University of Colombo

Faculty of Science/ Department of Statistics

Course Detail Document

Course Code:	DA 2011		**Course Name:**	Machine Learning I		
Lecturers:	Dr. Deshanee Wickramarachchi | Ms. Naethree Premnath					
Year:	2	**Semester:**	2	**No. Of Credits**	2	**Core/~~Optional~~**
Evaluation Criteria	**Assignments (%):**	100%				
	Final Exam (%):	-				
Pre-requisites	None					

Method of Delivery	**Total**
Theory	20 hours
Practical	20 hours
Self Study	60 hours

Course Definition

Course Aim/Intended Learning Outcomes	After the successful completion of the course, students will be able to ● CLO1: ***demonstrate*** awareness of fundamental concepts in machine learning related prediction problems ● CLO2: ***identify*** and ***apply*** suitable machine learning tools and concepts to solve prediction problems ● CLO3: ***validate***, ***interpret*** and ***communicate*** the findings effectively ● CLO4: ***demonstrate*** independent learning skills, teamwork skills, and other social skills
Assessment Plan	4 quizzes-10%, group project-30%, individual reports-20%, lab assignments-40%
References/Reading Materials	● James, G., Witten, D., Hastie, T., & Tibshirani, R. (2021). An introduction to statistical learning (2nd ed). New York: springer. ● Friedman, J., Hastie, T., & Tibshirani, R. (2001). The elements of statistical learning. New York: Springer series in statistics.

Week	**Topic**
1	Introduction to Machine Learning
2	Simple Linear Regression and Inference
3	Multiple Linear Regression: Feature Selection and Model Building
4	Decision Trees
5	Regularization and Shrinkage Methods
6	Ensemble Learning
7	Handling Practical Issues
8	K-Nearest Neighbors (KNN) Regression