

**Birla Institute of Technology & Science, Pilani, K. K. Birla Goa Campus**  
**First Semester 2023 - 24**

In addition to Part-I (General Handout for all courses appended to the timetable), this portion gives further specific details on the course.  
Course ID: **CS G519**, Course Title: **Social Media Analytics**  
Class Timings: **Mon, Wed, Fri 5:00 - 5:50 PM**, (TP Room)  
Instructor-In-charge: **Dr. Swati Agarwal** (swatia@goa.bits-pilani.ac.in), Office: **D 163**  
Coordinators: **Dr. Jabez Christopher** (Hyderabad) and **Dr. Poonam Goyal** (Pilani)  
Maximum seats available: **50 per campus (only HD students are allowed to enroll)**

**1. Course Objectives and Scope**

This course provides a wide range of essentials of social media mining. Social media not only produces big user-generated data; it also has a huge potential for social science research, business development, and understanding human and group behavior. The course includes basics of social media and its representation, node classification, community detection, user behavior, herd behavior, influence, recommendations in SM, and a wide range of applications around social networks.

**2. Desirable Skill:** Intermediate programming skills in Python or R.

**3. Text Books**

**T1.** Zafarani R., Abbasi M.A. and Liu H. "Social Media Mining". 2014, Cambridge University Press [Official Link.]

**4. Reference Books**

**R1.** Chakraborty T. "Social Network Analysis". Wiley India Pvt. Ltd. 2021.

**R2.** Agarwal Charu C. and Wang Haixun, "Managing and Mining Graph Data", Springer.

**5. Course Plan:**

Module	Lectures	Topics	Reference
-	1	Overview	course handout
M1: Social Media and Social Networks	1	Importance and Challenges of SM and SNA	T1 Ch1
M2: Network, Society, and Measures	2-4	Types of Graphs and Graphs Essentials	T1 Ch2, R1 Ch1
	5-8	Network Measures	T1 Ch3, R1 Ch2
M3: Network Growth Models	9-12	Evolution of network growth, shortcomings, properties, Observations in real-world networks, and Models	T1 Ch4, R1 Ch3
M4: Link Analysis	13-17	Signed network, Ties, Ranking algorithms	R1 Ch4
M5: Communities and Interactions	18-22	Community analysis, detection, and evaluation	T1 Ch6, R1 Ch5
	23-27	Link Prediction	R1 Ch6
	27-31	Cascade Behaviour and Network Effects	R1 Ch7
	32-35	Recommendation System in SM using social context	T1 Ch9, R1 Ch10
M6: Applications and case-studies	36-40	Malicious activities, sockpuppets, collusion, epidemic behaviour, fake news, and more	T1 Ch10, R1 Ch10

**6. Evaluation Scheme**

S.No.	Component	Weightage	Date	Time	Remarks
1	5-minutes Quiz	10%	Every Friday	Class Hours	Closed Book
2	Mid-sem Exam	35%	Oct 08	9:30-11:00 AM	Closed Book
3	Project				
	Milestone 1 + Report	5%	Oct 03	11:59 PM	Moodle
	Final Report	5%	Nov 21	11:59 PM	Moodle
	Milestone 2	10%	Nov 22, 24	In-person with the respective coordinators	Slot-based
4	End-sem Exam	35%	Dec 20	10:00-1:00 PM	Closed Book

All group members must be present during the project demo. Zero marks will be awarded to the individuals missing the project component.

**7. Notice:** All notices concerning this course will be displayed on Quanta AWS. Keep an eye on ID/ARC notices as well.

**8. Malpractice Regulations:** Any attempt of cheating or plagiarism in midsem or endsem will attract disciplinary committee action. Any student involved in malpractice in other components (including report and demonstrations) will be awarded negative marks equal to the marks of that component.

**9. Make-up Policy**

- Make-up shall be granted only in genuine cases based on an individual's needs/circumstances and must be approved by the ID. IC and respective coordinators must be informed over email at least 24 hrs in advance.
- No marks will be awarded without make-up for that component.
- No make-up for project and quiz components.

**Instructor In-charge**  
Dr. Swati Agarwal