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| **Name of the program:** | MSc program in Applied Statistics | | | | | |
| **Department:** | Department of Statistics | | | | | |
| **Semester/Year/Intake** | Semester 2/Year2/2020 | | | | | |
| **Year:** | 2022 | | | | | |
| **Course Code:** | STA 529 2.0 | | | | | |
| **Course Name:** | Data Mining | | | | | |
| **Credit Value:** | 2.0 | | | | | |
| **Core/Optional** | Core | | | | | |
| **Hourly Breakdown** | **Theory** | | **Practical** | | **Independent Learning** | |
| 20 | | 10 | | 70 | |
| Course Aim/Intended Learning Outcomes:  At the completion of this course student will be able to   * Apply suitable classification/regression techniques to solve a given problem * Validate the model fitted using a suitable method * Extract important association rules from a given dataset * Extract important rules across time/position from a given dataset * Extract patterns from a large unstructured text data | | | | | | |
| Course Content: (Main topics, Sub topics)   * Introduction to Data Mining * Classification and Regression Methods in Data Mining   K-Nearest Neighbour, Linear and Quadratic Discriminant Analysis, Decision Trees, Bagging, Random Forest, Boosting, Support Vector Machine   * Model validation   K-fold Cross validation, ROC Analysis, Contingency Table Based Measures   * Association Rule Mining * Introduction to Text Mining | | | | | | |
| **Teaching /Learning Methods:** Lectures and student-centered teaching learning methods  **Mode of Delivery:**  All lectures will be delivered using online teaching methods till the university grants permission to conduct face-to-face lectures for postgraduate students. | | | | | | |
| Assessment Strategy: | | | | | | |
| Continuous Assessment  30% | | Final Assessment  70% | | | | |
| Details: quizzes %, mid-term %, other % (specify)  0 % 100% 0% | | Theory (%)  50% | | Practical (%)  50% | | Other (%)(specify)  0 |
| References/Reading Materials:   * Data Mining and Analysis: Fundamental Concepts and Algorithms, Mohommed J. Zaki, Wagner Meira Jr. Cambridge University Press New York, NY, USA * Data Mining Concepts and Techniques 3rd Edition, Jiawei Han, Micheline Kamber, Jian Pei, Morgan Kaufmann Publishers 225Wyman Street,Waltham, MA 02451, USA * R and Data Mining: Examples and Case Studies Yanchang Zhao http://www.RDataMining.com | | | | | | |