

 <p>SESSION 2022/2023 SEMESTER II</p>	BACHELOR OF APPLIED SCIENCE IN DATA ANALYTICS WITH HONOURS
	GROUP PROJECT FOR ELECTIVE COURSES
	<p>TIMELINE</p> <p>Group Project Report: 8 May 2023 (Week 8) to 25 June 2023 (Week 14) Report submission: 26 June 2023 (Google Form) Group Project Presentation: 3-7 July 2023 (Week 16) online</p>

GROUP PROJECT OBJECTIVES:

The Group Project is a collaborative assessment, a hybrid of the formative and summative assessments. The objectives of this Group Project are to develop students' critical skills (PLO2), practical skills (PLO3), and affective skills such as teamwork (PLO4) or communication (PLO5). The students should be able to convey the knowledge and skills acquired from all three (3) Elective Courses in the Group Project. Moreover, the students are also expected to work efficiently in group that consists of students who have been placed at similar industry or company. The students should gain learning experience on how to make a comprehensive document for transmitting and deliver information based on real-world industrial issues. The Group Project should be logically structured, well-researched, and well-written. Any appropriate Data Science and Analytics tools and softwares can be used to conduct the analysis.

Programme Learning Outcome (PLO) and MQF mapping of Elective Courses

PLO	Description	MQF Mapping
PLO2	Able to develop analytical and critical thinking by utilising Data Analytics knowledge in solving various problems.	Cognitive Skills and Functional work skills with a focus on Numeracy skills
PLO3	Able to design, implement and manage data resources using various Data Analytics technologies.	Functional work skills with a focus on Practical and Digital skills.
PLO4	Able to show interpersonal and social skills.	Functional work skills with a focus on Interpersonal skills
PLO5	Able to communicate ideas in appropriate forms, various mediums, and to a range of audiences in different situations effectively.	Functional work skills with a focus on Communication skills.
PLO7	Able to show enthusiasm, independent learning, intellectual, self-control, confidence, and professionalism in completing the task.	Personal skill.

The list of Elective Courses and PLO Mapping

No.	Industry Name	Industry Coach	Student Name	Elective Course	Lecturers
1	Talent Corporation Malaysia Berhad	En. Ahmad Syukri Bin Muhammad @ Mohamed	<ol style="list-style-type: none"> SD20018 Yap Kah Hui SD20060 Hafiz Hakimi Bin Mohd Rasani 	<ul style="list-style-type: none"> BSD4463 Time Series Analysis (PLO2, PLO3, PLO4) BSD4623 Decision Analysis (PLO2, PLO3, PLO5, PLO7) BSD4453 Multivariate Data Analysis (PLO2, PLO3, PLO4, PLO7) 	<ul style="list-style-type: none"> Dr. Noratikah Abu Dr. Adam Shariff Adli Aminuddin Dr. Sahimel Azwal Sulaiman
2	Telekom Malaysia Berhad	Pn. Shamniza Azreen Shahudin	<ol style="list-style-type: none"> SD20038 Arisha Afini Binti Amran SD20041 Qiryn Adriana Binti Kharul Zaman SD20055 Nurul Farhanah Binti Isha 	<ul style="list-style-type: none"> BSD4453 Multivariate Data Analysis (PLO2, PLO3, PLO4, PLO7) BSD4463 Time Series Analysis (PLO2, PLO3, PLO4) BSD4623 Decision Analysis (PLO2, PLO3, PLO5, PLO7) 	<ul style="list-style-type: none"> Dr. Sahimel Azwal Sulaiman Dr. Noratikah Abu Dr. Adam Shariff Adli Aminuddin
		En. Mohd Zaid Waqiyuddin Bin Mohd Zulkifli	<ol style="list-style-type: none"> SD20039 Muhammad 'Arif Bin Mohd Anuwa SD20040 Soon Kien Yuan SD20044 Nur Aishah Binti Mohd Rahim 	<ul style="list-style-type: none"> BSD4543 Deep Learning (PLO2, PLO3, PLO5, PLO7) BSD4663 Geographical Information System (PLO2, PLO3, PLO5, PLO7) BSD4643 Econometrics (PLO2, PLO3, PLO4, PLO7) 	<ul style="list-style-type: none"> Dr. Nor Azuana Ramli Dr. Mohd Khairul Bazli Mohd Aziz Dr. Siti Roslindar Yaziz
3	Cardas Research & Consulting Sdn Bhd (CRCG)	En. Jim Chong	<ol style="list-style-type: none"> SD20001 Nur Ra ' Izzati Binti Zahari SD20004 Nurain Binti Abdul Ghafar SD20047 Loke Jia Jin SD20065 Muhammad Isyhrif Bin Azmin 	<ul style="list-style-type: none"> BSD4453 Multivariate Data Analysis (PLO2, PLO3, PLO4, PLO7) BSD4463 Time Series Analysis (PLO2, PLO3, PLO4) BSD4543 Deep Learning (PLO2, PLO3, PLO5, PLO7) 	<ul style="list-style-type: none"> Dr. Sahimel Azwal Sulaiman Dr. Noratikah Abu Dr. Nor Azuana Ramli
4	Cybersecurity Malaysia (CSM)	Ts. Mohammad Zaharudin Ahmad Darus	<ol style="list-style-type: none"> SD20002 Nurul Azian Binti Mohd Basharudin SD20033 Hafiz Asyraaf Bin Ghani 	<ul style="list-style-type: none"> BSD4463 Time Series Analysis (PLO2, PLO3, PLO4) BSD4453 Multivariate Data Analysis (PLO2, PLO3, PLO4, PLO7) BSD4673 Risk Analysis (PLO2, PLO3, PLO4, PLO7) 	<ul style="list-style-type: none"> Dr. Noratikah Abu Dr. Sahimel Azwal Sulaiman Dr. Noryanti Muhammad
		En. Nazri Ahmad Zamani	<ol style="list-style-type: none"> SD20024 Shaesta Khan Binti Sheh Rahman SD20035 Yang Nur Azizah Binti Mohd. Kamarulzaman 		

		Puan Nurul Husna Mohamad Nor Hazalin	5. SD20027 Syarifah Nabilah Syahirah Binti Syed Abd Wahab 6. SD20057 Sri Veera Siva Thachayaani A/P Vesvanathan	<ul style="list-style-type: none"> • BSD4463 Time Series Analysis (PLO2, PLO3, PLO4) • BSD4663 Geographical Information System (PLO2, PLO3, PLO5, PLO7) • BSD4543 Deep Learning (PLO2, PLO3, PLO5, PLO7) 	<ul style="list-style-type: none"> • Dr. Noratikah Abu • Dr. Mohd Khairul Bazli Mohd Aziz • Dr. Nor Azuana Ramli
5	Abyres Enterprise Technologies Sdn Bhd	En. Mohd Izhar Firdaus Bin Ismail	1. SD20009 Siti Nur Aisyah Binti Anuar 2. SD20019 Leong Teng Man 3. SD20028 Muhammad Farhad Bin Khaharruddin 4. SD20059 Nur Aida Izzati Binti Kamarulazua	<ul style="list-style-type: none"> • BSD4463 Time Series Analysis (PLO2, PLO3, PLO4) • BSD4673 Risk Analysis (PLO2, PLO3, PLO4, PLO7) • BSD4543 Deep Learning (PLO2, PLO3, PLO5, PLO7) 	<ul style="list-style-type: none"> • Dr. Noratikah Abu • Dr. Noryanti Muhammad • Dr. Nor Azuana Ramli
6	Suruhanjaya Syarikat Malaysia (SSM)	En. Wan Zarazillah Bin Wan Abu Bakar	1. SD20008 Sarah Batrisyia Binti Morshidi 2. SD20046 Thurgashini A/P Maheswaran 3. SD20050 Putri Arina Binti Slamet	<ul style="list-style-type: none"> • BSD4453 Multivariate Data Analysis (PLO2, PLO3, PLO4, PLO7) • BSD4463 Time Series Analysis (PLO2, PLO3, PLO4) • BSD4643 Econometrics (PLO2, PLO3, PLO4, PLO7) 	<ul style="list-style-type: none"> • Dr. Sahimel Azwal Sulaiman • Dr. Noratikah Abu • Dr. Siti Roslindar Yaziz
7	Najeehah International Sdn. Bhd	Puan Nur Azlin Erna Saudi	1. SD20023 Nur Amira Asyikin Binti Azlan 2. SD20056 Muhammad Izat Esamuddin Bin Awang Lah	<ul style="list-style-type: none"> • BSD4463 Time Series Analysis (PLO2, PLO3, PLO4) • BSD4643 Econometrics (PLO2, PLO3, PLO4, PLO7) • BSD4453 Multivariate Data Analysis (PLO2, PLO3, PLO4, PLO7) 	<ul style="list-style-type: none"> • Dr. Noratikah Abu • Dr. Siti Roslindar Yaziz • Dr. Sahimel Azwal Sulaiman
8	Ever AI Holdings Sdn Bhd	En. Chong Teik Wei	1. SD20016 Connie Lee Wai Yan 2. SD20022 Nik Nur Ain Binti Nik Jid 3. SD20058 Khairul Imran Bin Jamalullail	<ul style="list-style-type: none"> • BSD4453 Multivariate Data Analysis (PLO2, PLO3, PLO4, PLO7) • BSD4463 Time Series Analysis (PLO2, PLO3, PLO4) • BSD4543 Deep Learning (PLO2, PLO3, PLO5, PLO7) 	<ul style="list-style-type: none"> • Dr. Sahimel Azwal Sulaiman • Dr. Noratikah Abu • Dr. Nor Azuana Ramli
9	Quandatics Academy Sdn Bhd	Dr. Simon Lau Boung Yew	1. SD20010 Nur Syaza Damia Binti Ahmad Sufian 2. SD20017 Aryssa Aqilah Binti Hamizul	<ul style="list-style-type: none"> • BSD4453 Multivariate Data Analysis (PLO2, PLO3, PLO4, PLO7) • BSD4463 Time Series Analysis (PLO2, PLO3, PLO4) 	<ul style="list-style-type: none"> • Dr. Sahimel Azwal Sulaiman • Dr. Noratikah Abu

			3. SD20030 Tan Wei Qing	<ul style="list-style-type: none"> • BSD4543 Deep Learning (PLO2, PLO3, PLO5, PLO7) 	<ul style="list-style-type: none"> • Dr. Nor Azuana Ramli
10	Myspatial Sdn Bhd	Gs. Wan Mohd Rozaimi Bin Wan Mustafa	1. SD20013 Muhammad Akram Bin Mohamad A'sim 2. SD20025 Eiffel Syafhamka Nadimen A/L Syamsul 3. SD20051 Aiman Fithri Bin Tharmizi	<ul style="list-style-type: none"> • BSD4543 Deep Learning (PLO2, PLO3, PLO5, PLO7) • BSD4623 Decision Analysis (PLO2, PLO3, PLO5, PLO7) • BSD4663 Geographical Information System (PLO2, PLO3, PLO5, PLO7) 	<ul style="list-style-type: none"> • Dr. Nor Azuana Ramli • Dr. Adam Shariff Adli Aminuddin • Dr. Mohd Khairul Bazli Mohd Aziz
11	TT Electronics	Dr. Kamarulzaman bin Mahmad Khairai	1. SD20003 Muhammad Amir Bin Aminuddin 2. SD20006 Aizat Haikal Bin Apandi	<ul style="list-style-type: none"> • BSD4623 Decision Analysis (PLO2, PLO3, PLO5, PLO7) • BSD4463 Time Series Analysis (PLO2, PLO3, PLO4) • BSD4673 Risk Analysis (PLO2, PLO3, PLO4, PLO7) 	<ul style="list-style-type: none"> • Dr. Adam Shariff Adli Aminuddin • Dr. Noratikah Abu • Dr. Noryanti Muhammad
12	I Net Spatial Sdn. Bhd.	En. Sr. Mohd Radhie Bin Mohd Salleh	1. SD20042 Wan Maisarah Binti Wan Alias 2. SD20036 Ng Jie Hao	<ul style="list-style-type: none"> • BSD4663 Geographical Information System (PLO2, PLO3, PLO5, PLO7) • BSD4543 Deep Learning (PLO2, PLO3, PLO5, PLO7) • BSD4463 Time Series Analysis (PLO2, PLO3, PLO4) 	<ul style="list-style-type: none"> • Dr. Mohd Khairul Bazli Mohd Aziz • Dr. Nor Azuana Ramli • Dr. Noratikah Abu
13	UMP Advanced Education Sdn Bhd	PM Ts. Dr. Hamzah Bin Ahmad	1. SD20031 Siti Maisarah Binti Ibrahim 2. SD20034 Nik Nurul Syuhada Binti Mohd Ali	<ul style="list-style-type: none"> • BSD4453 Multivariate Data Analysis (PLO2, PLO3, PLO4, PLO7) • BSD4643 Econometrics (PLO2, PLO3, PLO4, PLO7) • BSD4673 Risk Analysis (PLO2, PLO3, PLO4, PLO7) 	<ul style="list-style-type: none"> • Dr. Sahimel Azwal Sulaiman • Dr. Siti Roslindar Yaziz • Dr. Noryanti Muhammad
14	Prasarana Malaysia Berhad	En Wahyudin Samnu	1. SD20052 Nurul Ashyibah Binti Mazlan 2. SD20026 Muhammad Haziq Bin Zairul Effendi	<ul style="list-style-type: none"> • BSD4453 Multivariate Data Analysis (PLO2, PLO3, PLO4, PLO7) • BSD4463 Time Series Analysis (PLO2, PLO3, PLO4) • BSD4543 Deep Learning (PLO2, PLO3, PLO5, PLO7) 	<ul style="list-style-type: none"> • Dr. Sahimel Azwal Sulaiman • Dr. Noratikah Abu • Dr. Nor Azuana Ramli
		En Mohd Nizam Yahya	1. SD20043 Siti Nor Balqis Binti Jafaar	<ul style="list-style-type: none"> • BSD4453 Multivariate Data Analysis (PLO2, PLO3, PLO4, PLO7) 	<ul style="list-style-type: none"> • Dr. Sahimel Azwal Sulaiman

		Pn Marlishiraz Ramli	2. SD20068 Muhammad Adam Bin Suwardi Andri	<ul style="list-style-type: none"> • BSD4463 Time Series Analysis (PLO2, PLO3, PLO4) • BSD4663 Geographical Information System (PLO2, PLO3, PLO5, PLO7) 	<ul style="list-style-type: none"> • Dr. Noratikah Abu • Dr. Mohd Khairul Bazli Mohd Aziz
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GROUP PROJECT DESCRIPTION:

The Group Project should consist of 2-3 members only. The Project Report should be **at least 20 pages (OR 5000 words count)**, which contribute 40% of the course marks, while another 20% will be assessed from the Project Presentation. The marks distribution of the Group Project is detailed as follows.

Marks Distribution of Group Project

Marks Distribution			Evaluators	PLO2	PLO3	PLO4 / PLO5	PLO7
Assessment	Percentage	Marks		CLO2	CLO3	CLO4	CLO5
Project Report	30%	150	IC	12%	12%		6%
	10%	50	AT	4%	4%		2%
Project Presentation	20%	30	IC			20%	
Total	60%			16%	16%	20%	8%

***Note** (AT: Academic Tutor; IC: Industry Coach)

Attach **ALL** outputs from the Data Science and Analytics tool or software used as evidence and provide a complete analysis of the outputs. Compile the whole report and outputs obtained from the tool or software used in a PDF file. The Project Report should be submitted on **26 June 2023 (Week 15)** via Google Form that will be given later. Hence, disseminate the works between group members, plan your time wisely and demonstrate your creativity in completing this Group Project.

The Project Report should include:

1. Front cover page (should have the project title, course names, student names and ID, industry name, industry coach, and academic tutors).
2. Complete report and analysis.
3. All related outputs/codes from the Data Science and Analytics tool or software.
4. Rubrics.

GROUP PROJECT TASKS:

The Twelfth Malaysia Plan (RMK12) has been announced by Prime Minister on 27 September 2021 with the mission 'A Prosperous, Inclusive, Sustainable Malaysia'. The RMK12 introduces a new transformative approach based on three themes, four catalytic policy enablers and 14 game changers. This new approach is important in providing a strong foundation for Malaysia's future, and acts as a catalyst to restore economic growth, address socioeconomic challenges, balance regional development, and enhance the nation's competitiveness to be a more resilient and sustainable player on the world stage.

The three themes of the RMK12 are resetting the economy; strengthening security, wellbeing and inclusivity; and advancing sustainability. The four catalytic policy enablers of the RMK12 meanwhile, focus on **developing future talent; accelerating technology adoption and innovation; enhancing connectivity and transport infrastructure; and strengthening the public service.** The 14 game changers represent bold and innovative actions to shift mindsets and change the approach to national development.

Cumulatively, these themes, enablers and game changers will enable Malaysia to attain its objective to become a high-income nation. Key to the success of RMK12 is effective implementation and strong commitment from all stakeholders. In this regard, the public and private sectors, civil society organizations and the Malaysians need to work hand in hand in ensuring the achievement of the RMK12 objectives.

Suppose you are one of the organizations in Malaysia that have been affected by the RMK12. In order to sustain your organization, you are required to explore and investigate the implications of RMK12 in your organization.

Hence, you need to

- choose a project title,
- develop a set of questions of interest and objectives,
- do some research on background of the project,
- describe how you use your data set to analyse those questions of interest with the detailed step by step used in your analysis,
- write up the findings from your set of questions of interest, and
- specify the limitations of your project.

Lastly, organize your Project Report and ensure that it contain the followings:

(i) Introduction

Describe the problem statement and objectives of the addressed issue. The description should be concise and include precise rationale related to the implication of RMK12 to your organizations. **You may have one specific objective for each elective course (choose any preferable topic).**

(ii) Data Collection or Acquisition

Collect or acquire a data set that can support the addressed issue and objectives. Describe the data collection/acquisition method that you employed and the characteristics of each variable in the data set. The data set should ideally contain at least five variables related to

strategy in sustaining your organization, including the quantitative and qualitative data. The data set can be primary or secondary data.

(iii) Methodology

Describe a brief overview of theoretical backgrounds and design the methodology to solve the addressed issue and objectives. You are compulsory to use knowledge and the skills acquired **from all three (3) taken elective courses** when solving the issues. You may illustrate your methodology using appropriate diagram for a better insight.

(iv) Data Preparation

Prepare your data based on the methodology presented. Then, conduct appropriate exploratory data analysis (EDA) on the data collected in supporting the addressed issue and objectives. You are also required to provide insightful interpretations of the EDA.

(v) Data Analysis, Results and Discussion

Provide a complete data analysis, results, interpretation, and discussion to support the addressed issues based on the objectives and methodology presented.

(vi) Conclusion

Summarize the main points from your findings and analysis that are align with the problem statement and objectives of the addressed issue.

(vii) Limitations of study

Describe any limitations of your project. Suggest excellent, effective solutions or strategies for future project improvement. The suggested solutions or strategies are practical and have impacts on society.

(viii) References

List the references used in the project by using APA style.

THE PROJECT PRESENTATION:

You are given 20 minutes for the Group Project Presentation, and 20 minutes for the Questions-and-Answers session.