

# COMP 3020 SOCIAL WEB ANALYTICS

**Credit Points** 10

**Legacy Code** 300958

**Coordinator** Weicong Li ([https://directory.westernsydney.edu.au/search/name/Weicong Li/](https://directory.westernsydney.edu.au/search/name/Weicong%20Li/))

**Description** The Social Web provides everyone with a voice; information from Facebook, Twitter and other social networks allows us to identify trends and relationships in society. Whilst this has interest on a personal level, the killer-apps will be in analysing social Web data for business, such as tracking the buzz around a new product, and understanding the relationships between customers and products. This subject will introduce its students to the Social Web data that is available, and blend data science and machine learning concepts to allow extraction and analysis of such data.

**School** Computer, Data & Math Sciences

**Discipline** Statistics

**Student Contribution Band** HECS Band 1 10cp

Check your fees via the Fees ([https://www.westernsydney.edu.au/currentstudents/current\\_students/fees/](https://www.westernsydney.edu.au/currentstudents/current_students/fees/)) page.

**Level** Undergraduate Level 3 subject

**Pre-requisite(s)** Students NOT enrolled in the 3770 must have successfully completed one of the following groupings (MATH 1028 Statistical Decision Making OR MATH 1003 Biometry OR COMP 1014 Thinking about Data) OR (MATH 1030 Statistics for Business AND COMP 1013 MATH 1002 Analytics Programming) OR (MATH 1012 Management Analytics AND COMP 1013 MATH 1002 Analytics Programming) OR (MATH 2006 Experimental Design and Analysis AND COMP 1013 MATH 1002 Analytics Programming)

**Co-requisite(s)** For students enrolled in courses 3769 Bachelor of Data Science or 3770 Bachelor of Applied Data Science COMP 1014 Thinking About Data

**Assumed Knowledge**

Students are expected to be familiar with fundamental computer programming concepts and required to have a prior statistics knowledge.

## Learning Outcomes

On successful completion of this subject, students should be able to:

1. extract and process formatted data from social Web sources.
2. use computer algorithms to visualise complex social Web interactions.
3. use mathematical and statistical methods to identify significant trends in the social Web.
4. use mathematical and statistical techniques to identify critical regions of a social network.

5. partition a social network into clusters.
6. choose an appropriate metric to measure the interaction between social network nodes.
7. compute the popularity, authority and hub scores for network nodes.

## Subject Content

Data extraction and formatting.  
Visualisation of social networks.  
Identifying trends in social networks.  
Measuring similarity in multiple networks.  
Clustering social network information  
Finding authorities and hubs in a social network.

## Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Type	Length	Percent	Threshold	Individual/ Group Task
Short Answer	45 minutes	15	N	Individual
Report	10 to 30 pages	25	N	Group
Quiz	15 minutes	15	N	Individual
Final Exam	2 hours	45	Y	Individual

Prescribed Texts

- Russell, M. A. (2013). Mining the social web (2nd ed.). Sebastopol, CA: O'Reilly.

Teaching Periods

## Vietnam Session 2 (2024)

**Vietnam**

**On-site**

**Subject Contact** Weicong Li ([https://directory.westernsydney.edu.au/search/name/Weicong Li/](https://directory.westernsydney.edu.au/search/name/Weicong%20Li/))

View timetable ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=COMP3020\\_24-UT2\\_UE\\_1#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP3020_24-UT2_UE_1#subjects))

## Spring (2024)

**Campbelltown**

**On-site**

**Subject Contact** Weicong Li ([https://directory.westernsydney.edu.au/search/name/Weicong Li/](https://directory.westernsydney.edu.au/search/name/Weicong%20Li/))

View timetable ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=COMP3020\\_24-SPR\\_CA\\_1#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP3020_24-SPR_CA_1#subjects))

**Penrith (Kingswood)**

**On-site**

**Subject Contact** Weicong Li ([https://directory.westernsydney.edu.au/search/name/Weicong Li/](https://directory.westernsydney.edu.au/search/name/Weicong%20Li/))

View timetable ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=COMP3020\\_24-SPR\\_KW\\_1#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP3020_24-SPR_KW_1#subjects))

## **Parramatta - Victoria Rd**

### **On-site**

**Subject Contact** Weicong Li ([https://directory.westernsydney.edu.au/search/name/Weicong Li/](https://directory.westernsydney.edu.au/search/name/Weicong%20Li/))

View timetable ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=COMP3020\\_24-SPR\\_PS\\_1#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP3020_24-SPR_PS_1#subjects))

## **Sydney City Campus - Term 3 (2024)**

### **Sydney City**

#### **On-site**

**Subject Contact** Antoinette Cevenini ([https://directory.westernsydney.edu.au/search/name/Antoinette Cevenini/](https://directory.westernsydney.edu.au/search/name/Antoinette%20Cevenini/))

View timetable ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=COMP3020\\_24-SC3\\_SC\\_1#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP3020_24-SC3_SC_1#subjects))