KINGDOM OF SAUDI ARABIA
IMAM MOHAMMAD IBN SAUD ISLAMIC UNIVERSITY
COLLEGE OF COMPUTER AND INFORMATION SCIENCES
INFORMATION SYSTEMS DEPARTMENT
MASTER OF SCIENCE IN INFORMATION SYSTEMS

المملكة العربية السعودية
جامعة الإمام محمد بن سعود الإسلامية
كلية علوم الحاسب والمعلومات
قسم نظم المعلومات
ماجستير العلوم في نظم المعلومات

SYLLABUS

Course Code: IS6222 Course Name: Advanced Data Analytics

CREDIT HOURS	4

PREREQUISITE	None

Instructor:
Contact information and office hours
Office No: To be announced (TBA) **Office Hours: TBA** **E-mail: _____@imamu.edu.sa**

COURSE DESCRIPTION
Advanced Analytics is the autonomous or semi-autonomous examination of data or content using sophisticated techniques and tools, typically beyond those of traditional business intelligence (BI), to generate recommendations, make predictions and discover insights from complex and large datasets. The course is designed to provide students with the knowledge and skills needed to tackle complex data analysis problems and prepare them for a career in the field of data analytics or data science.

COURSE LEARNING OUTCOMES (CLOs)		Aligned SOs
1	**Knowledge and Understanding**	
1.1	Understand the fundamental concepts of data analysis.	K1
1.2	Review state of art researches to comprehend popular data analysis tools.	K3
2	**Skills :**	
2.1	Perform research to identify gaps in existing and standard systems in the field of data analysis.	S1

2.2	Utilize the appropriate technology to meet the organizational needs of data analysis.	S4
3	**Values:**	
3.1	Write course project reports abiding all ethical standards using leadership and management talents.	V2
3.2	Function effectively individually as well as on teams to accomplish a common goal	V3

TEACHING Strategies
Class lectures, Assignment, Project explanation session.

No	List of Topics	Contact Hours	Self-Learning
1	Introduction to Advanced Data Analytics	*4*	
2	Statistical Modeling and Inference	*4*	
3	Advanced Data Visualization Techniques	*4*	
4	Machine Learning Algorithms	*4*	
5	Text Analytics and Natural Language Processing	*4*	
6	Time Series Analysis and Forecasting	*4*	
7	Predictive Analytics	*4*	
8	Social Network Analysis	*4*	
9	Big Data Analytics with Hadoop and Spark	*4*	
10	Industrial Applications of Data Analytics	*2*	
11	Project Presentations	*2*	
Total		40	

TEXT BOOK
Data Analytics: Advanced Strategies to Learn and Execute Data Analytics Programming by Daniel Jones

REFERENCES
• Data Smart: Using Data Science to Transform Information into Insight by John W. Foreman • Data Analytics Made Accessible by Anil Maheshwari

	Course Assessment Methods

No	Assessment Method	Due Week	% of Total Assessment
1	**Quizzes**	3	10
2	**Assignments**	5	10
3	**Midterm**	8	20
4	**Project**	10	20
5	**Final Exam**	11	40