via the Bison portal.
- No registration for final project necessary
- Preparation material (list of questions / old exam samples) can be found on moodle course page and on our website

Teaching evaluation

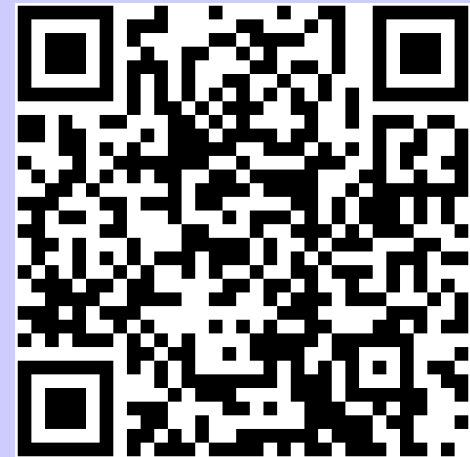
We kindly ask you to please fill in the course evaluation.

It would be really helpful for us to get your feedback about the content, the learning platform and the conditions of the course (lectures & exercises).

Link to Evaluation website: [EvaSys](#)

Code: **3UKMV**

or

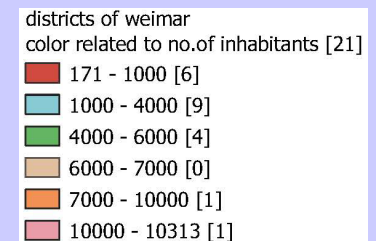
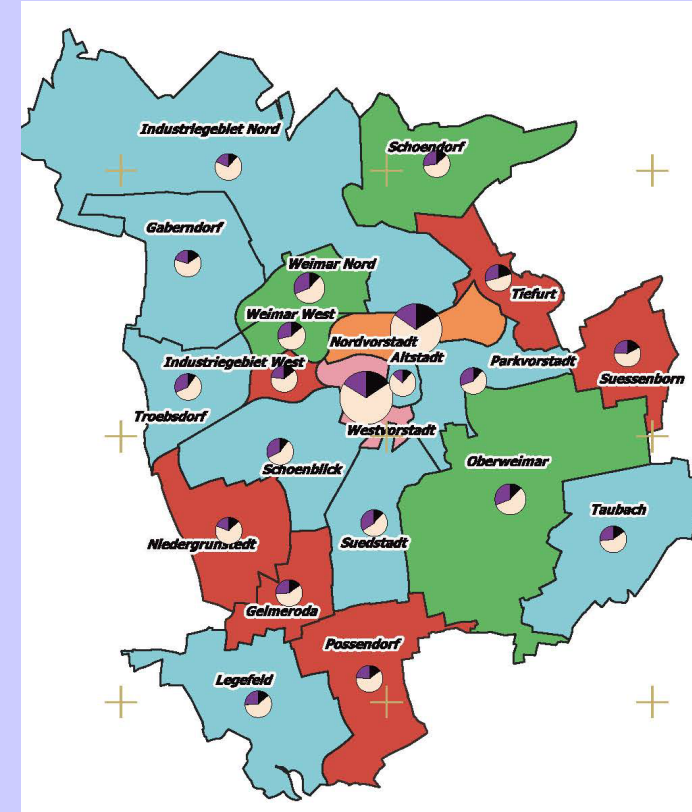
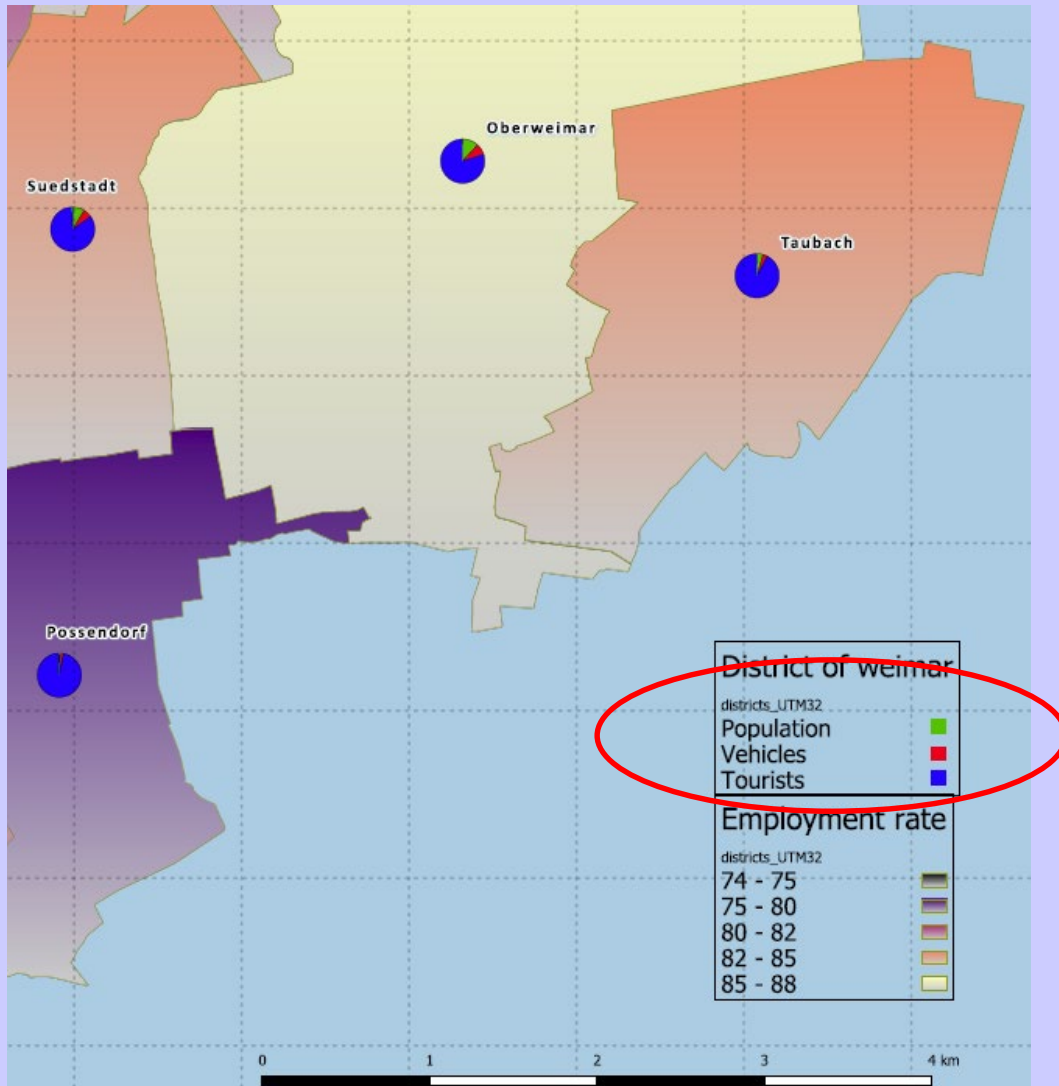


(2) Summary Exercise 4

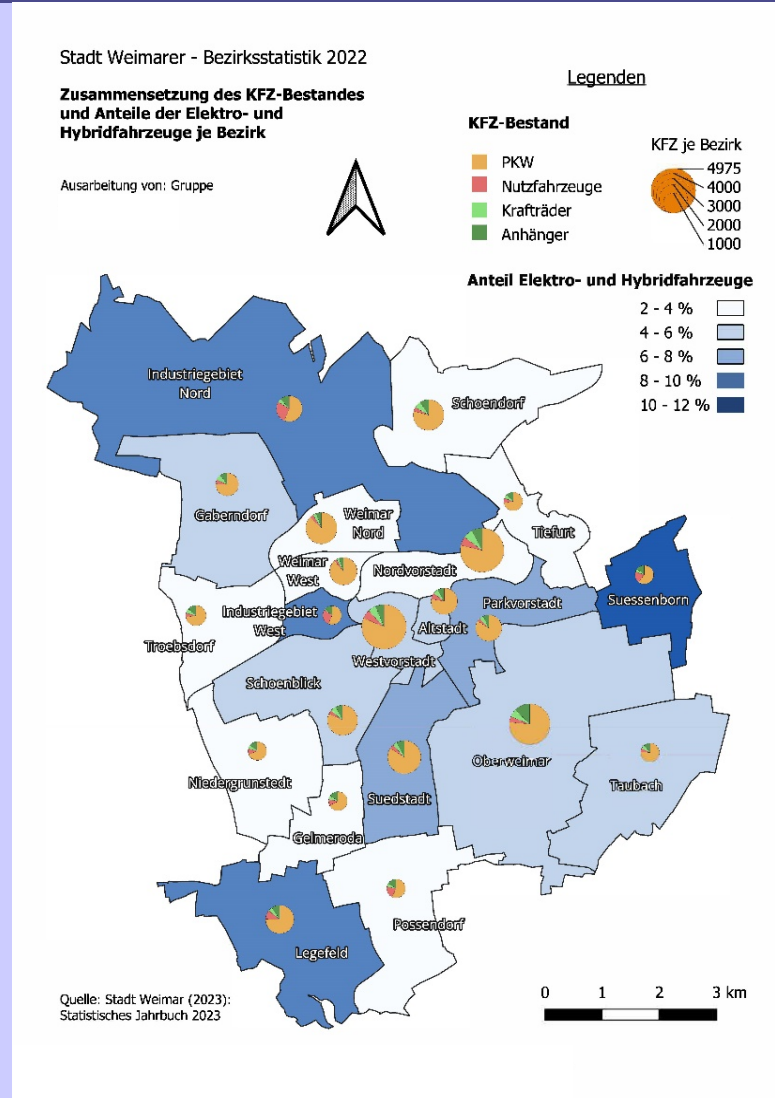
Sum of exercise 4

- All groups upload a assignment 😊
- Most maps are good 😊
- Most common faults:
 - Legend for size of diagram is missing or wrong
 - Placement for labels and diagrams is not good
 - No different diagram sizes
 - Group name, date and reference of statistical data are missing
 - Content of pie chart is not suitable (common thematic with a total of 100%)
 - Coloring of regions is not appropriated
 - to represent continuous issues (attribute values) by color a different color saturation is advisable, e.g. from bright to dark or by a spectral range.

Sum of exercise 4



Sum of exercise 4



(3) Final project (tasks & hints)

Formalities of final project

- Precondition: successful completion of the exercises
- Should be done in existing groups
- Upload via moodle in existing groups
 - Who worked on it? → names on map sheet → only these students will be evaluated
- Time for processing: 3 weeks (until 06.02.2025)

Tasks of final project

Find your own exciting GIS problem with a spatial relation in Weimar (prior ranking).

Apply your knowledge acquired at the exercises 2 - 4!

- Use already available spatial data as well as additional data and add missing information independently.
- Look for meaningful criteria for a significant gain in information.
- Select appropriate objects by attribute queries or geometric queries.
- Present statistical information using reasonable methods!
- Chose a suitable, clear presentation form and create one complete map sheet in PDF format.
- As first inspiration the following topics are available for example:

Tourist information, Parking, Architectural guide, Health care,
Education, Local events, Care home for the elderly, ...

Hints

- Gallery: map samples for inspiration
- PlugIn *OSM Downloader*
- Import datasets with *Add Delimited Text Layer* (Save new layer!)
- Rename fields: layer properties/fields
- Editing attributes and values: field calculator
- Labeling:
 - Label toolbar (moving, rotating, ...)
 - Rendering/Allow Overlaps
 - Formatting/Multiple lines/ wrap lines to no. of characters
 - Callouts (Leader lines)

Hints

- Modification of layer symbology: change layer type
- Style of roads: Symbology, Advanced, Enable Symbol levels
- It's possible to use other functionalities/plugins (e.g. *DataPlotly*, *Least cost path*, *Calculate geometry*, ...)
- Check your datasets for validity.
- Give information about currentness and source of your data sets.
- Look for meaningful colors (lesson 10).
- A good map can be read and understood without a handbook.

Good luck and maybe a little fun.