

ANL203 Analytics for Decision-Making

Level: 2

Credit Units: 5 Credit Units

Language: ENGLISH

Presentation Pattern: EVERY SEMESTER

Synopsis:

ANL203 Analytics for Decision-Making is designed to equip students with the skills and knowledge to design effective spreadsheet models and analyses to support decision-making in common business and financial scenarios (e.g., construct a quantitative pricing recommendation or optimise a supply chain network design). Students acquire knowledge of business analytics concepts and framework to develop analytical thinking by recognising key business assumptions.

This course introduces analytics techniques in a problem-solving framework. It goes through the analytics life cycle in a systematic process, and uses live spreadsheet models to demonstrate data exploration, data preparation and transformation, algorithms for classification and prediction, optimisation and simulation. The course also examines the applications of Power BI throughout the analytics process in various social science and business scenarios. Students will work along the example and exercises in a "consulting" mode to reproduce models and analyses and make improvements.

Topics:

- Introduction to the Business Analytics Process
- Background Knowledge for Spreadsheet Modelling
- Data Types and Structures
- Data Exploration
- Basic Data Preparation and Challenges
- Basic Analysis Using Spreadsheet
- Classification and Prediction
- Optimisation
- Simulation
- Data Visualisation and Communication
- Benefits and Challenges of Business
- Final Project

Textbooks:

: Data Mining Applications for Small and Medium Enterprises
ISBN-13: BN-0149

Powell, S. G., Baker, K. R.: Business analytics: The art of modeling with spreadsheets. Wiley
ISBN-13: 9781119298335

Learning Outcome:

- Identify key business problems and critical assumptions for business analytics
- Explain the entire process of developing useful analytics results from data
- Prepare raw data in a form suitable for analysis
- Develop analytics solutions for business problems
- Analyse data using appropriate techniques and models
- Employ techniques to visualise and communicate results with business audience

Assessment Strategies (Evening Class):

| Components | Description | Weightage Allocation (%) |
|-------------------------------|---------------------------|---------------------------------|
| Overall Continuous Assessment | PRE-COURSE QUIZ 1 | 2 |
| | PRE-CLASS QUIZ 1 | 2 |
| | PRE-CLASS QUIZ 2 | 2 |
| | PARTICIPATION 1 | 6 |
| | TUTOR-MARKED ASSIGNMENT 1 | 18 |
| | GROUP BASED ASSIGNMENT 1 | 20 |
| Overall Examinable Components | ECA | 50 |
| Total | | 100 |

Assessment Strategies (Online Class):

| Components | Description | Weightage Allocation (%) |
|-------------------------------|---------------------------|---------------------------------|
| Overall Continuous Assessment | PRE-CLASS QUIZ 1 | 2 |
| | PRE-CLASS QUIZ 2 | 2 |
| | PRE-COURSE QUIZ 1 | 2 |
| | DISCUSSION BOARD 1 | 10 |
| | GROUP BASED ASSIGNMENT 1 | 10 |
| | PARTICIPATION 1 | 6 |
| | TUTOR-MARKED ASSIGNMENT 1 | 18 |
| Overall Examinable Components | ECA | 50 |
| Total | | 100 |