List of Topics for DHBW Program Design papers in the area of Data Warehouse / Business Intelligence (without Points)

- **Team Size/Effort/Pages:** group work (2 members); ~10-12 hours/~15-20 pages
- **Language/Deadline/Details:** English/26.04.2025/ Examination Info – Program Design
- **Evaluation**: Dr. Hermann Völlinger (send paper to 22D-Moodle: Kurs: T3INF4304_3_22).
- **References**: As a source of information and further references to the respective themes, it is recommended to refer to the instructions in the corresponding slides of the lecture.

No	Topic	Details	Students/Points (max=100)
DW-PD01	**KG tool - Healthcare and Life Sciences (ex. E1.4b)**	Give a program design and detailed description of the creation of a KG tool in the area of Healthcare and Life Sciences (Modeling biological pathways, drug discovery, and patient data…). See also exercise (E1.4b) and see YouTube "Building Knowledge Graphs in 10 Steps": https://www.youtube.com/watch?v=lUc0woFX16M . See also Google- /IBM HealthCare KG in [DHBW-Moodle], Category1: "KG4HealthCare-Google_Info/IBM_Info.pdf"; "Warum FHIR_ – HL7Deutschland.pdf"	von dem Berge & Hutzel: x / Dehm & Teller: x / Bierbaum& Rakoczy: x
DW-PD02	**First Experiences with KNIME Analytics (ex. E1.5)**	First Experiences with KNIME Analytics Platform: Install the tool and report about your first experiences and insights. 1. What can be done with the tool? 2. Features for Data-Management (DM)? PD**: Show a concrete simple KNIME DM example/workflows? 3. Features for Analytics and Data Science (DC)? PD**: Show a concrete simple KNIME DC workflows? Information source is the KNIME Homepage KNIME | Open for Innovation and the three mentioned documents in the lesson DW01 (see lesson notes). See also exercise E1.5	- / -: x
DW-PD03	**Data Manipul. & Aggregation in KNIME (ex. E6.3)**	Rebuild the KNIME Workflow (use given solution) for Data Manipulation & Aggregation and give technical explanations to the solution steps. See images in the exercise E6.3.	Süral & Kugler: x / Milde & Redel: x / Faiß & Kulig: x
DW-PD04	**Run &Compare 3 KNIME Data Mining solutions (ex. E9.5)**	Run and compare the three KNIME-Basics workflow of exercise E9.5. Give technical explanations to the solution steps (use given workflows). See the KNIME documentation from the lecture. See also exercise E9.5	- / -: x
DW-PD05	**K-means Clusters of IRIS Dataset (ex. E10.3)**	The Iris dataset contains the data for 50 Iris flowers from each of the 3 species - Setosa, Versicolor and Virginica. http://www.lac.inpe.br/~rafael.santos/Docs/CAP394/WholeStory-Iris.html Develop a Python-Pgm. using Scikit-learn library: https://github.com/bhattbhavesh91/k_means_iris_dataset/blob/master/K_in_K_means_Clustering.ipynb Describe the solution steps of the python program. See exercise E10.3	Pfeifer& Bleicher: x / Lagner& Bürner: x / Braun & Walz: x
DW-PD06	**Image-Classif. with MNIST Data using KNIME (ex. E10.4)**	Rebuild the complete KNIME Workflow (use given workflow) of Exercise E10.4 for Image-Classification and give technical explanations to the solution steps. Use the information from the KNIME documentation. Formulate and explain your own insights. See also exercise E10.4	- / -: x