COURSE HANDOUT

AI FOR BUSINESS MANAGERS (MBA-443)

MBA-IV SEMESTER

ACADEMIC YEAR (2024-25)

Ms. Deepanshi
Assistant Professor

School of Management

School of Management

Model Institute of Engineering & Technology (Autonomous)

Kot Bhalwal, Jammu - 181122

www.mietjmu.in

Course Code	Course Name	Course Type	Cd	L	T	P	Marks		
							Sessional	Final Exam	Total
MBA-443	AI for Business Managers	Elective	4	4	0	0	30	70	100

COURSE OUTCOMES

	At the end of the course the student will be able to:
CO1	Describe the basic concepts of Artificial Intelligence
CO2	Appreciate the statistical techniques for analysis of data.
CO3	Analyze the role of supervised learning and applications.
CO4	Examine the role of unsupervised learning and its applications.
CO5	Evaluate the concept of Data Mining and warehousing and its application in business.

Syllabus

Unit I: Introduction to Artificial Intelligence:
History and Evolution, Concepts, Terminology and Application Areas, Artificial: Issues, Concerns and Ethical Considerations, Future of Artificial Intelligence.

Unit II: Statistical Foundations of AI:
Measures of Central Tendency-Mean, Median, Mode, Correlation and Regression Analysis- Simple Linear Regression Model; Regression Coefficients; Regression Equations; Descriptive and Inferential Statistics.

Unit III: Supervised Learning and Applications:
Supervised Learning: Introduction to classification, Applications of supervised learning in multiple domains Application of supervised learning in solving business problems such as pricing, customer relationship management, Sales and Marketing.

Unit IV: Unsupervised Learning and Applications:
Unsupervised Learning-Concept, Importance; Types of Unsupervised Learning; Real Life Examples from Unsupervised Learning: Clustering, Hierarchical clustering, Partitioning Clustering- K-mean clustering, Density Based Methods DBSCAN, OPTICS, Applications of unsupervised learning in multiple domains.

Unit V: Data Mining and Warehousing:
Introduction to Data Mining Systems – Knowledge Discovery Process – Data Mining Techniques – Issues – applications- Data Objects and attribute types, Statistical description of data, Data Preprocessing – Cleaning, Integration, Reduction, Transformation and discretization, Data Visualization, Basic Concepts – Data Warehousing Components; ETL.

Textbooks

S.No	Name of the Books	Name of the Author	Publisher Name	Edition (Pub.Yr.)
1	Artificial Intelligence for Business	Akerkar, Rajendra	Springer	1st (2019)
2.	Artificial Intelligence: A Modern Approach	Stuart Russell, Peter Norvig	Pearson	4th (2020)

Reference Books

S.No	Name of the Books	Name of the Author	Publisher Name	Edition (Pub.Yr.)
1	Artificial Intelligence for Business	Doug Rose	Pearson Education (US)	2nd (2020)

COURSE PLAN		
Unit-I Introduction to Artificial Intelligence		
S.No	Topics	Recommended Books
1	History and Evolution	https://www.hellohistory.ai/for-education https://www.facinghistory.org/resource-library/learning-navigate-generative-ai-content-media-literacy-strategies
2	Concepts and Terminology of AI	https://www.iso.org/obp/ui/ https://www.telusinternational.com/insights/ai-data/article/50-beginner-ai-terms-you-should-know https://www.youtube.com/watch?v=aircAruvnKk
3	Application Areas of AI part-01	https://www.javatpoint.com/application-of-ai https://www.analytixlabs.co.in/blog/applications-of-artificial-intelligence/
4	Application Areas of AI part-02	https://www.iso.org/obp/ui/ https://www.youtube.com/watch?v=2ePf9rue1Ao
5	Issues, Concerns and Ethical part-01	https://www.youtube.com/watch?v=KyB7NSWEODE https://www.youtube.com/watch?v=94LdfW5hURc
6	Issues, Concerns and Ethical part-02	https://www.youtube.com/watch?v=2ePf9rue1Ao
7	Future Considerations	https://www.youtube.com/watch?v=KyB7NSWEODE https://www.youtube.com/watch?v=94LdfW5hURc https://www.youtube.com/watch?v=2ePf9rue1Ao
Unit-II Statistical Foundations of AI		
8	Measures of Central Tendency-Mean, Median, Mode	https://www.scribbr.com/statistics/central-tendency/ https://www.khanacademy.org/math/statistics-probability/summarizing-quantitative-data/mean-median-basics/e/mean_median_and_mode
9	Correlation and Regression Analysis part-01	https://www.linkedin.com/pulse/correlation-regression-analysis-samaresh-m-sfc-smc-ssyb- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC374386/
10	Correlation and Regression Analysis part-02	https://www.youtube.com/watch?v=xTpHD5WLuoA
11	Simple Linear Regression Model; Regression Coefficients; Regression Equations part-01	https://www.jmp.com/en_is/learning-library/topics/correlation-and-regression/simple- linear-regression.html https://www.scribbr.com/statistics/simple-linear-regression/

12	Simple Linear Regression Model; Regression Coefficients; Regression Equations part-02	https://simple.wikipedia.org/wiki/Linear_regression https://m.youtube.com/watch?v=owI7zxCqNY0 https://m.youtube.com/watch?v=8vx8xZH5plk
13	Descriptive and Inferential Statistics part-01	https://towardsdatascience.com/intro-to-descriptive-statistics-and-probability-for-data-science-8effec826488 https://www.investopedia.com/terms/d/descriptive_statistics.asp#:~:text=Descriptive%20statistics%20are
14	Descriptive and Inferential Statistics part-02	https://youtu.be/QoQbR4lVLrs https://www.coursera.org/learn/inferential-statistics-intro https://www.scribbr.com/statistics/inferential-statistics/
15	Use cases of Regression Model	https://www.scribbr.co.uk/stats/inferential-statistics-meaning/ https://www.youtube.com/watch?v=C3SQkjDLGMQ
	Unit-III Supervised Learning and Application	
16	Introduction to Supervised Learning and Classification	https://learn.microsoft.com/en-us/training/modules/introduction-to-classical-machine-learning/ https://www.datacamp.com/blog/classification-machine-learning https://www.youtube.com/watch?v=C3SQkjDLGMQ
17	Classification Algorithms in Supervised Learning	https://www.ibm.com/topics/supervised-learning https://insideaiml.com/blog/an-introduction-to-supervised-learning-1188
18	Applications of Supervised Learning in Multiple Domains part-01	https://theintactone.com/2021/11/28/applications-of-supervised-learning-in-multiple-domains/ https://www.linkedin.com/pulse/supervised-learning-its-applications-crafsol-technology https://www.youtube.com/watch?v=C3SQkjDLGMQ https://www.oreilly.com/library/view/machine-learning-and/9781492073048/ch04.html https://www.youtube.com/watch?v=C3SQkjDLGMQ
19	Applications of Supervised Learning in Multiple Domains part-02	https://www.leewayhertz.com/supervised-machine-learning/ https://www.youtube.com/watch?v=C3SQkjDLGMQ
20	Application of Supervised Learning in Business - Pricing and Customer Relationship	https://theintactone.com/2021/11/28/applications-of-supervised-learning-in-multiple-domains/ https://www.linkedin.com/pulse/supervised-learning-its-applications-crafsol-technology

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21	Practical Implementation of Supervised Learning in Business	https://levity.ai/ http://www.youtube.com/watch?v=reUZRyXxUs4 http://www.youtube.com/watch?v=ukzFI9rgwfU
Unit-IV Unsupervised Learning and Applications		
22	Unsupervised Learning - Concept and Importance – part -01	https://www.ibm.com/topics/unsupervised-learning https://www.youtube.com/watch?v=IHZwWFHWa-w
23	Unsupervised Learning - Concept and Importance – part-02	https://developers.google.com/machine-learning/crash-course
24	Types of Unsupervised Learning – part-01	http://scikit-earn.org/stable/modules/generated/sklearn.cluster.KMeans.html http://scikit-learn.org/stable/modules/generated/sklearn.decomposition.PCA.html https://www.youtube.com/watch?v=IHZwWFHWa-w
25	Types of Unsupervised Learning -part-02	https://www.youtube.com/watch?v=IHZwWFHWa-w https://www.youtube.com/playlist?list=PLtBw6njQRU-rwp5__7C0oIVt26ZgjG9NI
26	Real Life Examples from Unsupervised Learning	https://cloud.google.com/discover/what-is-unsupervised-learning https://www.kdnuggets.com/unveiling-unsupervised-learning https://www.youtube.com/watch?v=IHZwWFHWa-w https://www.youtube.com/watch?v=IHZwWFHWa-w
27	Clustering Algorithms - Partitioning and Hierarchical	https://www.youtube.com/watch?v=s3dmL0Ajvp4 https://www.youtube.com/watch?v=IHZwWFHWa-w
28	Applications of Unsupervised Learning in Multiple Domains	https://www.youtube.com/watch?v=abGTypGb4MQ https://www.youtube.com/watch?v=s3dmL0Ajvp4 https://www.youtube.com/watch?v=IHZwWFHWa-w
Unit-V Data Mining and Warehousing		
29	Introduction to Data Mining Systems	https://www.javatpoint.com/data-mining https://www.sas.com/hu_hu/insights/analytics/data-mining.html https://www.youtube.com/watch?v=xEmrFePGjEg
30	Knowledge Discovery Process and Data Mining Techniques	https://www.geeksforgeeks.org/kdd-process-in-data-mining/ https://www.springer.com/journal/10618 https://www-users.cse.umn.edu/~kumar/dmbook/index.php https://www.youtube.com/watch?v=9JJIGOiGbAs
31	Applications and Impact of Data Mining	https://www.sciencedirect.com/topics/earth-and-planetary-sciences/data-mining https://www.kdnuggets.com/ https://www-users.cse.umn.edu/~kumar/dmbook/index.php

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		https://www.youtube.com/watch?v=mOfPG5ZIY-k https://www.youtube.com/watch?v=9JJIGOiGbAs
32	Data Objects and Attribute Types	https://www.geeksforgeeks.org/understanding-data-attribute-types-qualitative-and-quantitative/ https://m.youtube.com/watch?v=mYq8dCdI-n4
33	Data Preprocessing - Cleaning, Integration, and Reduction	http://scikit-learn.org/stable/modules/preprocessing.html https://www.analyticsvidhya.com/blog/2020/12/featur e-engineering-feature-improvements-scaling/ https://www.geeksforgeeks.org/binning-in-data-mining/
34	Data Preprocessing - Transformation and Discretization	http://scikit-learn.org/stable/modules/preprocessing.html https://www.analyticsvidhya.com/blog/2020/12/featur e-engineering-feature-improvements-scaling/ https://www.geeksforgeeks.org/binning-in-data-mining/
35	Data Warehousing Components and ETL (Extract, Transform, Load) Process	https://www.oracle.com/database/what-is-a-data-warehouse/ https://www.integrate.io/blog/etl-data-warehousing-explained-etl-tool-basics/ https://azure.microsoft.com/en-us/resources/cloud-computing-dictionary/what-is-a-data-warehouse

ADDITIONAL WEB RESOURCES

1.	Data Warehousing and ETL Explained" by Intelygenz: https://www.youtube.com/watch?v=BH5SvngiDIE
2.	**NPTEL:** Video lectures on Managerial Economics Lecture series by Prof. Trupti Mishra School of Management, IIT Bombay https://archive.nptel.ac.in/noc/courses/noc20/SEM2/noc20-mg67/

GRADING AND ASSESSMENT

- **Sessional Test**: 15 marks
- **Assignment**: 10 marks
- **Attendance**: 5 marks
- **Final Examination**: 70 marks

COURSE POLICIES

- **Attendance**: Minimum 75% attendance is mandatory to appear in the final examination of the course.
- **Academic Integrity**: MIET's academic integrity policies apply. Plagiarism will not be tolerated.
- **Late Submissions**: Assignments and projects must be submitted by the specified timelines.

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FACULTY INFORMATION

- **Office Hours**

  Monday (12:05 PM - 12:55 PM)
  Thursday (12:05 PM - 12:55 PM)

- **Contact Information**
  Deepanshi.cse@mietjammu.in