# INSTITUTE OF AERONAUTICAL ENGINEERING
(Autonomous)
Dundigal - 500 043, Hyderabad, Telangana

## COURSE CONTENT

| SOCIAL, TEXT AND MEDIA ANALYTICS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **VI Semester:** CSE | | | | | | | | |
| **Course Code** | **Category** | **Hours / Week** | | | **Credits** | **Maximum Marks** | | |
| ACSD37 | Elective | **L** | **T** | **P** | **C** | **CIA** | **SEE** | **Total** |
| | | 3 | 0 | 0 | 3 | 40 | 60 | 100 |
| **Contact Classes: 48** | **Tutorial Classes: Nil** | **Practical Classes: Nil** | | | | **Total Classes: 48** | | |
| **Prerequisite:** Data Mining | | | | | | | | |

### I. COURSE OVERVIEW:
This course provides a comprehensive understanding of Social Media Analytics by exploring the landscape, tools, models, and real-world applications in both small and large organizations. It introduces social network theory, graph-based measures, and ethical considerations in social media usage. Students will gain knowledge on web analytics tools like Google Analytics, Facebook Insights, and NLP techniques for micro-text analysis. The course also covers advanced concepts in marketing research, campaign performance, network analysis, and emerging trends using platforms like LinkedIn, Instagram, and YouTube.

### II. COURSES OBJECTIVES:
**The students will try to learn**

I. The foundational concepts of Social Media Analytics and its relevance across various industries for data-driven decision-making.
II. The application of analytical tools to evaluate the effectiveness of social media campaigns and extract insights from user engagement.
III. Techniques to process and analyze unstructured social media data, including sentiment analysis and performance tracking using tools like Google Analytics.

### III. COURSE OUTCOMES:
**At the end of the course students should be able to:**

CO1: Understand the importance of social media analytics and its applications across various industries.
CO2: Interpret social media networks using basic graph models, metrics, and visualization tools.
CO3: Analyze social media campaigns using web analytics tools like Google Analytics and Facebook Insights.
CO4: Evaluate the effectiveness of social media strategies through sentiment analysis and performance metrics.
CO5: Design and implement a simple social media data analysis workflow using NLP and visualization tools.
CO6: Recommend optimized marketing strategies based on campaign data and social media insights.

## IV. COURSE CONTENT:

**MODULE – I: INTRODUCTION TO SOCIAL MEDIA ANALYTICS (SMA) (9)**

Social media landscape, Need for SMA; SMA in Small organizations; SMA in large organizations; Application of SMA in different areas. Network fundamentals and models: The social networks perspective – nodes, ties and influencers, Social network and web data and methods. Graphs and Matrices- Basic measures for individuals and networks. Information visualization.

**MODULE – II: NETWORK FUNDAMENTALS AND MODELS (9)**

The social networks perspective - nodes, ties and influencers, social network and web data and methods. Graphs and Matrices- Basic measures for individuals and networks. Information visualization. Link analysis. Random graphs and network evolution. Social contexts: Affiliation and identity.

**MODULE – III: SOCIAL MEDIA POLICIES AND MEASUREMENTS (10)**

Social Media Policies-Etiquette, Privacy- ethical problems posed by emerging social media technologies - The road ahead in social media.

he Basics of Tracking social media - social media analytics- Insights Gained from social media- Customized Campaign Performance Reports - Observations of social media use.

**MODULE – IV: WEB ANALYTICS TOOLS AND TECHNIQUES (10)**

Click stream analysis, A/B testing, online surveys, Use of Google Analytics; Web crawling and Indexing; Natural Language Processing Techniques for Micro-text Analysis. Case Study: Facebook Analytics.

**MODULE – V: MARKETING RESEARCH & TRENDS IN MARKET (10)**

Introduction, parameters, demographics. Analyzing page audience. Reach and engagement analysis. Post performance on FB, Use of facebook business manager; social campaigns. measuring and analyzing social campaigns, defining goals and evaluating outcomes, network analysis. (LinkedIn, Instagram, YouTube Twitter etc. processing and visualizing data, influence maximization, link prediction, collective classification. applications in advertising and game analytics (Use of tools like Unity30 / PyCharm).

## V. TEXT BOOKS:


1. Mathew Ganis, Avinash Koihrkar "Social Media Analytics: Techniques and Insights for Extracting Business Value Out of Social Media", IBM press, 1st edition, 2015.
2. Tracy L. Tuten, Michael R. Solomon "Social Media Marketing Sage", 3rd edition ,2018.
3. Gohar F. Khan "Creating Value with Social Media Analytics" Create Space Independent Publishing, 1st edition ,2018.
4. Alex Gonsalves "Social Media Analytics Strategy Appress" , 1st edition ,2017.


## VI. REFERENCE BOOKS:


1. Jim Sterne "Social Media Metrics Wiley".
2. Marshall Sponder, Gorah F. Khan "Digital Analytics for Marketing" Routledge, 1st edition, 2017.


## VII. ELECTRONICS RESOURCES:

1. https://searchbusinessanalytics.techtarget.com/definition/social-media-analytics
2. Indian Journal of Marketing
3. https://gameanalytics.com/blog/best-tools-for-mobile-game-developers.html
4. https://www.jetbrains.com/pycharm/features/scientific_tools.html

## VIII. MATERIALS ONLINE:

1. Course outline description
2. Tutorial question bank
3. Definition and terminology
4. Open ended experiments
5. Tech-talk topics
6. Assignments
7. Model question paper - I
8. Model question paper - II
9. Lecture notes
10. Early learning readiness videos (ELRV)
11. Power point presentations