Co-funded by the Erasmus+ Programme of the European Union

QUALITY ASSESSMENT BY EU PARTNERS (PARTNER Estonian University of Life Sciences)

Major compulsory course: "Application of remote sensing and geographic information systems to environmental research"

National University of Mongolia

Bachelor Degrees

QUALITY ASSESSMENT
Quality criteria 1: Number of credit units for lectures, practical sessions and self-learning are appropriate to the contents
• *Evaluation* The course gives 6 ETCS. The amount of credits is quite high and should require more independent work. The course materials are not completed and only some examples are provided (most in Mongolian) so it is not easy to evaluate the course. There are 16 video lectures and 16 video labs. The field of GIS is very wide, but these topics should cover the main topics. Remote sensing part seems to be less covered, but it is hard to decide based only on lecture and lab titles. • *Strategies for improvement* I can only see the lab titles, but it seems that labs are quite easy and only one simple map should be presented. The example map is missing a legend. This particular map doesn't require a legend, but students should acquire also legend designing skills. Also map labeling could be included into map designing process. I can see that students should spend 100 hours for independent work, but major part of this work is planned to answer to key questions. Understanding the theoretical topics is very important, but paying more attention to develop practical skills should be on focus. My experiences have shown that spatial data creation and knowing how to use and from where to get the existing spatial data are the skills that most GIS users need the most. I suggest to include to labs spatial data creation in different ways (creating point data from XY coordinate table, create point, line and polygon data based on georeferenced base maps (digitize the data). Also, an overview of different available (local) spatial databases and services (WMS and WFS services etc) should be included. It could be a good idea to let students to use their practical skills gained in GIS labs to complete a GIS project (a complete GIS assignment starting from data creation or downloading, including different data analysis and finishing with map designing).
Quality criteria 2: Total number of credit units in the course is correct and appropriate
• *Evaluation and Strategies for improvement* The number of ECTS could be appropriate (6 ECTS) for 16-week major compulsory course, if the workload for the independent work is increased. I suggest to add a major independent work like GIS project described in previous section.
Quality criteria 3: Positioning of the courses in Curricula is appropriate based on the progressive level of difficulty
• *Evaluation* The course is compulsory and designed for bachelor students and for life-long learners. The positioning is appropriate in the curricula. • *Strategies for improvement* No strategies are required

Quality criteria 4: Tests are suitable and appropriate to support transferable skills
• *Evaluation* Assessment consists of 4 parts: 1) 20% attendance, based on filling the lab questions, 2) Progress assessment (20%) mid-term exam, 3) final assessment (30%), final exam and 4) skill test (30%), assessing the individual map. I can see some example questions, most questions are in picture format and in Mongolian, so I cannot evaluate the relevance of questions. The idea of this kind of 4 level assessment is relevant. • *Strategies for improvement* The criteria of final map assessment should be included.

Quality criteria 5: TLM and assessment strategy support students in undertaking the course i.e. prerequisites are helpful and relevant, assessments help gauge students understanding
• *Evaluation* Required and recommended prerequisite courses are listed. Compulsory and recommended literature is listed. Teaching methods are video lectures and video labs. Students should also read the book and answer to the questions. I could also find that learning methods will be group and individual learning and project-based learning and data analysis, but I cannot see the details and nowhere else is written about group work and project-based learning. There are some questions that students should answer during the labs. As I cannot see the questions and lab assignments, I cannot evaluate this. • *Strategies for improvement* I suggest to include independent complete GIS assignment (as described previously) so that students can use their skills learned in GIS labs to practice their knowledge and solve some real-life GIS problems. This may be also team work and / or project-based learning.
Quality criteria 6: Theory/Practice-oriented components are sufficient to cater the learning outcomes and skills development
• *Evaluation* Different learning outcomes are listed. As I cannot see most of the course materials, it is hard to evaluate if these learning outcomes can be achieved. • *Strategies for improvement* Learning outcomes are listed as keywords, eg life-long learning, which do not always match with the beginning of the statement: "By the end of the course, successful students will: …". I suggest to revise this list to correspond to the beginning of the statement.

The course is suitable for its respective program and recommended for accreditation. All the necessary corrections can be done on the enrollment stage.