NANYANG TECHNOLOGICAL UNIVERSITY SINGAPORE

NTU Academy for Professional and Continuing Education

Learn skills that will prepare you for a data-driven and digitally transformed business environment and organisation



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SkillsFuture Career Transition Programme (SCTP)

Advanced Professional Certificate in

Data Analytics

Course Outline

This part-time programme facilitated over a period of approximately 3 months is designed by industry professionals and practitioners to upgrade existing capabilities with the practical aspects of data mining and preparation, data analysis and visualization.

Through guided hands-on work and instruction, learners will gain the knowledge to apply the core aspects of dealing with data that is essential in many job roles in all industries.



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"*Data literacy Is the ability to read, write and communicate data in context, including an understanding of data sources and constructs, analytical methods and techniques applied; and the ability to describe the use case, application and resulting value.*" – Gartner

Majority of companies today realize the value of a data-driven business and need talented individuals to provide insight into the constant stream of collected information.

The demand for data literate professions will only grow as we continue to digitize our physical world.

We have designed 3 course modules focused on core data skills that every job that deals with data will need, e.g., data and business analyst, sales and marketing, operations management, finance, etc. These skills are also portable across any sector, work or job you find yourself in.

Data Wrangling, EDA & Data Mgt
Identify sources of data, mine data and build data models.

Analyzing & Interpreting Data
Analyze and interpret data, build charts, plots and statistical analysis.

Communicating Insights & Dashboarding
Build Dashboard and communicate insights through data storytelling.

Course Modules

Data Wrangling, Exploratory Data Analysis (EDA) and Data Management

It is estimated that data analysts spend up to 75% of their time on data preparation, wrangling, and exploratory data analysis (EDA). In this course, learners will gain a solid understanding of data structures and learn techniques for managing, cleaning, and transforming different types of data to support effective analysis and visualisation.

The course also introduces the use of SQL for data extraction and incorporates Generative AI tools to streamline and enhance data preparation workflows. Through hands-on exercises using applications such as SQLite, learners will develop practical data wrangling skills and learn how to prepare data for downstream analytics and decision-making.

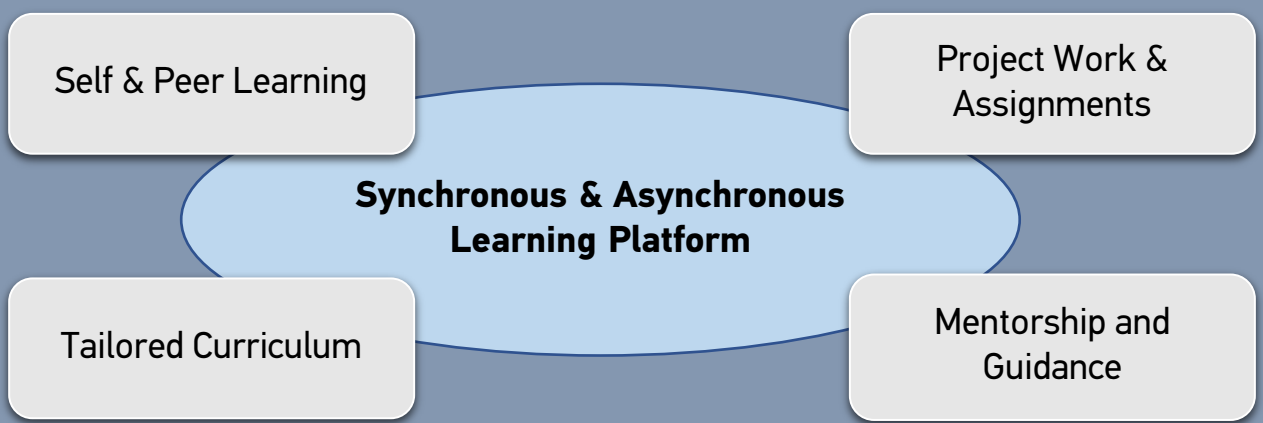
Analyzing and Interpreting Data

Knowing how to analyze data, extract insights from data, interpreting charts and analytics, and presenting the analysis to a varied audience is a competency that is a "must have" for any individual, firm or organization. Businesses and organizations are already operating in a connected, digital and knowledge environment, where business intelligence and insights underlie a firm's or organization's business advantages. Learners will learn how to get the most out of MS Excel's "Data Analysis" ToolPak for purposes like time series analysis and scenario forecasting. The focus is on the approach and techniques using up-to-date company financial data (e.g. annual data, line of business (LOB) data, market segment, etc.

Communicating Insights, Dashboarding and Data Storytelling

Having uncovered the insights from data, there is a need to communicate those insights. Different audiences require its own specific communication. One of the biggest benefit of data visualization is to make it easy for everyone to quickly gain insight, e.g., insights into performance and drill in further to learn more about what is driving results. This course is designed to equip learners with the skills to transform complex data into clear, actionable visuals. Learners will learn how to use applications like Tableau for data visualization and storytelling, incorporating GenAI to enhance their learning experience.

Our learning approach is based around learning by doing, peer discussions, coaching by industry practitioners and case examples.



Support and Outcomes

Real-World Applicability

The content and curriculum is specifically designed to equip learners with skills related to aspects of data mining and preparation, data analysis and visualization. Skills like data analysis and data storytelling are core and portable skills that complement existing domain knowledge and skill set.

Coaching and Learning-by-Doing

Through the use of current data in the training, learners will have ample hands-on practise of the approach and techniques taught in the various modules. Learners will get ample opportunities to ask the trainers about real-world applications.

Building a Portfolio of Project Work

There will be more than enough opportunities for learners to work on mini projects and presentations by trainers. The final course quiz will further serves to validate understanding of the key concepts and takeaways.

Programme Details:

Time commitment: 15 hours/week over 15 weeks (Online learning)

Venue: Virtual (Online), NTU e-Learning Platform & NTU@one-north

Target Audience: A background in IT is not necessary but preferable. This course is designed to cater to the intricacies of analytics. Hence, individuals with a background in this discipline bring valuable prior knowledge that will enhance their learning experience and understanding of the curriculum.

Programme fee: Fee before funding: S$8,170 (inclusive of 9% GST)

*The following are applicable:

- Up to 70% - 95% SWDA Funding
- SkillsFuture (Mid-Career) Credit top-up: $4,000
- SkillFuture Mid-Career Training Allowance

Scan or click for course details and registration