Yale-NUS Module Brief - Additional Information for Students

Note:

Please note that the information in this brief is tentative as instructor could be in the ongoing process of developing or refining their module details.

Module Code and Title	**YSC4224 Data Science Accelerator**
Module Description *The 100 word course description from Course Catalogue will be made available to students. Please provide **additional** information if you wish.*	Data science methods from Mathematics, Statistics and Computer Science. Data Science has also gained a driving seat in many aspects of business, particularly in the way it can support decision making at executive levels. In this course, we build on YSC2239 Introduction to Data Science to understand how Analytics, Inferential and Machine Learning methods find applications in business contexts, we build hands-on experience to learn how the context influence the data scientists thought process and workflow, with the objective to find data science solutions that are useful and practical.
Learning Objectives	1. Use exploratory data analysis to quickly and effectively identify the key questions to answer to have an effective data science decision. 2. Select the appropriate data science flow for the specific problem to solve, avoiding common pitfalls. 3. Execute analytics, inferential and machine learning modelling steps appropriately, accurately and timely. 4. Present the results in a storytelling mode, highlighting the applicability to the business problem, avoiding technical jargon. 5. Select and configure data science models in an ethical and unbiased manner, with a strong awareness of data privacy and ethical concepts.
Modes of Learning & Teaching *Please provide details of the learning activities learners will participate in etc.*	Readiness assessments, lectures, application exercises, labs assignments, problem sets and a project.
Assessment Criteria *Please provide details of the assessment methods or what proportion of the overall grade is composed by each component of assessment*	Attendance & participation 10% Problem sets 10% Readiness assessments 10% Project 15% Peer evaluation 5% Midterm exam 1 15% Final exam 35%
Required Reading List	Data science & big data analytics : discovering, analyzing, visualizing, and presenting data EMC Education Services *ISBN 9781119183686* Available from the library at https://linc.nus.edu.sg/record=b3710190

Reading List (additional/supplementary)	Data Mining with Rattle and R *Graham Williams* Springer Science+Business Media, LLC 2011 e-ISBN 978-1-4419-9890-3 http://users.umiacs.umd.edu/~oard/teaching/301/spring16/readings/Williams.pdf The Essentials of Data Science. Knowledge Discovery Using R. *Graham J. Williams* Taylor & Francis, CRC Press, 2017. ISBN: 9781498740005 Available from the library at https://tinyurl.com/y5dhoyq2 . Forecasting: Principles and Practice *Rob J. Hyndman* and George Athanasopoulos ISBN 978-0-9875071-1-2 https://otexts.com/fpp3/
Any other Information	
Instructor Profile & Contact *Please provide brief profile and email contact if instructor's profile info is not available on Yale-NUS Website -Faculty.*	https://www.linkedin.com/in/giuseppemanai