Data Analyst Training Program Curriculum

Name of the education institution

BCS Koolitus AS (hereinafter BCS Koolitus).

1. Name of the curriculum

"Data Analyst Training Program"

2. Curriculum group and basis for curriculum development

CURRICULUM GROUP: 0613 Software and application development and analysis.

BASIS FOR COMPILING THE CURRICULUM: There is no professional standard or competence profile of data analyst in Estonia. This curriculum is based on the Junior Software Developer Professional Standard, OSKA in ICT Reports the requirements for data processing and data analytics specialists, international sources for supplemental, professional and on higher education data analyst curricula.

3. Objective and learning outcomes

The Objective of the retraining program is to equip participants with data analyst skills. Learners who have successfully passed the program are able to start working as a data analyst in the future.

LEARNING OUTCOMES:

Person who has successfully completed the training**:**

1. has knowledge of statistics and data analysis and is able to carry out data analysis projects in various fields, including defining problems related to data analysis, assessing the suitability of various possible methods for collecting and analyzing data, pre-processing data, including replacing missing values, and cleaning and enriching data.
2. has knowledge and skills of the most important data analysis tools (for example, Excel, Tableau, R) and is able to apply them in his work throughout the scope of the data analysis project (collecting, processing, analyzing data)
3. has at least an elementary level of knowledge of the R programming language and is able to analyze and visualize data using it
4. knows how to work with SQL databases and use the SQL query language to create databases and tables, add data, create queries and prepare data for analysis;
5. has knowledge and skills in compiling and conducting surveys
6. can interpret the results and assess their reliability
7. can visualize data and present the results, including to experts in other fields, in a form that they understand;

has knowledge of data protection and restrictions related to the use of data.

4. Target group and conditions for starting studies

THE TARGET GROUP OF THE TRAINING ARE PEOPLE WHO:

• have a serious interest in data analytics and want to start working in this field;

• are fluent in English at a level that allows them to independently understand educational materials, learn independently and formulate their thoughts.

5. Volume of study and study environment

STUDY VOLUME:

E-LEARNING	**128 AK**
Independent work	**128 AK**
Face to face meetings with lecturer	**8 AK**
Total hours	**264 AK (14 weeks)**

LEARNING ENVIRONMENT:

The training is based on the Data Analytics Professional Certification created by Google on the Coursera training platform. It includes 8 different e-learning courses in English. The training program is mostly aimed at people who have not previously encountered the field of data analytics. More information: https://www.coursera.org/professional-certificates/google-data-analytics

In this training programme, these eight modules have been combined into six modules. Every learner is additionally granted to 8 academic hours of group meetings with the lecturer.

Meetings with the lecturer take place online. Upon successful completion of the course, the learners will receive certificate (certification) of completion of the course.

6. Description of educational materials

E-COURSE AND CONTENT

Module 1 INTRODUCTION INTO THE TOPIC

LEARNING OUTCOMS OF THE MODULE:	• Can define problems related to data analysis (relationship with learning outcome 1) • Has knowledge of statistics and data analysis (relationship with learning outcome 1) • Has knowledge of data analysis tools (relation to learning outcome 2) • Can define problems related to data analysis (relationship with learning outcome 1) • Can assess the suitability of various possible methods for collecting and analysing data (relation to learning outcome 1)

	COURSE MODULES TO BE COMPLETED 1. Foundation: Data, Data, Everywhere https://www.coursera.org/learn/foundationsdata?specialization=google-data-analytics 2. Ask Questions to Make Data Driven Decisions https://www.coursera.org/learn/askquestions-make-decisions?specialization=google-data-analytics

Module 2 DATA FINDING, RECEIPT, PREPARATION AND CLEANUP

LEARNING OUTCOMES OF THE MODULE:	• Understands how to work with SQL databases (relationship with learning outcome 4) • Has knowledge of data protection and restrictions related to the use of data (relation to learning outcomes 8) • Can replace data, including missing values, and clean and enrich the data (relationship learning outcome 1) • Can use the SQL query language to create databases and tables, add data, create queries, and prepare data for analysis (relation to learning outcome 4) **COURSE MODULES TO BE COMPLETED** 1. Prepare Data for Exploration https://www.coursera.org/learn/datapreparation?specialization=google-data-analytics 2. Process Data from Dirty to Clean https://www.coursera.org/learn/processdata?specialization=google-data-analytics

Module 3 THE ESSENCE OF ANALYSIS

LEARNING OUTCOMES OF THE MODULE:	• Can carry out data analysis projects in different fields (relationship with learning outcome 1) • Can interpret the results and assess their reliability (relation to learning outcomes 6) **COURSE MODULES TO BE COMPLETED** 1. Analyse Data to Answer Questions https://www.coursera.org/learn/analyzedata?specialization=google-data-analytics

Module 4 VISUALIZATION

LEARNING OUTCOMES OF THE MODULE:	• Has skills to use the most important data analysis tools (e.g. Tableau) and knows how to apply them in a real lire throughout the data analysis project (while collecting data, processing data, analysing data) (relation to learning outcome 2) • Can present the results by visualising data to various audience - including to experts in other fields, in a form they understand (relation to learning outcome 7) **COURSE MODULES TO BE COMPLETED** 1. Share Data Through the Art of Visualization https://www.coursera.org/learn/visualizedata?specialization=google-data-analytics

Module 5 FREEWARE SOFTWARE R

LEARNING OUTCOMES OF THE MODULE:	• Has a basic level of knowledge of the R programming language (relation to learning outcome 3) • Has skills from the most important data analysis tools (e.g. R) and knows how to use them in his or her work by implementing it throughout the data analysis project (while collecting data, processing data, analysing data) (relation to learning outcome 2) • Can analyse and visualize data with R (relation to learning outcome 3) **COURSE MODULES TO BE COMPLETED** 1. Data Analysis with R Programming https://www.coursera.org/learn/data-analysisr?specialization=google-data-analytics

Module 6 SURVEYS

LEARNING OUTCOMES OF THE MODULE:	• Has knowledge and skills in compiling and conducting surveys (relation to learning outcomes 5) **COURSE MODULES TO BE COMPLETED** 1. Google Analytic Capstoner https://www.coursera.org/learn/google-data-analyticscapstone?specialization=google-data-analytics

	2. The module includes a lecture with a lecturer on topic Estonian law on personal data protection and data protection legislation and principles.

STUDY METHODS:

- e-course video lectures

- e-course practice tasks

- online lectures

EDUCATIONAL MATERIALS:

The main educational materials are videos and digital materials.

7. Assessment, i.e. conditions for completion of studies

The assessment of learning progress is carried out in a digital environment:

– Completion of compulsory e-courses of at least 80%

– Solving mandatory tasks within the framework of the e-course to the extent of at least 80%

– Participation in online webinars to the extent of at least 75%

The conditions for graduating are the acquisition of learning outcomes and participation in studies in the required volume mentioned above.

8. Documents to be issued

A graduate of the course receives a certification if one fulfils all the assessment criteria for the course. Participants who do not meet the assessment criteria will be issued, upon request, with a “certificate of participation” in the training.

9. Qualifications of trainers

The lecturers have long-term experience in the field of data analytics.

10. Language of learning

The courses and study materials taken during the training are in English.