

COIL course on Sharing cartographic solutions for geovisualization

M. Amparo Núñez Andrés ^a, José Jesús Reyes Nuñez ^{b,*}

^a *Universitat Politècnica de Catalunya - m.amparo.nunez@upc.edu*

^b *Eötvös Loránd University – jesusreyes@ik.elte.hu*

* Corresponding author

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Abstract:

The Barcelona School of Building Construction (Escuela Politécnica Superior de Edificación de Barcelona, EPSEB) at the Polytechnic University of Catalonia (Universidad Politécnica de Cataluña, UPC) in Barcelona together with the Institute of Cartography and Geoinformatics at the Eötvös Loránd University (ELTE) in Budapest organized together a COIL (Collaborative Online International Learning) course entitled “Sharing cartographic solutions for geovisualization” in the first semester of the 2024/2025 school year. The participating students were from two degrees: Geoinformation and Geomatics Engineering BSc (UPC) and Cartography MSc (ELTE). The main reason of organizing a course together was our interest to find the common points (topics) in the formation of our students, because although both degrees are related to each other, both also have their differences, which are specific to the nature of one engineering speciality and the other related to natural and environmental sciences. The main aim of the course was to develop specific projects on different topics related to trans- and interdisciplinary areas, creating mainly thematic maps and using online tools and standard mapping services (WMS OGC services) to visualize the results, combining different online solutions in only one project.

The course lasted four weeks and lasted two hours each week and took place between 18 November and 9 December 2024. Before beginning the course, on 11 November, an introductory session was organized for giving general information on the collaborative work to the students and making a prior list of members of each group considering parity criteria as far as possible.

Each Monday professors and students participated in online meetings, which were planned and carried out as follows: in the first week we had an ice breaker and information session with the students, during which the students introduced themselves to each other. It was followed by the definitive organization of teams and the workflow planning to develop the previously selected theme. Students organized teams of three or four members and decided what their roles would be within the group and what specific tasks each member should carry out at the different stages of the work. The themes selected by the five student teams were:

1. Impact of current land use on the conservation of protected areas in Catalonia
2. Traffic accidents in New York City
3. Urban accessibility and public amenities in Barcelona
4. Barcelona public transport network
5. A nice stroll in Ciutat Vella

The second week began with presentations given simultaneously by the professors, giving the basic principles and characteristics of the two solutions to be used by the students: Geoserver and ArcGIS Online. In the second part of this second session and in the third week the students worked together on the solution of the task, under the supervision of the teachers, who offered their help, when necessary, as well as providing consultation for the teams. The last session was dedicated to the presentations of the final results (Figure 1) and to the filling of a 13-question questionnaire anonymously, which was made by the professors to collect students' opinions, experiences and proposals.

The answers given to the questionnaire help us to improve the organization and content of the course in order to adapt it to the more specific needs and requests of the students. Analysing the answers, we can affirm that in general the course was beneficial for the participants. e.g., to the question “whether the activity allowed them to put in practice the knowledge learnt in class?” out of 14 answers only one was negative. Professors also asked them to provide additional comments that can help the further development of the course in the future, some of them were as follows:

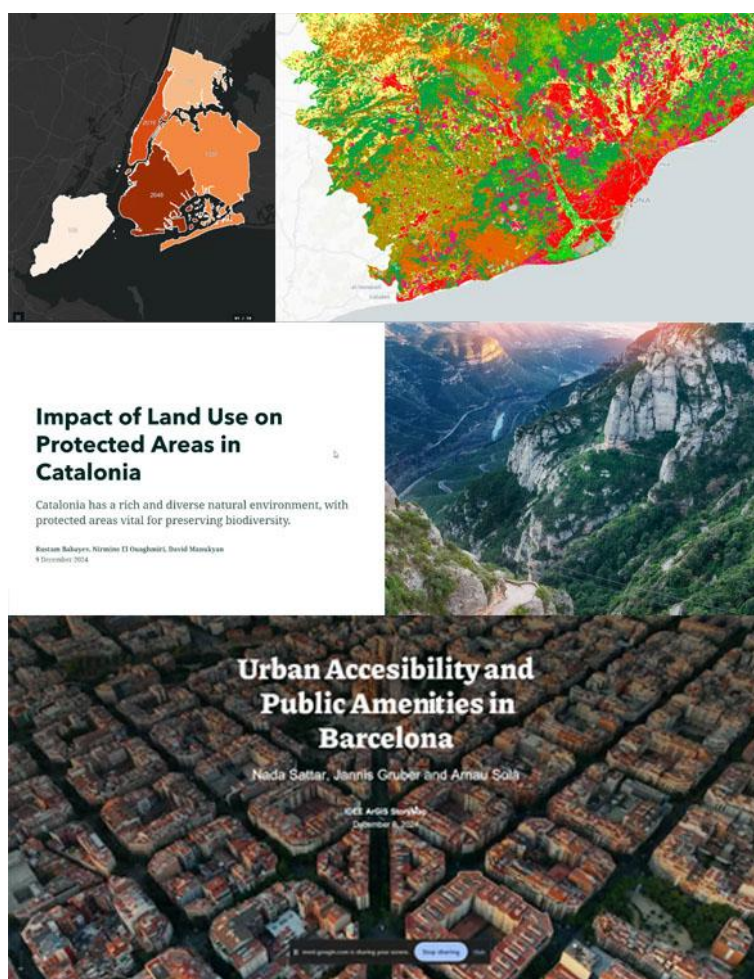


Figure 1. Some of the maps and story maps created by the students during the course.

- The time constrain was little bit rough, but I would like there to be a little more time in case any issue or error occurs.
- I think this experience has been very good, but maybe it would be better to do it in a longer term so we can develop a better project.
- It was a rich experience to work with another student from abroad. He had different ideas and knowledge on other topics than us, and that's a good thing. Therefore, I think we learnt from each other and ended up learning more than if we hadn't participated in this collaboration.
- It was my first cooperative work experience, with students from different places. I thought the idea was excellent, and I intend to take the idea to my university.
- I think it has been a very cool and interesting experience. I really enjoyed collaborating with another university from another country. I think this should continue to be done. Congratulations on the work.

The difficulties that usually arise when we first put an idea into practice could be solved successfully during the course and the responses of the students motivate us to continue working to make this course even better in the coming years.