MONASH University **Handbook**

Unit

FIT3182 Big data management and processing

Overview

Data engineering is about developing the software (and hardware) infrastructure to support data science. This unit introduces software tools and techniques for data engineering, but not hardware. It will cover an introduction to big data processing, covering volume, variety, and velocity; large volume data processing using parallel technologies; variety data formats, including unstructured and semi-structured data, using NoSQL databases; and velocity data processing, covering data streaming.

Faculty:
Faculty of Information Technology

Owning organisational unit:
Faculty of Information Technology

Study level:
Undergraduate

SCA band:
2

EFTSL:
0.125

Credit points:
6

Open to exchange or study abroad students?

Yes

Offerings

S1-01-CLAYTON-ON-C

Location: Clayton

Teaching period: First semester

Attendance mode: On-campus

S1-01-MALAYSIA-ON-CAMPUS

Location: Malaysia

Teaching period: First semester

Attendance mode: On-campus

Requisites

Prerequisite

→ FIT2094 6 CP

Databases

OR

→ FIT3171 6 CP

Databases

AND

→ FIT2004 6 CP

Algorithms and data structures

Rules

Enrolment Rule

Students should have an understanding of database concepts and SQL and Python programming background.

Contacts

Chief Examiner(s)

Associate Professor David Taniar

Email: David.Taniar@monash.edu

Offering(s):

- Applies to all offerings

Unit Coordinator(s)

Dr Vishnu Monn

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Offering(s):

- First semester, Malaysia, On-campus

Dr Lei Yang

Email: Lei.Yang@

Offering(s):

- First semester

Learning outcomes

On successful completion of this unit, you should be able to:

1. identify big data concepts and technologies;
2. write and interpret parallel database processing algorithms and methods;
3. use big data processing frameworks and technologies;
4. describe and compare NoSQL technologies;
5. use big data streaming technologies.

Teaching approach

Active learning

Assessment

Quiz-1

Value %: 10

Assignment-1

Value %: 15

Quiz-2

Value %: 10

Assignment-2

Value %: 25

Quiz-3

Value %: 10

Assignment-3

Value %: 30

Scheduled teaching activities

Laboratories

Total hours: 24 hours

Offerings:

- Applies to all offerings

Lectures

Total hours: 24 hou

Offerings:

- Applies to all offe

Workload requirements

Workload

Minimum total expected workload to achieve the learning outcomes for this unit is 144 hours per semester typically comprising a mixture of scheduled online and face to face learning activities and independent study. Independent study may include associated reading and preparation for scheduled teaching activities.