Sesi Akademik *Academic Session*	2022/2023
Semester/Penggal *Semester/Term*	2
Kod Kursus *Course Code*	WQD7001
Tajuk Kursus *Course Title*	Prinsip Sains Data *Principles of Data Science*
Bahasa Pengantar *Medium of Instruction*	Bahasa Inggeris *English*
Rujukan Utama *Main Reference*	1. Chirag Shah (2020), A Hands-On Introduction to Data Science, Cambridge University Press. 2. Longbing Cao (2018), Data Science Thinking, Springer International Publishing. 3. Mike Loukides, Hilary Mason, DJ Patil (2018), Ethics and Data Science, O'Reilly Media, Inc. 4. Hadley Wickham and Garrett Grolemund (2016). R for Data Science, O'Reilly Media, Inc.
Strategi Pembelajaran *Learning Strategies*	Kuliah Tutorial Projek Berkumpulan *Lecture* *Tutorial* *Group Project*
Masa Pembelajaran Pelajar *Student Learning Time*	Bersemuka / *Face to face* : 37.5 jam / hours Tidak Bersemuka / *Non Face to face*: 10 jam / hours Masa Persediaan Pelajar / *Student Preparation Time*: 72.5 jam / hours
Kemahiran Boleh Pindah Transferable Skills	Pemikiran analitik data / *Data analytic thinking* Pembuatan keputusan / *Decision making* Memahami data / *Making sense of data*
Pensyarah / *Lecturer* Bilik / *Room* Telefon/e-mel *Telephone/e-mail*	Dr. Rohana Mahmud (Coordinator and Group 1) Associate Professor Dr. Norisma Idris (Group 2) B-3- 11, Block B, FCSIT 03-79676341 / rohanamahmud@um.edu.my 03- 79676375 / norisma@um.edu.my
Sesi Kuliah / *Lecture Session:*	Kuliah Bersemuka (Kumpulan 1 dan Kumpulan 2) - 8 minggu *Kuliah dalam talian (Microsoft Teams platform – Group 1, 2) – 4 minggu* Kuliah Tidak Segerak/Rakaman (Kumpulan 1, 2) – 2 minggu *Lecture Face2Face (Group 1* and Group 2) – 8 weeks *Online lecture (Microsoft Teams platform – Group 1, 2) – 4 weeks* *Asynchronous/Recorded Lecture (Group 1, 2)- 2 weeks*

Hari/Masa / *Day/Time* Tempat / *Venue*	Group 1 - Isnin *Monday* (6 – 8 pm) Group 2 - Rabu *Wednesday* (6 – 8 pm) DK2, Block B, FCSIT (Group 1, Group 2 – face2face mode) Dalam talian di MS-Teams / *Online on MS-Teams – nonface2face mode)*
Sesi Tutorial: *Tutorial Session:* Hari/Masa / *Day/Time* Tempat / *Venue*	Tutorial Bersemuka (Kumpulan 1 dan Kumpulan 2) - 9 minggu Tutorial dalam Talian (Pelantar Microsoft Teams, Kumpulan 1,2) – 2 minggu Tutorial tidak segerak/rakaman (Kumpulan 1,2) – 2 minggu *Tutorial Face2Face (Group 1*and Group 2) – 9 weeks Online Tutorial (*Microsoft Teams platform,* Group 1, 2, 3)- 2 weeks *Asynchronous/Recorded Tutorial (Group 1, 2)- 2 weeks* Group 1 - Isnin *Monday* (8 – 9 pm) Group 2 - Rabu *Wednesday* (8 - 9 pm) DK2, Blok B, FSKTM (Group 1, Group 2) Dalam talian di MS-Teams / *Online on MS-Teams (Group 1,2)*
Perincian Pemberatan Penilaian *Detail of Assessment Weightage*	Penilaian Berterusan / *Continuous Assessment* : 60% ● Laporan dan Pembentangan Projek Berkumpulan *Group Project Report and Presentation* (40%) ● Peperiksaan Pertengahan Semester Dalam Talian *Online Mid-Sem Exam* (20%) An Online Alternative Assessment: 40% • Alternative Assessment 1 (20%) • Alternative Assessment 2 (20%)

Jadual Pengajaran / *Teaching Schedule*

Minggu *Week*	Topik & Aktiviti *Topic & Activities*	Rujukan *References*
1 13-3-2023 (G1) 15-3-2022 (G2)	Introduction & Overview of Data Science Tutorial 1 • Self-Introduction (via Online Padlet's Portfolio)	Slides and learning materials on SPECTRUM / Microsoft Teams
2 20-3-2023 (G1) 22-3-2023 (G2)	Big Data and Data Driven Tutorial 2	Slides and learning materials on SPECTRUM / Microsoft Teams
3 27.3.2023 (G1) 29-3-2023 (G2)	Think likes a Data Scientist & Ethics Tutorial 3 (Online Mode – Via MS Team) • Ethical Course (Proof of Completion)	Slides and learning materials on SPECTRUM / Microsoft Teams
4 3-4-2023 (G1) 5-4-2023 (G2)	Asking Questions & Getting the Data Tutorial 4 (Online Mode – Via MS Team) • Group Formation & Project's Brainstorm	Slides and learning materials on SPECTRUM / Microsoft Teams
5 10-4-2023 (G1) 12-4-2023 (G2)	(Online Mode – Asynchronous mode: recorded) Data Preparation – clean it! Tutorial 5	Slides and learning materials on SPECTRUM / Microsoft Teams
6 17-4-2023 (G1) 19-4-2023 (G2)	(Online Mode – Via MS Team) Exploratory Data Analysis Tutorial 6	Slides and learning materials on SPECTRUM / Microsoft Teams
24 – 30 April 2023	**Semester Break (1 week)**	*Have a nice Raya break!*
7 1-5-2023 (G1)- PH, replace on Friday, 5-5-23 03-5-2023 (G2)	(Asynchronous/recorded mode) Statistical Learning Tutorial 7	Slides and learning materials on SPECTRUM / Microsoft Teams
8 8-5-2023 (G1) 10-5-2023 (G2)	(Asynchronous/recorded mode) Machine Learning Tutorial 8 • **MID SEMESTER EXAM (20%)**	Slides and learning materials on SPECTRUM / Microsoft Teams
9 15-5-2023(G1) 17-5-2023 (G2)	Unstructured Data – Text Analytic Tutorial 9 **GROUP PROJECT – GP1: Proposal (20%)**	Slides and learning materials on SPECTRUM / Microsoft Teams Statistical Advisor

10 22-5-2023 (G1) 24-5-2023 (G2)	Data Products Tutorial 10 ****ALTERNATIVE ASSESSMENT 1 (20%)**	Slides and learning materials on SPECTRUM / Microsoft Teams
11 29-5-2023 (G1) 31-5-2023 (G2)	Reproducible Research (RR) Tutorial 11	Slides and learning materials on SPECTRUM / Microsoft Teams
12 5-6-2023 (G1) 7-6-2023 (G2)	Data Visualization & Data Storytelling Tutorial 12	Slides and learning materials on SPECTRUM / Microsoft Teams
13 12-6-2023 (G1) 14-6-2023 (G2)	Current Issues & Challenges facing Data Science Tutorial 13 **GROUP PROJECT – GP2: Data Product (20%)**	Slides and learning materials on SPECTRUM / Microsoft Teams
14 19-6-2023 (G1) 21-6-2023 (G2)	Summary and Revision ****ALTERNATIVE ASSESSMENT 2 (20%)**	Slides and learning materials on SPECTRUM / Microsoft Teams Assessment Rubrics

The FINAl EXAM for this semester is set as an **ONLINE ALTERNATIVE ASSESSMENT (AA1 and AA2) : 40% and will be held in Week 10 and Week 13.