i.	**Name of the course**
	Correlates of thematic roles in Bosnian/Croatian/Montenegrin/Serbian

ii.	**Level of the course**
	BA advanced

iii.	**Workload**
	6 ECTS

iv.	**Institution**
	University of Graz

v.	**Course instructor(s)**
	Boban Arsenijević

vi.   Brief course description

This course focuses on the notion of thematic roles assigned by the verb, and brings it in connection with the much debated topic of the syntactic/semantic contribution of theme vowels.

The course enhances the problem-solving and data-analysis skills of the students, thus preparing the students for a wide range of possible careers. It also provides the students with first-hand scientific research experience, including the development of a database, the annotation and handling of the disagreement between annotators, quantitative analysis.

The course starts (the first three weeks) with a very basic sketch of general research design and a general introduction into the thematic and participant roles. Simultaneously, some preliminary discussion is held about testing the predictions of various theories. After this, students are assigned 1000 verbs from the database of the ongoing research project Hyperspacing the verb. The students first excerpt a sample of 200 randomly selected concordances of each of the verbs assigned to them from the hrWac corpus. Then the students build a database in which each of the verbs they have been assigned is annotated for the number of times it takes each of the following thematic roles:

- agent,
- patient,
- theme,
- recipient and
- experiencer.

The thematic roles are identified using two tests for each role. Particular attention is paid to the cases where the two tests give different results for the same concordance. The students

are then expected to discuss the reason why such mismatches emerge, and what they tell us about the verb and about the thematic role.

Halfway through the course, the students submit their final annotations, on which inter-annotator agreement is computed. One session is devoted to the discussion of the results. In the second half of the course, the students compute and discuss correlations between morphosyntactic properties of the verb (such as theme vowels, lexical and grammatical aspect) and the likelihood that the verb selects each of the targeted thematic roles.

At the end of the course, students are expected to submit a final report in which they discuss the established correlations or lack thereof.

vii.   Research related subject
Correlations between theme vowels and thematic roles

viii.   Data the students work with
Data obtained from corpora, data obtained from human subjects

ix.   Topics

A: Research design

A1: General research design

[Teaching materials]
UPSKILLS Moodle course First steps into scientific research
https://upskillsproject.eu/project/scientific_research/
Movetia/ReLDI courses:
PHIL: Movetia101 Introduction to research in linguistics: theory, logic, method
https://phil.openedx.uzh.ch/courses/course-v1:PHIL+Movetia101+2046/info (in English)
ReLDI-Project: ReLDI101 Introduction to Research Methodology in Linguistics
https://phil.openedx.uzh.ch/courses/course-v1:PHIL+ReLDI101+2018/info (in BCMS)

A2: Adapting the general research design to the specific topic of interest

Identifying correlations between thematic roles and other properties of the verbs as the relevant measure; identifying potential relations between the predictors and the thematic roles

A2.1: Formulation of questions and hypothesis in terms of variables

A2.2: Formulation of predictions of H0 and H1

A2.3: Selection of optimal research techniques, selection and creation of corresponding data sources
- Developing and exploiting databases and corpora (e.g. manual data annotation)

A2.4: Identifying the optimal data analysis method

A2.5: Inferring theoretical consequences from the specific data analysis results

A3: Adapting the research design to the available research infrastructures

Comparing the available corpora for their suitability for the research of thematic roles and their predictors, choosing the best one, planning the research considering the resources that it offers; learning about the databases of the project Hyperspacing the verb and the properties annotated

A3.1 Selection of optimal research techniques, selection and creation of corresponding data sources (see also A2.3)
- data compilation, data analysis;
- understanding, selecting and performing optimal statistical tests and models

A4: Research reporting

Identifying optimal formats for the representation of the correlations between thematic roles and other verbal properties as well as of the research results

A4.1 Presentation modes for research reporting (short oral presentation, report, article etc.)

A4.2 Established procedures and conventions in research reporting, such as:
- the ordering of thematic units in an article/squib/report,
- organization of the presentation,
- amount of text and graphical items on a slide/handout,
- terminology,
- citing conventions

B: Infrastructures & techniques

B1: For obtaining literature

[GENERAL-PURPOSE REPOSITORY] ResearchGate, Googlescholar, Academia.edu, [DISCIPLINARY REPOSITORY] lingbuzz

B2: For obtaining, sharing and managing data
B2.1: Definition of research infrastructures, and the main concepts around **data interoperability**, such as **data**, **metadata** and **standards**
B2.2: Platforms and repositories
B2.3: Identifying, collecting, creating and/or using relevant data for research projects   ● Searching, identifying and selecting relevant corpora from language resources platforms and repositories hosting them

B3: For analysing data
Understanding statistical tests of correlation and their implications
B3.1: Softwares for statistical tests
B3.2: Concordancers for the analysis of corpora

C: Subject-specific topics
C1: Are there interactions between different grammatical phenomena and why?
C2: Identification of thematic roles
C3: Assessing verb meaning in terms of argument structure
C4: Explaining interactions between different properties of the verb

x.   Learning outcomes

A: Research design
A1: Students will be able to make an overview of the general research design.
[Teaching materials] UPSKILLS Moodle course First steps into scientific research https://upskillsproject.eu/project/scientific_research/ Movetia/ReLDI courses: PHIL: Movetia101 Introduction to research in linguistics: theory, logic, method https://phil.openedx.uzh.ch/courses/course-v1:PHIL+Movetia101+2046/info (in English) ReLDI-Project: ReLDI101 Introduction to Research Methodology in Linguistics https://phil.openedx.uzh.ch/courses/course-v1:PHIL+ReLDI101+2018/info (in BCMS)

A2: Students will be able to create a suitable research design for the specific topic of interest.

Students will be able to identify correlations between thematic roles and other properties of the verbs as the relevant measure;
Students will be able to identify potential relations between the predictors and the thematic roles.

A2.1: Students will be able to formulate questions and hypothesis in terms of variables.

A2.2: Students will be able to formulate H0 and H1.

A2.3: Students will be able to select optimal research techniques, and create corresponding data sources
- Experimental paradigms (e.g., elicitation, judgements, forced-choice, self-paced reading)
- Developing and exploiting databases and corpora (e.g., manual data annotation).

A2.4: Students will be able to select and implement the optimal data analysis method.

A2.5: Students will be able to infer theoretical consequences from the specific data analysis results.

A3: Students will be able to adapt a research design to the available research infrastructures.

Students will be able to compare the available corpora for their suitability for the research of thematic roles and their predictors,
Students will be able to select the best corpus for their research,
Students will be able to plan research considering the resources that the selected data source offers;
Students will be familiar with the databases of the project Hyperspacing the verb and the properties annotated.

A3.1 Students will be able to select of optimal research techniques, select and create corresponding data sources (see also A2.3)
- data compilation, data analysis;
- understanding, selecting and performing optimal statistical tests and models.

A4: Students will be able to report on their performed research in accordance with standards and conventions in the field.

Students will be able to select optimal formats for the representation of the correlations between thematic roles and other verbal properties.

A4.1 Students will be able to select and implement different presentation modes for research reporting (short oral presentation, report, article etc.).

A4.2 Students will be able to implement established procedures and conventions in research reporting, such as:
- the ordering of thematic units in an article/report,
- organization of the presentation,
- amount of text and graphical items on a slide/handout,
- terminology,
- citing conventions.

B: Infrastructures & techniques

B1: Students will be able to identify and apply suitable infrastructures & techniques for obtaining literature

[GENERAL-PURPOSE REPOSITORY] ResearchGate, Googlescholar, Academia.edu, [DISCIPLINARY REPOSITORY] lingbuzz, ROA.

B2: Students will be able to identify and apply suitable infrastructures & techniques for obtaining, sharing and managing data

B2.1: Students will understand what research infrastructures are, and the main concepts around **data interoperability**, such as **data**, **metadata** and **standards**.

B2.2: Students will be able to identify suitable platforms and repositories.

B2.3: Students will be able to identify, collect, create and/or use relevant data for their research projects
- Searching, identifying and selecting relevant corpora from language resources platforms and repositories hosting them
- Citing linguistic data sets as appropriate.
- Familiarity with online survey tools.

B3: Students will be able to identify and apply suitable infrastructures & techniques for analysing data.

Students will be able to discuss statistical tests of correlation and its significance and their implications.

B3.4: Students will be able to select and use concordancers for the analysis of corpora.

C: Subject-specific learning outcomes
C1: Students will be able to discuss interactions between different grammatical phenomena.
C2: Students will be able to identify thematic roles.
C3: Students will be able to assess verb meaning in terms of argument structure.
C4: Students will be able to explain interactions between different properties of the verb.

xi. Overview of evaluation	
Rubric	Weighing
Participation incl. homework (initiative, forward-thinking, problem solving, critical thinking, organisation, time management)	30%
Outputs based on the final research report ● oral presentation ● final written report	70%