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| <b>i. Name of the course</b><br>Tense in Bosnian/Croatian/Serbian (BCS)   |
| <b>ii. Level of the course</b><br>MA, PhD   |
| <b>iii. Workload</b><br>5 ECTS  |
| <b>iv. Institution</b><br>University of Graz  |
| <b>v. Course instructor(s)</b><br>Boban Arsenijevic   |
| <b>vi. Brief course description</b><br><p>The course provides a state-of-the-art overview of the literature and ongoing research of one of the most hotly debated issues in Slavic linguistics. While the traditional view is that Slavic languages have tense inflection, and hence also tense as a grammatical category, recent advances signal that this might not be the case, and that Slavic languages might be coding tense information in terms of aspect and its pragmatic inferences. The course enhances the problem-solving and data-analysis skills, thus preparing the students for a wide range of possible careers. It also provides the students with first-hand scientific research experience. A collection of state-of-the-art articles on the topic are read and discussed in each class. This discussion amounts to approximately 50% of the class.</p> <p>For the second half of the class, the students are asked to focus on one of the claims made in the article read for the respective class (if the article is not about BCS, the students verify whether the claim about the other Slavic language applies to BCS) and present the results of their small-size empirical research testing this claim. The students are also asked to take the ReLDI course <i>Introduction to Corpus-Based Methods in Linguistics</i>.</p> <p>In all but two last classes all students present the results of their small-size empirical research and their presentations get discussed.</p> <p>In the two last classes, the students hold their final presentations in which they present the research on which they chose to submit their final report.</p> <p>At the end of the course, the students submit their final report using the <a href="#">provided template</a>.</p> |
| <b>vii. Research related subject</b>  |

Syntax, morphology and semantics of the subjects and subject agreement. The syntactic height of the verb. Semantics of BCS verb forms.

**viii. Data the students work with**

BCMS corpora hrWaC, srWaC, bsWaC, the databases of the project Hyperspacing the verb.

**ix. Overview of topics**

**A: Research design**

**A1: General research design**

[Teaching materials]

UPSKILLS Moodle course First steps into scientific research

[https://upskillsproject.eu/project/scientific\\_research/](https://upskillsproject.eu/project/scientific_research/)

Movetia/ReLDI courses:

<https://phil.openedx.uzh.ch/courses/course-v1:PHIL+Movetia101+2046/info> (in English)

<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 the syntactic and semantic indicators of tense, formulating semantic and syntactic tests. Establishing parallels with the nominal domain

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

- Experimental paradigms (e.g., elicitation, judgements, forced-choice, self-paced reading)
- 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**

Familiarising with the type of data extractable from the available corpora;

Familiarising with the type of data extractable from online surveys;

Choosing the optimal way of annotating the properties

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| <p>A3.1 Selection of optimal research techniques, selection and creation of corresponding data sources (see also A2.3)</p> <ul style="list-style-type: none"> <li>• data compilation, data analysis;</li> <li>• understanding, selecting and performing optimal statistical tests and models,</li> <li>• identifying the optimal data analysis method</li> </ul>                   |
| <p><b>A4: Research reporting</b></p>   |
| <ul style="list-style-type: none"> <li>• Modeling the data in terms of the generative syntactic formalisms.</li> <li>• Developing and formulating formalizations of the relevant semantic regularities in terms of the lambda calculus.</li> <li>• Selecting the optimal formal morphological framework and using it to present the observed morphological regularities</li> </ul> |
| <p>A4.1 Presentation modes for research reporting (short oral presentation, report)</p>  |
| <p>A4.2 Established procedures and conventions in research reporting, such as:</p> <ul style="list-style-type: none"> <li>• the ordering of thematic units in an article/squib/report,</li> <li>• organization of the presentation,</li> <li>• amount of text and graphical items on a slide/handout,</li> <li>• terminology,</li> <li>• citing conventions.</li> </ul>            |
| <p><b>B: Infrastructures &amp; techniques</b></p>  |
| <p><b>B1: For obtaining literature</b></p>   |
| <p>[GENERAL-PURPOSE REPOSITORY] Research Gate, Google Scholar, Academia.edu,<br/>[DISCIPLINARY REPOSITORY] lingbuzz, semantic scholar</p>  |
| <p><b>B2: For obtaining, sharing and managing data</b></p>   |
| <ul style="list-style-type: none"> <li>• Advanced use of the available corpora for the target language,</li> <li>• Advance use of online surveys (use of CQLs, use of additional options).</li> </ul>  |
| <p>B2.1: Definition of research infrastructures, and the main concepts around <b>data interoperability</b>, such as <b>data</b>, <b>metadata</b> and <b>standards</b></p>  |
| <p>B2.2: Platforms and repositories</p>  |
| <p>B2.3: Identifying, collecting, creating and/or using relevant data for research projects</p> <ul style="list-style-type: none"> <li>• Searching, identifying and selecting relevant corpora from language resources platforms and repositories hosting them</li> <li>• Citing linguistic data sets as appropriate.</li> </ul>   |

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| <ul style="list-style-type: none"> <li>• Familiarity with online survey tools</li> </ul>           |
| <b>B3: For analysing data</b>  |
| B3.1: Softwares for statistical analysis (R)   |
| B3.2: Corpus management and text analysis software (NoSketch Engine, AntConc)                      |
| <b>C: Subject-specific topics</b>  |
| C1: What is verbal tense?  |
| C2: How does the verbal tense relate to clausal syntax and verbal morphology in Slavic and beyond? |
| C3: What is the semantics of tense and is it invariant or are there Slavic specifics?              |
| C4: What are characteristic properties of Slavic verbal morphology?                                |
| C5: Basic concepts of Formal Semantics   |

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| <b>x. Learning outcomes</b> |
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| <b>A: Research design</b>  |
| <b>A1: Students will be able to make an overview of the general research design.</b>   |
| <p>[Teaching materials]</p> <p>UPSKILLS Moodle course First steps into scientific research<br/> <a href="https://upskillsproject.eu/project/scientific_research/">https://upskillsproject.eu/project/scientific_research/</a></p> <p>Movetia/ReLDI courses:<br/> <a href="https://phil.openedx.uzh.ch/courses/course-v1:PHIL+Movetia101+2046/info">https://phil.openedx.uzh.ch/courses/course-v1:PHIL+Movetia101+2046/info</a> (in English)<br/> <a href="https://phil.openedx.uzh.ch/courses/course-v1:PHIL+ReLDI101+2018/info">https://phil.openedx.uzh.ch/courses/course-v1:PHIL+ReLDI101+2018/info</a> (in BCMS)</p> |
| <b>A2: Students will be able to create a suitable research design for the specific topic of interest.</b>  |
| Students will be able to identify the tense semantics, as well as the syntactic presence of tense, in a clause in an arbitrary language.   |
| <b>A2.1: Students will be able to formulate questions and hypotheses in terms of variables.</b>  |

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| A2.2: Students will be able to formulate H0 and H1.   |
| <p>A2.3: Students will be able to select optimal research techniques, and create corresponding data sources</p> <ul style="list-style-type: none"> <li>• Experimental paradigms (e.g., elicitation, judgements, forced-choice, self-paced reading)</li> <li>• Developing and exploiting databases and corpora (e.g. manual data annotation).</li> </ul>               |
| 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.  |
| <b>A3: Students will be able to adapt a research design to the available research infrastructures.</b>  |
| <p>Students will be familiar with the type of data extractable from the available corpora;<br/>         Students will be familiar with the type of data extractable from online surveys;<br/>         Students will be able to choose the optimal way to annotate the relevant syntactic, semantic and morphological properties.</p>                                  |
| <p>A3.1 Students will be able to select of optimal research techniques, select and create corresponding data sources (see also A2.3)</p> <ul style="list-style-type: none"> <li>• data compilation, data analysis;</li> <li>• understanding, selecting and performing optimal statistical tests and models.</li> </ul>  |
| <b>A4: Students will be able to report on their performed research in accordance with standards and conventions in the field.</b>   |
| <p>Students will be able to represent the relevant semantic regularities in terms of the lambda calculus.<br/>         Students will be able to select the optimal formal syntactic framework for their data and use it to represent and explain the observed patterns.</p>   |
| A4.1 Students will be able to select and implement different presentation modes for research reporting (short oral presentation, report, article etc.).   |
| <p>A4.2 Students will be able to implement established procedures and conventions in research reporting, such as:</p> <ul style="list-style-type: none"> <li>• the ordering of thematic units in an article/report,</li> <li>• organization of the presentation,</li> <li>• amount of text and graphical items on a slide/handout,</li> <li>• terminology,</li> </ul> |

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| <ul style="list-style-type: none"> <li>• citing conventions.</li> </ul>   |
| <b>B: Infrastructures &amp; techniques</b>  |
| B1: Students will be able to identify and apply suitable infrastructures & techniques for obtaining literature.   |
| [GENERAL-PURPOSE REPOSITORY] ResearchGate, Googlescholar, Academia.edu,<br>[DISCIPLINARY REPOSITORY] lingbuzz, semanticscholar.   |
| B2: Students will be able to identify and apply suitable infrastructures & techniques for obtaining, sharing and managing data.   |
| Students will be able to extract data from the available corpora for the target language,<br>Students will be able to obtain data in online surveys.  |
| B2.1: Students will understand what research infrastructures are, and the main concepts around <b>data interoperability</b> , such as <b>data</b> , <b>metadata</b> and <b>standards</b> .  |
| 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 <ul style="list-style-type: none"> <li>• Searching, identifying and selecting relevant corpora from language resources platforms and repositories hosting them</li> <li>• Citing linguistic data sets as appropriate.</li> <li>• Familiarity with online survey tools.</li> </ul> |
| <b>B3: Students will be able to identify and apply suitable infrastructures &amp; techniques for analysing data.</b>  |
| B3.1: Students will be able to select and use softwares for statistical tests.  |
| B3.4: Students will be able to select and use concordancers for the analysis of corpora.  |
| <b>C: Subject-specific learning outcomes</b>  |
| C1: Students will be able to discuss the core issues of verbal tense.   |
| C2: Students will be able to discuss the relation between tense and verbal morphology in Slavic.  |
| C3: Students will be able to identify the potential mismatches between syntax, semantics and morphology regarding tense..   |
| C4: Students will be able to apply syntactic, morphological and semantic models onto  |

linguistic data.

C5: Students will be able to represent semantic insights in terms of lambda calculus formulae and to interpret such representations.

| <b>xi. Overview of evaluation</b>  |          |
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| Rubric   | Weighing |
| Participation in classes<br>(initiative, forward thinking, problem solving, critical thinking, organisation, time management)  | 20%      |
| Homework (data collecting, annotation, analysis)   | 20%      |
| Outputs based on the final research report <ul style="list-style-type: none"> <li>○ oral presentation</li> <li>○ final written report</li> </ul>   | 60%      |
| <b>xii. Career paths</b> <ul style="list-style-type: none"> <li>a. Academia</li> <li>b. Natural language processing</li> <li>c. Market analysis</li> </ul> and all careers involving data analysis   |          |
| <b>xiii. Reading materials</b> <p>Todorović, Neda. 2016. On the Presence/Absence of TP: Syntactic Properties and Temporal Interpretation. PhD Dissertation, University of Connecticut.</p> <p>Арсенијевић, Бобан. 2013. Временско и аспектуално значење аориста. Српски језик 18, 253–263.</p> <p>Seth Cable’s handout on the theoretical background of tense:<br/> <a href="http://people.umass.edu/scable/PNWSeminar/handouts/Tense/Tense-Background.pdf">http://people.umass.edu/scable/PNWSeminar/handouts/Tense/Tense-Background.pdf</a><br/> <a href="https://www.youtube.com/watch?v=hvVMnlVuo9c">f https://www.youtube.com/watch?v=hvVMnlVuo9c</a></p> |          |