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| Sesi Akademik  *Academic Session* | 2024/2025 |
| Semester/Penggal  *Semester/Term* | 1 |
| Kod Kursus  *Course Code* | WQD 7005 |
| Tajuk Kursus  *Course Title* | *Data Mining* |
| Bahasa Pengantar  *Medium of Instruction* | Bahasa Inggeris  *English* |
| Rujukan Utama  *Main Reference* | 1. Han, J., Kamber, M., & Tong, H. (2022). Data mining: Concepts and techniques (4th ed.). Morgan Kaufmann Publishers.. 2. Leskovec, J., Rajaraman, A., & Ullman, J. (2020). Mining of massive datasets (3rd ed.). Cambridge University Press. 3. Géron, A. (2019). Hands-on machine learning with Scikit-Learn, Keras, and TensorFlow: Concepts, tools, and techniques to build intelligent systems (2nd ed.). O'Reilly Media. |
| Strategi Pembelajaran  *Learning Strategies* | Kuliah, tutorial dan makmal  *Lecture, tutorial and lab* |
| Masa Pembelajaran Pelajar  *Student Learning Time* | Bersemuka / *Face to face* : 26  Tidak Bersemuka / *Non Face to face*: 28  Masa Persediaan Pelajar / *Student Preparation Time*: 106 |
| Kemahiran Boleh Pindah Transferable Skills | Problem solving using data mining techniques, result evaluation skills, and analysis/logical skills. |
| Pensyarah / *Lecturer* Bilik / *Room* Telefon/e-mel *Telephone/e-mail* | Prof Dr Nor Liyana Mohd Shuib (G1)  Email: [liyanashuib@um.edu.my](mailto:liyanashuib@um.edu.my)  Room: Block B  Prof Dr Teh Ying Wah(G2) Email: [tutut@um.edu.my](mailto:tutut@um.edu.my) Room: Block A-3-21 |
| Sesi Kuliah / *Lecture Session:* Hari/Masa / *Day/Time* Tempat / *Venue* | G1 Thursday, 18.00 – 20.00, DK1  G2 Saturday, 15.00 – 17.00, DK2 |
| Sesi Tutorial/Amali: *Tutorial/Practical Session:* Hari/Masa / *Day/Time* Tempat / *Venue* | G1 Thursday, 20.00 – 21.00, MM4  G2 Saturday, 17.00 – 18.00, MM3 |
| Perincian Pemberatan Penilaian  *Detail of Assessment Weightage* | Penilaian Berterusan / *Continuous Assessment* : 50%   * Individual Assignment – 15 % (Week 7) * Test – 10% (Week 8) * Group Project – 25% (Week 14)   Peperiksaan Akhir / *Final Examination* : 50%  Alternative Assessment - TBC |

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Jadual Pengajaran / Teaching Schedule for Group 1 & 2

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| Minggu  *Week* | Topik & Aktiviti  *Topic & Activities* | Rujukan  *References* |
| 1 | *Introduction to Data Mining* | Han, J., Kamber, M., & |
|  | Lecture / Tutorial | Tong, H. (2022) |
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| 2 | *Understanding the SEMMA Methodology in Modern Data Mining* | Han, J., Kamber, M., & |
|  | Lecture / Tutorial | Tong, H. (2022) |
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| 3 | *Introduction to Data Warehousing* | Han, J., Kamber, M., & |
|  | Lecture / Tutorial | Tong, H. (2022) |
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| 4 | *Modern Data Warehouse Planning and Design in the Cloud Era* | Han, J., Kamber, M., & |
|  | Lecture / Tutorial | Tong, H. (2022) |
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| 5 | *Modern Data Warehouse Architecture and Infrastructure: Cloud and Hybrid Approaches*  Lecture / Tutorial | Han, J., Kamber, M., & Tong, H. (2022) |
| 6 | *Modern Data Quality Management with Talend Prep & Emerging Technologies - Leveraging AI, Cloud, and Automation for Enhanced Data Quality* | Han, J., Kamber, M., & |
|  | Lecture / Tutorial | Tong, H. (2022) |
| 7 | *SAS Enterprise Miner: Imputing Missing Values File* | Han, J., Kamber, M., & |
|  | Lecture / Tutorial | Tong, H. (2022) |
|  | Individual Assignment – 15 % |  |
|  | Mid Semester I Break |  |
| 8 | *Continuous Assessment: Mid Term Test (10%)* | Han, J., Kamber, M., & |
|  | Tutorial | Tong, H. (2022) |
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| 9 | *Decision Trees with SAS Enterprise Miner*  Lecture / Tutorial | Han, J., Kamber, M., & Tong, H. (2022) |

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| 10 | *Association Rule*  Lecture / Tutorial | Han, J., Kamber, M., & Tong, H. (2022) |
| 11 | *Sequence Analysis with SAS Enterprise Miner*  Lecture / Tutorial | Han, J., Kamber, M., & Tong, H. (2022) |
| 12 | *Time-series Clustering*  Lecture / Tutorial | Han, J., Kamber, M., & Tong, H. (2022) |
| 13 | *DBSCAN (Density-Based Spatial Clustering of Applications with Noise)*  *Lecture / Tutorial* | Han, J., Kamber, M., & Tong, H. (2022) |
| 14 | Revision  Lecture / Tutorial  Group Project – 25% (Week 14) | Han, J., Kamber, M., & Tong, H. (2022) |