UNIVERSITÄT LUZERN

LUMACSS Capstone Project's regulations

CP preliminary approval. Students willing to undertake a capstone project must obtain a preliminary approval from the LUMACSS coordinator. The approval is uniquely based on the project's relevance and feasibility. To obtain the preliminary approval, students must issue a short application containing the elements that are necessary to evaluate the project, including the following essential elements:

1. A *capstone project advisor*, including faculty members and researchers holding a PhD in any field of the social sciences preferably employed by the University of Lucerne. A short informal statement from advisor, demonstrating her/his willingness to act as advisor, must be filed with the CP request.

2. A *capstone project sponsor*, including a non-academic referent operating in an organization involved, or potentially interested, in the data collection or in any subsequent stage of the capstone project. While unsponsored projects may occasionally be possible, students are encouraged to use the CP to expand their professional network and to start early-stage collaborations. A statement from the sponsor is not required, although the student must identify the referent and shortly describe actual/potential connections.

3. A *one-page project description* containing: the main project motivation(s), key goal(s), key stages of project development, and expected deliverables.

4. A *one-page timeline* of the project in the form of a table or GANTT chart.

5. Any other element needed to evaluate the relevance and feasibility of the project.

CP deadlines. Project applications can be filed twice a year (in the Fall or Spring term). Applications must be emailed to the LUMACSS program coordinator at nadia.buehler@unilu.ch. The official university semesters' ending dates act as deadlines for the application submissions. The official approvals are provided shortly after.

CP deliverables, credits, and expected workload. The specific deliverables are identified in the CP application. The CP is rated according to the pass/fail grading system. 10 ECTS entails about 300 working hours.

The following descriptions provide illustrative examples for viable capstone projects:

- **Ms Brunner** is a LUMACSS student specializing in Law with an interest in computational criminology. For her CP she would like to develop a Web Application regarding crime statistics in Switzerland. She contacts a Law

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professor to act as advisor and finds a referent at the Federal Statistical Office acting as sponsor. In her project description, she states that she has access crime data through an API and describes the desired web applications that would be programmed using the Shiny framework. She also provides the attendance certificate to the R workshops "Creating web applications in R using Shiny" and "Web Scraping using R".

- **Mr Esposito** has a background in computer science and plans to start a careen in data-driven business intelligence. The project of Mr Esposito is to develop an automated social media scraper to map the networks of various companies in the food and beverage sector. His found an advisor at the faculty of Economics, and although he could not identify a sponsor yet, he provides a few potential referents and plans to discuss with the advisor how to best approach them. In the project description, he mentions the main Python libraries he plans to use to build the scraper and the type of network visualizations he plans to analyze.

- **Ms Şahin** is an intern at company XYZ and would like to automate the company's data pipeline since she noticed delays and unnoticed data sets. This automation task is not part of her intern work, but her director Ms ABC has granted her access to the data and she is willing to act as sponsor. Thus, Ms Şahin contacts a postdoctoral researcher working in statistics to act as the project advisor. In the project description, she states that she can work in R, details how she plans to automate and harmonize the data, and how this could improve the analytics flow in the company. The project deliverables include a current and prospective data map, a report, and a previously precluded data analysis using variables from all connected datasets. The also attached the attendance certificate to "The R Week" course.