**Table 5.2.** Course specification

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| **Study program: Advanced Data Analytics in Business** | | | | |
| **Course title: Social Media Analytics** | | | | |
| **Teachers: Grljević B. Olivera** | | | | |
| **Status of the course: Obligatory** | | | | |
| **Number of ECTS: 7** | | | | |
| **Condition: None** | | | | |
| **Goal of the course**  To familiarize students with a) social media sites as the data sources for business analytics, b) the power and significance of user-generated content, and c) various possibilities of analysis of social media content which allows companies to observe the overall market position of a company, product, or competition. To teach students to obtain relevant data from the Internet, to retrieve them and visualize them, to analyse textual content from social media, as well as the emotions from user-generated content from social media. | | | | |
| **Learning outcome**  Student has the knowledge to to solve complex problems which require application of categorization and clustering of texts, topic modelling, and sentiment analysis; Student has the knowledge to select adequate data source and to retrieve the data from the Internet; Student has the knowledge to create dataset and to prepare it for analysis; Student knows to visualize data (graphical representation of large amount of data, word clouds, and similar); Student knows how to choose an adequate approach to analyze data and to practically apply clustering, classification techniques, association rules on data from the Internet; Student knows to interpret obtained results. | | | | |
| **Content of the course**  *Theoretical part*  *1.Understanding business benefits of social media analysis and analysis of data obtained from the Internet.*  *2.Introduction to text mining and natural language processing.*  *3-4.Introduction to specificities of user-generated content and ways to retrieve them.*  *5.Model and pre-process textual data for analysis.*  *6-7.Data mining methods and techniques for analysis of textual data.*  *8. Classification algorithms, clustering, topic modelling and keywords modelling in texts, sentiment analysis.*  *9.Basics of image mining.*  *10.Natural language processing and pre-processing of data.*  *11.Visualization of data.*  *12. Collecting and creating datasets for machine learning and data mining.*  *13-14.Application of text classification, sentiment analysis, application of clustering techniques for grouping similar text and keywords.*  *15.Illustration of possibilities of applying classification algorithms for image analysis.*  *Practical part*  *Work on practical tasks, writing of seminar paper on the basis of theoretical topics* | | | | |
| **Literature**   1. Bing Liu, Sentiment analysis and Opinion Mining, Morgan & Claypool Publishers, 2012. 2. Bo Pang, Lillian Lee, Opinion Mining and Sentiment Analysis, Foundations and Trends in Information Retrieval, Vol. 2, Nos 1-2 (2008) 1-135. 3. Daniel Jurafsky i James H. Martin. 2018. Speech and Language Processing: An Introduction to Natural Language Processing, Computational Linguistics, and Speech Recognition. 4. Weiss, M. S, Indurkhya, N., Zhang,T. Fundamentals of Predictive Text Mining, Springer-Verlang, 2010. 5. Ronen Feldman, James Sanger, The Text Mining Handbook – Advanced Approaches in Analysing Unstructured Data, Cambridge University Press, 2013. | | | | |
| **Number of hours of active teaching** | **Theoretical teaching: 3** | | **Practical teaching: 2** | |
| **Teaching methods**  lectures, discussions, and practical exercises and work on various case studies in computer laboratories | | | | |
| **Assessment (maximum number of points 100)** | | | | |
| **Pre-exam obligations** | Points | **Final exam** | | Points |
| Activities during semester | **5** | Written exam | |  |
| Practical part | **5** | Oral exam | | **30** |
| Colloquiums (three times 20 points) | **60** | *..........* | |  |
| Seminar paper |  |  | |  |