**Annex I - Examples of skills to be covered per Lot**

The below is a list of learning topics that the ECB currently offers or intends to offer its staff members. It is a non-exhaustive list and serves as a reference point regarding the scope of L&D topics that the ECB could request under the awarded contract(s). Additional topics (not included in the list) or additional skill areas within the general umbrella of data science, computer science and ICT may be added or requested during the duration of the Contract.

It is mandatory that the Tenderers be able to provide at least 80% of the topics listed below (Per Lot) as part of their existing portfolio of courses and at differing levels i.e. beginners, intermediate, advanced, master class. This shall be a minimum requirement as part of the Request for Proposal.

**Instructions for Tenderers:**

1. Please put a tick next to all topics that you can deliver training on without in-depth analysis, design and input from the ECB either by your company or via subcontractors (if applicable)
2. If applicable i.e. for generic topics such as cybersecurity or Digital security under Lot 2, please specify exactly which sub-topics you can deliver on

**Lot 1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Machine Learning & Artificial Intelligence**  | **Big Data**  | **Programming** | **Data visualisation** | **Data preparation & processing / databases design & management** |
| □ Artificial Intelligence  | □ Big Data | □ Python fundamentals | □ Tableau Fundamentals | □ Data collection |
| □ Machine learning | □ Unstructured data | □ Python intermediate | □ Tableau Advanced | □ Data preparation |
| □ Deep learning | □ Hadoop | □ Python advanced | □ Storytelling with data | □ Data exploration |
| □ Time series analysis | □ Spark | □ R fundamentals | □ R ggplot2  | □ Data wrangling |
| □ Supervised learning | □ Web scraping | □ R intermediate | □ Rshiny | □ Data modelling |
| □ Unsupervised learning | □ MapReduce algorithm | □ R advanced | □ lattice | □ Data validation |
| □ Reinforcement learning | □ Parallel processing | □ SQL | □ Creating dashboards | □ Data analytics |
| □ Natural language processing / text mining | □ Text mining | □ MATLAB |  | □ Reporting of results |
| □ Linear algebra |  | □ Stata Fundamentals |  | □ Relational databases |
|  |  | □ EViews Fundamentals |  | □ NoSQL databases |
|  |  | □ C++ |  | □ Cloud services |
|  |  | □ Java |  | □ Quantitative analysis  |
|  |  |  |  | □ Database management |
|  □ We confirm that we can provide 80% of the above-mentioned topics listed under Lot 1. |

**Lot 2**

|  |  |  |
| --- | --- | --- |
| **ICT** |  |  |
| □ MS Office | □ MS Excel | □ MS Word |
| □ Cybersecurity | □ MS Excel - specialisations | □ MS Access |
| □ Digital communication | □ Internet browsers | □ Lumira |
| □ Digital collaboration | □ Open source | □ Ariba |
| □ Adobe captivate | □ MS PowerPoint | □ Online facilitation tools e.g. Miro |
| □ Digital leadership | □ Videoconferencing |  |
|  □ We confirm that we can provide 80% of the above-mentioned topics listed under Lot 2.  |

**If necessary, please specify the topics here or submit your documents with the list of topics:**

|  |  |
| --- | --- |
| **Topic** | **Subtopic(s)** |
|  |  |