

Lesson Plan

Branch: Computer Engineering

Semester: VI

Year: 2022-23

Course Title: Social Media Analytics (CSDC 8032)	SEE: 3 Hours – Theory
Total Contact Hours: 36 Hours	Duration of SEE: 3 Hrs
SEE Marks: 80 (Theory) + 20 (IA)	
Lesson Plan Author: Prof. Ankita Amburle	Date:
Checked By:	Date:

Prerequisites: Computer Networks

Syllabus:

Module		Content	Hrs
1		Social Media Analytics: An Overview	6
	1.1	Core Characteristics of Social Media, Types of Social Media, Social media landscape, Need for Social Media Analytics (SMA), SMA in small & large organizations.	
	1.2	Purpose of Social Media Analytics, Social Media vs. Traditional Business Analytics, Seven Layers of Social Media Analytics, Types of Social Media Analytics, Social Media Analytics Cycle, Challenges to Social Media Analytics, Social Media Analytics Tools	
2		Social Network Structure, Measures & Visualization	6
	2.1	Basics of Social Network Structure - Nodes, Edges & Tie Describing the Networks Measures - Degree Distribution, Density, Connectivity, Centralization, Tie Strength & Trust Network Visualization - Graph Layout	
	2.2	Visualizing Network features, Scale Issues. Social Media Network Analytics - Common Network Terms, Common Social Media Network Types, Types of Networks, Common Network Terminologies, Network Analytics Tools.	
3		Social Media Text, Action & Hyperlink Analytics	6
	3.1	Social Media Text Analytics - Types of Social Media Text, Purpose of Text Analytics, Steps in Text Analytics	
	3.2	Social Media Action Analytics - What Is Actions Analytics? Common Social Media Actions, Actions Analytics Tools Social Media Hyperlink Analytics	
	3.3	Social Media Text & Analysis Tools - Types of Hyperlinks, Types of Hyperlink Analytics, Hyperlink Analytics Tools	

4		Social Media Location & Search Engine Analytics	5
	4.1	Location Analytics - Sources of Location Data, Categories of Location Analytics, Location Analytics and Privacy Concerns	
	4.2	Location Analytics Tools Search Engine Analytics - Types of Search Engines, Search Engine Analytics, Search Engine Analytics Tools	
5		Social Information Filtering	7
	5.1	Social Information Filtering - Social Sharing and filtering , Automated Recommendation systems, Traditional Vs social Recommendation Systems	
	5.2	Understanding Social Media and Business Alignment, Social Media KPI, Formulating a Social Media Strategy, Managing Social Media Risks	
6		Social Media Analytics Applications and Privacy	5
	6.1	Social media in public sector - Analyzing public sector social media, analyzing individual users, case study. Business use of Social Media - Measuring success, Interaction and monitoring, case study. Privacy - Privacy policies, data ownership and maintaining privacy online.	

Course Outcomes (CO):

On successful completion of course learner will be able to:

CSDC8032.1: Explain the concept of Social media

CSDC8032.2: Explain the concept of social media Analytics and its significance.

CSDC8032.3: Analyze the effectiveness of social media

CSDC8032.4: Use different Social media analytics tools effectively and efficiently.

CSDC8032.5: Use different effective Visualization techniques to represent social media analytics.

CSDC8032.6: Acquire the fundamental perspectives and hands-on skills needed to work with social media data.

CO-PO Mapping: (BL – Blooms Taxonomy, C – Competency, PI – Performance Indicator)

CO	BL	C	PI	PO	Mapping
CSDC8032.1: Explain the concept of Social media	2	1.3	1.3.1	PO1	3
		1.4	1.4.1		
		2.4	2.5.2	PO2	3
		5.3	5.3.1	PO5	3
CSDC8032.2: Explain the concept of social media Analytics and its significance.	2	1.3	1.3.1	PO1	2
		1.4	1.4.1		
		2.3	2.3.2	PO2	3
		2.4	2.4.2		
		3.1	3.1.2	PO3	3
		3.4	3.4.3		

CSDC8032.3: Analyze the effectiveness of social media	4	1.2	1.2.1	PO1	2
		1.4	1.4.2		
		2.1	2.1.2	PO2	3
		2.3	2.3.1		
		2.4	2.4.2		
CSDC8032.4: Use different Social media analytics tools effectively and efficiently.	3	3.3	3.3.1	PO3	1
		5.3	5.3.1	PO5	3
			5.3.2		
		1.2	1.2.1	PO1	2
		1.4	1.4.1		
CSDC8032.5: Use different effective Visualization techniques to represent social media analytics.	6	2.1	2.1.2	PO2	2
		2.2	2.2.3		
		2.4	2.4.2		
		3.3	3.3.1	PO3	2
CSDC8032.6: Acquire the fundamental perspectives and hands-on skills needed to work with social media data.	6	1.3	1.3.1	PO1	2
		2.2	2.2.4	PO2	3
		2.3	2.3.2		
		3.4	3.4.2	PO3	3
		4.3	4.3.1	PO4	2
		5.1	5.1.1	PO5	3
			5.1.3		
		1.3	1.3.1	PO1	2
		1.4	1.4.1		
		2.2	2.2.4	PO2	2
		2.3	2.3.2		
		3.4	3.4.2	PO3	3
4.3	4.3.1	PO4	3		
5.1	5.1.1	PO5	3		
5.3	5.3.2				
8.1	8.1.1	PO8	1		

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CSDC8032.1	3	3			3							
CSDC8032.2	3	3	3									
CSDC8032.3	2	3	1									
CSDC8032.4	2	2	2									
CSDC8032.5	2	3	3	2	3							
CSDC8032.6	2	2	3	3	3			1				

CO-PSO Mapping:

CO Measurement Weightages for Tools:

CO	BL	C	PI	PO	Mapping
CSDC8032.3: Analyze the effectiveness of social media.	2	1.2	1.2.1	PSO1	2
		1.4	1.4.2		3
		2.1	2.1.2	PSO1	3
		2.3	2.3.1		
2.4	2.4.2				
CSDC8032.4: Use different Social media analytics tools effectively and efficiently.		2.4	2.4.1	PSO1	2

	PSO1	PSO 2
CSDC8032.1	-	-
CSDC8032.2	-	-
CSDC8032.3	3	-
CSDC8032.4	2	-
CSDC8032.5	-	-
CSDC8032.6	-	-

<i>Course Outcomes</i>	<i>Direct Method (80%)</i>							<i>Indirect Method (20%)</i>	
	Unit Tests		Assignments			Quizzes		End Sem Exam	Course exit survey
	1	2	1	2	3	1	2		
CSDC8032.1	10 %	--	20%	--	--	10%	--	60%	100%
CSDC8032.2	20 %	--	--	10 %	--	10%	--	60%	100%
CSDC8032.3	10 %	10 %	--	--	10%	--	10%	60%	100%
CSDC8032.4	--	10 %	--	--	20%	--	10%	60%	100%
CSDC8032.5	--	10 %	--	--	20%	--	10%	60%	100%
CSDC8032.6	--	--	--	--	20%	--	10%	60%	100%

Attainment:

CO CSDC8032.1:

Direct Method

$$A_{CSDC8032.1D} = 0.1 * Test1 + 0.2 * Assignment + 0.1 * Quizzes + 0.6 * SEE_Theory$$

Final Attainment:

$$A_{CSDC8032.1} = 0.8 * A_{CSDC8032.1D} + 0.2 * A_{CSDC8032.1I}$$

CO CSDC8032.2:

Direct Method

$$A_{CSDC8032.2D} = 0.2 * Test1 + 0.1 * Assignment + 0.1 * Quizzes + 0.6 * SEE_Theory$$

Final Attainment:

$$A_{CSDC8032.2} = 0.8 * A_{CSDC8032.2D} + 0.2 * A_{CSDC8032.2I}$$

CO CSDC8032.3:

Direct Method

$$A_{CSDC8032.3D} = 0.1 * Test1 + 0.1 * Test2 + 0.1 * Assignment + 0.1 * Quizzes + 0.6 * SEE_Theory$$

Final Attainment:

$$A_{CSDC8032.3} = 0.8 * A_{CSDC8032.3D} + 0.2 * A_{CSDC8032.3I}$$

CO CSDC8032.4:

Direct Method

$$A_{CSDC8032.4D} = 0.1 * Test2 + 0.2 * Assignment + 0.1 * Quizzes + 0.6 * SEE_Theory$$

Final Attainment:

$$A_{CSDC8032.4} = 0.8 * A_{CSDC8032.4D} + 0.2 * A_{CSDC8032.4I}$$

CO CSDC8032.5:

Direct Method

$$A_{CSDC8032.5D} = 0.1 * Test2 + 0.2 * Assignment + 0.1 * Quizzes + 0.6 * SEE_Theory$$

Final Attainment:

$$A_{CSDC8032.5} = 0.8 * A_{CSDC8032.5D} + 0.2 * A_{CSDC8032.5I}$$

CO CSDC8032.6:

Direct Method

$$A_{CSDC8032.6D} = 0.1 * Test2 + 0.2 * Assignment + 0.1 * Quizzes + 0.6 * SEE_Theory$$

Final Attainment:

$$A_{CSDC8032.6} = 0.8 * A_{CSDC8032.6D} + 0.2 * A_{CSDC8032.65I}$$

Course Level Gap (if any): Nil**Content beyond Syllabus: Nil**

Lecture Plan:

Module	Contents	Hours	Planned date	Actual date	Content Delivery Method	Remark
1	Core Characteristics of Social Media, Types of Social Media, Social media landscape	6	10-01-23	10-01-23	PPT	
	Need for Social Media Analytics (SMA), SMA in small & large organizations.		11-01-23	11-01-23 12-01-23	PPT	
	Purpose of Social Media Analytics, Social Media vs. Traditional Business Analytics		13-01-23	13-01-23	PPT & Board	
	Seven Layers of Social Media Analytics, Types of Social Media Analytics		17-01-23	17-01-23	PPT & Board	
	Social Media Analytics Cycle, Challenges to Social Media Analytics, Social Media Analytics Tools		18-01-23	18-01-23	Board	
2	Basics of Social Network Structure - Nodes, Edges & Tie Describing the Networks Measures - Degree Distribution	6	20-01-23	20-01-23, 31-01-23	PPT & Board	Assignment 1 on module 1
	Density, Connectivity, Centralization, Tie Strength & Trust		24-01-23	24-01-23	Board	
	Network Visualization - Graph Layout, Visualizing Network features, Scale Issues.		25-01-23	25-01-23	PPT	
	Social Media Network Analytics - Common Network Terms, Common Social Media Network Types, Types of Networks,		27-01-23	27-01-23	PPT	Group discussion on module 1
	Common Network Terminologies, Network Analytics Tools.		31-01-23	31-01-23	PPT	
3	Social Media Text Analytics - Types of Social Media Text, Purpose of Text Analytics, Steps in Text Analytics	6	1-02-23	1-02-23	PPT	Quiz on module 1 & 2
	Social Media Text Analysis Tools		3-02-23	3-02-23		
	Social Media Action Analytics - What Is Actions Analytics?		7-02-23	7-02-23		

	Common Social Media Actions					
	Actions Analytics Tools Social Media Hyperlink Analytics - Types of Hyperlinks				PPT	
	Types of Hyperlink Analytics	6	8-02-23	8-02-23		
	Hyperlink Analytics Tools		10-02-23	10-02-23		
			13-02-23	13-02-23		
4	Location Analytics - Sources of Location Data, Categories of Location Analytics,	5	14-02-23	14-02-23	PPT	
	Location Analytics and Privacy Concerns		15-02-23	15-02-23	PPT	
	Location Analytics Tools		17-02-23	17-02-23	PPT	
	Search Engine Analytics - Types of Search Engines		21-02-23	21-02-23	PPT	
	Search Engine Analytics, Search Engine Analytics Tools		22-02-23	22-02-23		
5	Social Information Filtering - Social Sharing and filtering	7	24-02-23	24-02-23	PPT	
	Automated Recommendation systems		28-02-23	28-02-23	PPT	
	Traditional Vs social Recommendation Systems		3-03-23	3-03-23	PPT	Assignment 3 on module 3 to 6
	Understanding Social Media and Business Alignment		10-03-23	10-03-23	PPT	
	Social Media KPI, Formulating a Social Media Strategy		14-03-23	14-03-23		Quiz 2 on module 3 to 6
	Managing Social Media Risks		15-0-23	15-0-23	PPT	
	Hands on Power BI		17-03-23	22-02-23	PPT	
6	Social media in public sector - Analyzing public sector social media, analyzing individual users, case study	5	21-03-23		PPT	
	Business use of Social Media - Measuring success		24-03-23			
	Interaction and monitoring, case study		05-04-23			
	Privacy - Privacy policies		11-04-23		PPT	
	data ownership and maintaining privacy online.		12-04-23		PPT	

Text Books:

1. Seven Layers of Social Media Analytics_ Mining Business Insights from Social Media Text, Actions, Networks, Hyperlinks, Apps, Search Engine, and Location Data, Gohar F. Khan,(ISBN-10: 1507823207).

2. Analyzing the Social Web 1st Edition by Jennifer Golbeck
3. Mining the Social Web_ Analyzing Data from Facebook, Twitter, LinkedIn, and Other Social Media Sites, Matthew A Russell, O'Reilly
4. Social Media Analytics [2015], Techniques and Insights for Extracting Business Value Out of Social Media, Matthew Ganis, Avinash Kohirkar, IBM Press
Charu Aggarwal (ed.), Social Network Data Analytics, Springer, 2011
5. Seven Layers of Social Media Analytics_ Mining Business Insights from Social Media Text, Actions, Networks, Hyperlinks, Apps, Search Engine, and Location Data, Gohar F. Khan,(ISBN-10: 1507823207).

Reference Books:

1. Social Media Analytics [2015], Techniques and Insights for Extracting Business Value Out of Social Media, Matthew Ganis, Avinash Kohirkar, IBM Press
2. Social Media Analytics Strategy_ Using Data to Optimize Business Performance, Alex Gonçalves, APress Business Team
3. Social Media Data Mining and Analytics, Szabo, G., G. Polatkan, O. Boykin & A. Chalkiopoulos (2019), Wiley, ISBN 978-1-118-82485-6

Web References:

1. <https://cse.iitkgp.ac.in/~pawang/courses/SC16.html>
2. https://onlinecourses.nptel.ac.in/noc20_cs78/preview
3. <https://nptel.ac.in/courses/106106146>
4. <https://7layersanalytics.com/>

Evaluation Scheme

CIE Scheme

Internal Assessment: 20 (Average of two tests)

Internal Assessment Scheme

	Module	Lecture Hours	No. of questions in			No. of questions in SEE
			Test 1	Test 2	Test 3*	
1	Social Media Analytics: An Overview	5	02 (10 marks)	-	--	
2	Social Network Structure, Measures & Visualization	5	02 (10 Marks)	-	--	
3	Social Media Text, Action & Hyperlink Analytics	6	-	02 (10 Marks)	--	
4	Social Media Location & Search Engine Analytics	5	-	02 (10 Marks)	--	
5	Social Information Filtering	7	-	-	--	
6	Social Media Analytics Applications and Privacy	5	-	-	--	

Note: Four to six questions will be set in the Test paper

Verified by:

(Dr.B.S.Daga)
(DQAC Coordinator)

(Prof.Ankita Amburle)
(Subject Expert)