

Module Specification

Module Summary Information

1	Module Title	Web Social Media Analytics and Visualisation
2	Module Credits	20
3	Module Level	7
4	Module Code	CMP7202

5	Module Overview
<p>The exponential growth of social media has transformed the social, political, and technological landscapes. An increasing amount of data is generated from today's social sites such as Twitter, Facebook, and YouTube. People use social media to publish rich content, annotate it with descriptive metadata, communicate and respond to each other. Data analytics is a powerful tool to identify trends and patterns in social media and explore how social media have been used in times of disasters, crisis or during important events such as political campaigns. This course is multidiscipline that combines social network analysis (SNA), natural language processing, and data analytics for mining social data. We aim in this course to understand an end-to-end process of social media analytics starting form data collection to extracting insights and deriving conclusions.</p> <p>The course will examine foundational concepts and applications of social data analysis including influence and centrality in social network, topic modelling and sentiment analysis. You will also learn how to use data analytics tools to manipulate, analyse, and visualise social media data. You will learn how to prepare data and map these relationships to help you understand how people communicate and exchange information.</p> <p>Alignment with programme philosophy and Aims</p> <p>A problem-based learning strategy is followed to encourage you to be responsible for your learning and to reflect on their experience during the academic studies. Likewise, you are expected to apply the skills gained in the module and the wider programme as an individual and within a team to practice using examples from use cases to solve real world challenges, which will develop your knowledge and soft skills further.</p> <p>Learning and Teaching</p> <p>This module aims to encourage self-directed, individual, and life-long learning through the adoption of problem-based learning strategy to enhance your problem solving skills. The module begins by providing an introduction to web and social media, tools and techniques and how the skills honed the application of these skills to support your coursework. During the weekly sessions, the core theoretical and practical concepts to support learning and understanding to enhance your knowledge and practical application: how tools and techniques to enhance knowledge of social media analytics and provides you with the skills required to investigate web data.</p> <p>The module will be taught using a combination of lectures, tutorials and practical laboratory sessions. A practical approach to learning and teaching will be utilised throughout the module and assessment. During the module you will work individually to derive information requirements of web traffic data and explore different ways to investigate and apply tools and techniques to the web data.</p>	

Independent learning will be supported by a range of materials and activities delivered using Moodle. This will include:

- Directed reading will be provided on Moodle before each lecture/tutorial.
- Details of each tutorial and case-based resources (such as videos, online tutorials and example case studies).
- Recommended reading to broaden understanding of the theory and practice introduced in the module.
- Guidance on how to approach the assessment and opportunities to submit draft work for formative feedback.
- Forums for sharing resources and working in teams.

You will undertake 25% of your time in scheduled learning and teaching activities and 75% in guided independent and collaborative learning. Thus, the module would include a minimum of 48 hours of contact time each semester, at the university.

Assessment Strategy

The coursework is an individual report written based on the tools and techniques applied to the web data investigation.

6	Indicative Content
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This module will introduce students to the following:

- Data and Application Program Interface (API)
- Graph theory
- Basics of social network analysis (SNA) at the network level (density, clustering, degree distribution, etc.); at the node level (degree, betweenness, closeness); at the sub-graph level (triads, communities)
- Influence in social media
- Quantitative and qualitative analysis (such as Clickstream, A/B testing etc).
- Role of social media analytics in predicting the future. i.e., consumer behaviour, elections, google flue.
- Methods for identifying trends and patterns in social data
- Sentiment analysis
- Topic modelling

7	Module Learning Outcomes
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On successful completion of the module, students will be able to:

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| 1 | Utilize various Application Programming Interface (API) services to collect data from different social media sources. |
| 2 | Conduct basic social network and statistical analysis to render network visualisations and to understand network characteristics. |
| 3 | Derive insights and discover patterns in structured social media data using methods such as correlation, regression, and classification. |
| 4 | Extrapolate and analyse trends in unstructured-text data using natural language processing methods such as sentiment analysis and topic classification |

8 Module Assessment			
Learning Outcome			
	Coursework	Exam	In-Person
1	X		
2	X		
3	X		X
4	X		X

9 Breakdown Learning and Teaching Activities	
Learning Activities	Hours
Scheduled Learning (SL) includes lectures, practical classes and workshops, peer group learning, Graduate+, as specified in timetable	48
Directed Learning (DL) includes placements, work-based learning, external visits, on-line activity, Graduate+, peer learning, as directed on VLE	76
Private Study (PS) includes preparation for exams	76
Total Study Hours:	200