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| Lab Code | Lab Name | Credits |
| **CSL603** | **Data Warehousing and Mining Lab 1** | **1** |

**Lab Outcome: At the end of this course students should be able to**

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| Co-code | CO |
| **CSL603.1** | 1. Design data warehouse and perform various OLAP operations. |
| **CSL603.2** | 2. Implement classification, prediction, clustering and association rule mining algorithms. |
| **CSL603.3** | 3. Demonstrate classifications, prediction, clustering and association rule mining algorithms on a given set of data sample using data mining tools. |
| **CSL603.4** | 4. Implement spatial and web mining algorithms. |

**Course Outcome: At the end of this course students should be able to**

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| Co-code | CO |
| **CSC603.1,** | Understand Data Warehouse fundamentals, Data Mining Principles |
| **CSC603.2** | Design data warehouse with dimensional modelling and apply OLAP operations |
| **CSC603.3** | Identify appropriate data mining algorithms to solve real world problems |
| **CSC603.4** | Compare and evaluate different data mining techniques like classification, prediction, clustering and association rule mining |
| **CSC603.5** | Describe complex data types wrt to special and web mining |
| **CSC603.6** | Benefit the user experiences towards research and innovation. |
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| Sr. no. | No. Title of Experiments | Course co mapping | Lab co mapping |
| 1 | Build Data Warehouse/Data Mart for a given problem statement | **CSC603.1,**  **CSC603.2** | **CSL603.1** |
| i) Identifying the source tables and populating sample data |
| ii) Design dimensional data model i.e. Star schema, Snowflake schema and Fact Constellation schema (if applicable) |
| iii) implementation of DWH for a given problem |
| 2 | To perform various OLAP operations such as slice, dice, drilldown, rollup, pivot | **CSC603.1,**  **CSC603.2** | **CSL603.1** |
| 3 | To perform data exploration and data cleaning in python /R | **CSC603.3,**  **CSC603.4** | **CSL603.2,**  **CSL603.3.** |
| 4 | Implementation of Association Rule Mining algorithm (Apriori in java/python). | **CSC603.3,**  **CSC603.4** | **CSL603.2,**  **CSL603.3.** |
| 5 | Implementation of Clustering algorithm ( K-means in java/python). | **CSC603.3,**  **CSC603.4** | **CSL603.2,**  **CSL603.3.** |
| 6 | Implementation of Linear Regression. | **CSC603.3,**  **CSC603.4** | **CSL603.2,**  **CSL603.3.** |
| 7 | Use WEKA to implement classification (Part1, Part2) | **CSC603.3,**  **CSC603.4** | **CSL603.2,**  **CSL603.3** |
| 8 | Implement spatial and web mining algorithms. | **CSC603.5,**  **CSC603.6** | **CSL603.4,** |
| 9 | |  | | --- | | Use WEKA to implement Association Mining and Clustering algorithm | | **CSC603.5,**  **CSC603.6** | **CSL603.3** |
| 10 | Implementation of classification algorithms | **CSC603.3,**  **CSC603.4** |  |
| 11 | Mini project/Case study | **CSC603.6** | **All** |
| **Assignments** | | | |
| 11 | **Assignment1-Data ware housing** | **CSC603.1,**  **CSC603.2** |  |
| 12 | **Assignment2-Data Exploration** | **CSC603.3,**  **CSC603.4** |  |
| 13 | **Assignment3-DM Algorithms** | **CSC603.3,**  **CSC603.4** |  |
| 14 | **Assignment4-Social mining** | **CSC603.5** |  |

**List of Experiments**