| Course Code | Course Name | Credit |
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| CSDC8023 | Social Media Analytics | 03 |

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| **Prerequisite:** Graph Theory, Data Mining, Python/R programming | |
| **Course Objectives:** The course aims: | |
| 1 | Familiarize the learners with the concept of social media. |
| 2 | Familiarize the learners with the concept of social media analytics and understand its significance. |
| 3 | Enable the learners to develop skills required for analyzing the effectiveness of social media. |
| 4 | Familiarize the learners with different tools of social media analytics. |
| 5 | Familiarize the learner with different visualization techniques for Social media analytics. |
| 6 | Examine the ethical and legal implications of leveraging social media data. |
| **Course Outcomes:** | |
| 1 | Understand the concept of Social media |
| 2 | Understand the concept of social media Analytics and its significance. |
| 3 | Learners will be able to analyze the effectiveness of social media |
| 4 | Learners will be able to use different Social media analytics tools effectively and efficiently. |
| 5 | Learners will be able to use different effective Visualization techniques to represent social media analytics. |
| 6 | Acquire the fundamental perspectives and hands-on skills needed to work with social media data. |

| Module | Detailed Content | Hours |
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| **1.** | **Social Media Analytics: An Overview** | |
| | Core Characteristics of Social Media, Types of Social Media, Social media landscape, Need for Social Media Analytics (SMA), SMA in small & large organizations. 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 | 6 |
| **2.** | **Social Network Structure, Measures & Visualization** | |
| | Basics of Social Network Structure - Nodes, Edges & Tie Describing the Networks Measures - Degree Distribution, Density, Connectivity, Centralization, Tie Strength & Trust Network Visualization - Graph Layout, 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. | 6 |
| **3.** | **Social Media Text, Action & Hyperlink Analytics** | |
| | Social Media Text Analytics - Types of Social Media Text, Purpose of Text Analytics, Steps in Text Analytics, Social Media Text | 8 |

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| | Analysis Tools<br>Social Media Action Analytics - What Is Actions Analytics? Common Social Media Actions, Actions Analytics Tools<br>Social Media Hyperlink Analytics - Types of Hyperlinks, Types of Hyperlink Analytics, Hyperlink Analytics Tools | |
| **4.** | **Social Media Location & Search Engine Analytics** | |
| | Location Analytics - Sources of Location Data, Categories of Location Analytics, Location Analytics and Privacy Concerns, Location Analytics Tools<br>Search Engine Analytics - Types of Search Engines, Search Engine Analytics, Search Engine Analytics Tools | 6 |
| **5.** | **Social Information Filtering** | |
| | Social Information Filtering - Social Sharing and filtering , Automated Recommendation systems, Traditional Vs social Recommendation Systems<br>Understanding Social Media and Business Alignment, Social Media KPI, Formulating a Social Media Strategy, Managing Social Media Risks | 6 |
| **6.** | **Social Media Analytics Applications and Privacy** | |
| | Social media in public sector - Analyzing public sector social media, analyzing individual users, case study.<br>Business use of Social Media - Measuring success, Interaction and monitoring, case study.<br>Privacy - Privacy policies, data ownership and maintaining privacy online. | 7 |

| **Textbooks:** | |
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| 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 | Charu Aggarwal (ed.), Social Network Data Analytics, Springer, 2011 |
| **References:** | |
| 1. | Social Media Analytics [2015], Techniques and Insights for Extracting Business Value Out of Social Media, Matthew Ganis, AvinashKohirkar, 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. Chalkiopoulus (2019), Wiley, ISBN 978-1-118-82485-6 |

| **Useful Links** | |
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| 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/ |

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| **Assessment:** | |
| **Internal Assessment:** | |
| Assessment consists of two class tests of 20 marks each. The first-class test is to be conducted when approx. 40% syllabus is completed and second class test when additional40% syllabus is completed. Duration of each test shall be one hour. | |
| **End Semester Theory Examination:** | |
| 1 | Question paper will consist of 6 questions, each carrying 20 marks. |
| 2 | The students need to solve a total of 4 questions. |
| 3 | Question No.1 will be compulsory and based on the entire syllabus. |
| 4 | Remaining question (Q.2 to Q.6) will be selected from all the modules. |