

**Nanyang Technological University
Nanyang Business School**

AB9103: AUDIT ANALYTICS

A) Course Aims/Description

With a rapidly changing regulatory environment, stakeholders are demanding more confidence and value from audit, particularly with the emergence of technologies such as data analytics. Data analytics is significantly changing the way auditors approach and conduct audit, where data is now brought to life to allow an in-depth risk assessment and more continuous real-time audit procedures to be performed

– subjecting entire populations to audit procedures, not just samples.

This course examines the application of data analytics in audit based on an underlying risk-based methodology with real-life examples. This course is designed for students who are keen to apply what they have learnt in other courses as well as within the course to real-life examples as they learn about practical aspects in the audit analytics process such as extraction, transformation and loading of data as well as the actual execution of audit analytics tests and visualisation of the results in software such as Tableau.

B) Intended Learning Outcomes (ILO)/Objectives

By the end of this course, you should be able to:

- 1) Describe what is data analytics in audit
- 2) Apply basic skills on SQL to develop insights in audit
- 3) Apply basic skills on a visualisation tool like Tableau to develop insights in audit
- 4) Evaluate the practical considerations when applying data analytics in audit
- 5) Conceptualise the application of audit analytics in real-life companies through development of prototype dashboards

C) Course Content

Introduction to the course

- What is Data Analytics
- Phases of the Audit
- Types of Data Analytics

Application of Data Analytics in Audit

- Plan the audit
 - Exploratory data analytics
 - Obtain understanding of entity and its environment
 - Perform preliminary analytical procedures
 - Identify and assess risk of material misstatement
 - Design tailored audit procedures
 - Obtain an understanding of a population
- Tests of operating effectiveness of controls
 - Inspect or re-perform controls
 - Evaluate deficiencies in controls

- Perform substantive procedures
 - Test of details
 - Substantive analytical procedures
 - Automation of manual procedures
 - Iterative uses of data analytics

- Evaluate results
 - Types of misstatements
 - Exceptions due to imprecision in expected outcome
 - Deviations in a nonmonetary test
 - Errors identified through other types of testing
 - Concluding analytical procedures

Audit Analytics Process

- Extract the data
 - Understanding of relational tables in database
 - Methods of data extraction
 - Data storage and security

- Prepare the data for use
 - Data formats
 - Conversion of data formats
 - Use of SQL

- Run the analytics tests
 - Use of SQL

- Interpret the outputs
 - Use of Tableau

Team meeting with audit partner(s) for understanding of the real-life company assigned

Team meeting with audit partner(s) for proposal of audit analytics scope

Development of prototype dashboard(s) and consultation for final project and presentation

Final presentation to audit partners on the audit analytics solutions proposed

D) Assessment (includes both continuous and summative assessment)

Component	Weightage	Individual/Group
1. Seminar Participation	10%	Individual
2. In-Class Quiz 1	20%	Individual
3. In-Class Quiz 2	20%	Individual
4. Team Project Progress Presentation	10%	Team (All Students will need to present)
5. Team Project Final Presentation & Demo	20%	Team
6. Team Project Final Report	20%	Team
Total	100%	

E) Weekly Planned Schedule

Week	Topics
1	Introduction to the course
2	Application of Data Analytics in Audit (1)
3	Audit Analytical Process (1)
4	Audit Analytics Process (2)
5	Team meeting with audit partner(s) for understanding of the real-life company assigned
6	Audit Analytics Process (3)
7	Application of Data Analytics in Audit (2)
	Recess Week
8	Team meeting with audit partner(s) for proposal of audit analytics scope
9	Application of Data Analytics in Audit (3)
10	Application of Data Analytics in Audit (4)
11	Development of prototype dashboard(s)
12	Development of prototype dashboard(s)
13	Final presentation to audit partners on the audit analytics solutions proposed