



Analytics for Information Driven Decisions (AIDD)

Our **Analysis for Information Driven Decisions (AIDD)** program focuses on the essential techniques required to develop the information decision makers need to act.

The thing that distinguishes information from data is that decision makers can act on information. Our program gives participants the ability to furnish this information so that decision makers can act with confidence and without further analysis. And they can do so efficiently and effectively.

At the heart of the Analytics for Information Driven Decisions (AIDD) are case studies. Each depicts organizational problems that participants will turn into a data analysis project. Participants will apply the AIDD methodology and all essential data analytic skills to successfully complete the project and present their recommendations.

The AIDD methodology is an iterative approach to data analysis that includes envisioning information, statistical analysis, visual analysis, critical thinking, and problem solving. As they work on real-life case studies, participants can compare their work to what transpired and evaluate what they have learned and what they can still improve upon. This provides participants with the confidence to apply their skills on the job.

This program is based on the Analytics Maturity Model. The further along your organization is on the model, the more information you can derive from your data and the more confidence you will have in acting on that information.

Our AIDD Program courses include:

1. Introduction to Data Analytics
2. Beginning Data Analysis and Visualization
3. Intermediate Data Analysis and Visualization
4. Advanced Data Analysis Concepts
5. Employing the AIDD Methodology & the Data Analytic Maturity Model
6. Improving Organizational Use of the AIDD Program
7. Presentation of Data: Solutions & Recommendations
8. Data Analysis: Improve Efficiency in Excel
9. Data Analytics Extraction Transformation and Loading

Note: These courses are offered using MS Excel because of its vast availability, however Power BI, Tableau and other tools can be substituted upon request.

Detailed course descriptions for the above courses are on the following pages.



Introduction to Data Analytics (3 Day)

In our **Introduction to Data Analytics** course, participants are introduced to the world of data analysis. We cover a broad set of topics so students get a well-rounded view of data analysis. In addition to improving their data analysis skills, participants will be prepared to obtain further training in areas most applicable to their needs.

Throughout this course, participants are provided the opportunity to improve their data analysis skills. We introduce them to an organizational problem or challenge that they will use data to solve. In doing so, participants will envision the solution begin an iterative process of exploring data to raise questions and analyzing data to answer questions thus creating information that can be used to address their problem.

Participants will begin their analysis by envisioning the information they need in order to obtain their solution for this project. They will then work to develop interview and survey questions that will help them gather the data they need to obtain the information they require.

Participants will gain experience conducting interviews and surveys to gather data and then incorporating the data into their projects. They will need to cleanse, organize, transform the new data and compare it to the original data set. Participants are introduced to inferential statistical analysis because our newly gathered data only represents a sample.

They will employ a variety of descriptive statistical methods to extract information from data and learn how to organize the information using the proper context. We will introduce them to diagnostic, predictive and prescriptive analytics to increase their knowledge of how data analysis can be used to address organizational problems.

By giving participants the opportunity to organize and present their results in the class, they learn the how to properly communicate information that is supported by their data analysis.

Course Objectives:

Upon the successful completion of this course, participants will be able to:

1. Translate an organizational problem into an accomplishable analysis project
2. Define Analytics Process Model
3. Identify each phase of the Analytics Process Model and its purpose
4. Begin formulating a study plan
5. Write a problem statement
6. Define effective objectives for analysis
7. Develop interview questions and conduct short interviews
8. Develop and administer a brief survey
9. Apply basic quantitative analysis techniques
10. Analyze data using descriptive statistics (e.g., mean, median, mode, range, variance, standard deviation, and frequencies)
11. Apply basic Excel functions to filter data, sort data, create ranges, and anchoring
12. Develop an outline for an executive summary in an analytical report
13. Give a short briefing to present analysis results



Beginning Data Analysis and Visualization (3 Days)

In today's business world, just about every employee works with data to some extent. MS Excel is widely available and used by many employees to process data and information. This course helps the participants become more familiar with data analytics concepts and more proficient with MS Excel.

This course is designed for beginners who have familiarity with the MS Excel environment but need to learn how to use the tools for data analysis. In this course, the participants will learn how to load data into MS Excel and set up worksheets and tables. They will learn the basics of performing statistical and visual analysis to gain new insights in a quicker, more efficient manner.

Participants will see an overview of more advanced features of MS Excel and how they can be useful in the analysis of data. Participants are given additional resources that can be used to further their understanding of these concepts after the course.

Objectives:

Upon successful completion of this training, students will be able to:

- Load data into MS Excel and prepare it for analysis
- Describe Basic Spreadsheet Design
- Describe the advantages and differences between worksheets, tables and reports
- Perform Statistical Analysis on data
- Create basic Formulas and use basic Functions
- Create PivotTables, PivotCharts, and Slicers
- Describe the uses of chart types available in MS Excel
- Display information using meaningful visuals
- Create Geospatial Visualizations



Intermediate Data Analysis and Visualization (3 Days)

In today's business world, just about every employee works with data to some extent and typically has MS Excel on their desktop. This course helps the participants expand their knowledge of data analytics concepts and the functionality of excel so they can become more proficient in their daily data analysis tasks.

This course is designed for those who already have familiarity with MS Excel and with Data Analysis concepts. In this course, we take your knowledge further and look at the details of analyzing data both statistically and visually to gain new insights in a quicker more efficient manner.

Participants will perform deeper statistical analysis of the data and learn more techniques to display their results visually. They will also begin to learn some of Excel's more advanced features like Power Query, Power Pivot and Dashboards.

Participants will learn and practice several intermediate and advanced MS Excel techniques to analyze data using real world examples. Participants are given additional resources that can be used to further their understanding of these concepts after the course.

Objectives:

Upon successful completion of this training, students will be able to:

- Getting and Transforming Data
- Analyzing and Visualizing Data for Business
- Performing Statistical Analysis
- Perform linear regression analysis
- Analyzing Data with Formulas and Functions
- Create nested formulas to handle more complex operations
- Creating Conditional Visualizations
- Creating PivotTables, PivotCharts, and Slicers
- Presenting Information in an Excel Dashboard
- Explain the use of Power Query in aiding data analysis
- Modeling and Analyzing Data with Power Pivot
- Creating Geospatial Visualizations with Excel



Advanced Data Analysis Concepts (3 Days)

It's easy to suffer from information overload in today's world. Employees need tools that are both easy to use and help them make sense of the large volume of data they're presented with on a daily basis.

In this course, we build upon our Introduction to Data Analytics and Data Analysis and Visualization with Excel course and move on to more advanced features of Excel and more advanced techniques we can apply to our data.

Participants will learn how to bring data from multiple sources together in one place for analysis. They will learn how to manipulate the data into a form suitable for the type of analysis required for their work.

Participants will move past descriptive analytics and leverage the power of:

- Diagnostic Analytics: Why did something happen?
- Predictive Analytics: What will happen?
- Prescriptive Analytics: How can we make something happen?

Tracking information and results over time can offer valuable insights used to refine the work that we do. Participants will learn to use KPIs to help with Data Analysis and to make real-time decisions based on current up to date information.

Participants will learn how to organize analytic results spatially (GIS, Geospatial) to more quickly reveal insights.

Objectives:

Upon successful completion of this training, students will be able to:

- Explain Data Modelling with Excel Worksheets
- Simultaneously work with data from multiple sources
- Creating queries with Power query
- Model and Analyze Data with Power Pivot
- Create proper KPIs to help with data analysis.
- Perform Diagnostic and Predictive Analytics to better explain why a problem occurs and what is most likely to occur next.
- Perform Prescriptive Analytics to help make things happen
- Data Analysis with PivotTables, PivotCharts, and Slicers
- Use Excel's Advanced and 3D Mapping features



Employing the AIDD Methodology & the Data Analytic Maturity Model (2 Days)

Data, with its ever-increasing volume, velocity and variety provides tremendous opportunities for organizations to gain insights, automate and improve decision making. It also brings new and complex challenges. The Analytics for Information Driven Decisions (AIDD) Methodology simplifies these challenges by breaking down the complexity into manageable steps.

By teaching the AIDD methodology aligned with the Data Analytics Maturity Model, individuals build the skills required to help move their organization to higher levels. By having a more thorough understanding of the problem and solution recommendations, they can better and more quickly inform decision makers who can act with more confidence.

Management can also use the Data Analytics Maturity Model to commit resources more efficiently to Data Analytics efforts and infrastructure decisions.

During activity debriefings and at the conclusion of the course, participants can self-assess what they have learned and how it will apply to their job duties. They will have the knowledge and skills to use data analytics to provide more efficient and effective solutions and recommendations.

Objectives:

Upon completion of the Introduction to the AIDD Methodology & Data Analytics Maturity Model course, participants will be able to:

1. Identify each phase of the Data Analytics Methodology and its purpose
2. Describe the levels of the Data Analytics Maturity Model
3. Explain the difference between data and information
4. Describe the outcome of a successful data analytics project
5. Contrast the roles of data analyst, data scientist, SME, and data architect
6. Describe the knowledge and skills needed to be a successful data analyst
7. Define the Data Analyst Role
8. Describe different data types and the data architecture use to store and manage it
9. Describe the capability of different analytic tools and pros and cons of each
10. Apply techniques for idea generation, problem solving, critical thinking and other analyst skills



Improving Organizational Use of the AIDD Program (1 Day)

In this course, we will revisit the participants use of the AIDD Methodology and review both the time spent during the training and include additional real-life work examples from the participants current projects.

We will work through the participants examples and work in teams to help the participants fill in any gaps in their knowledge from the AIDD program.

We will also work towards the future and help the participants to see how they can move forward with their own skill set and how they can help the organization move forward with their Analytics for Information Driven Decisions goals.

We recommend offering this course approximately 1 month after completion of the program as scheduling allows.

Course Objectives:

Upon the successful completion of this course, participants will be able to:

1. Critique their usage of the AIDD Methodology on their current projects
2. Better apply the AIDD Methodology to their current work projects
3. Define opportunities to improve their usage of Data Analytics at their organization
4. Update their personal learning plan to map their path forward with Data Analytics
5. Refine their role of a Data Analyst at their organization
6. Discuss Real-Time Solutions and Automated Decision-Making concepts



Presentation of Data: Solutions & Recommendations

This course expands on standard briefings and presentations training by teaching data analysts how to present their recommendations to stakeholders. Participants learn how to best communicate the information obtained from data analysis and show relevant connections, trends and patterns.

Participants will learn how to visually display the most relevant information based on their statistical and visual analysis.

This course will include writing analytical reports, including an executive summary and presentation skills relevant to data analytics solutions and recommendations.

Of particular importance is being able to present information to an audience that aids in the decision-making process. Participants will learn how to make every aspect of their presentation to be contextually relevant to their objective.

Objectives:

Upon completion of the Introduction to the **Presentation of Data: Solutions & Recommendations** course, participants will be able to:

1. Create an Analytical report and Executive Summary supported with information
2. Organize the solution and recommendations in a way that best meets the objective and allows decision makers to act with confidence
3. Select the correct visuals to communicate information more quickly and accurately
4. Translate analytic outputs into meaningful solutions and recommendations
5. Describe the cause of a problem and how the solution will address it
6. Discuss Interactive visuals of information that aid in real-time decision making
7. Show information in a concise manner, making it easy for decision makers to understand and have confidence in

This course can be tailored to specific organizational needs. Below are the sub-objectives of presenting the results of a Financial Data Analysis:

- Visualize key financial indicators
- Display revenue and profit snapshot in one dashboard
- Illustrate revenue highlights with clear visuals
- Include balance sheet and cash flow tables
- Compare key drivers of revenue growth
- Visually compare and contrast revenues and expenditures
- Display accurate financial trends, patterns, comparisons and proportions



Data Analysis: Improve Efficiency in Excel (2 Days)

In a world of big data, employees in a variety of jobs need to quickly and efficiently manage large volumes of data. This course helps participants get started with Excel in a way to do just that.

The structure and format of your data can facilitate or prohibit effective data analysis. Participants in this course will learn how to structure their data to facilitate efficient and effective data analysis.

They will learn proper techniques of working with one or multiple worksheets and how to use formulas to obtain sums, percentages, and other descriptive statistics.

Participants will learn how to identify and extract relevant information from their data and organize it into actionable knowledge.

Objectives:

Upon completion of the Data Analysis in MS Excel for Beginners course, participants will be able to:

1. Design worksheets for effective data analysis
2. Demonstrate techniques for working with multiple worksheets
3. Import their data into MS Excel
4. Create formulas to apply basic descriptive statistics
5. Create basic pivot tables
6. Extract relevant information from their data
7. Describe how to organize Information into actionable knowledge
8. Create basic charts



Data Analytics Extraction Transformation and Loading (1 Day)

Many analysts find themselves inadequately prepared to manipulate data and prepare it for analysis. Very often, the data we receive isn't ready for analysis the moment we get it. This course focuses on getting data into the proper form and formats and manipulating it so that it can be used for data analysis.

Participants will learn multiple ways of loading data into Excel and learn the ability to modify it so that it is ready for use. We will use Power Query to filter, sort and transform data. We will also look at multiple data connection methods so participants will understand the pros and cons of each and will be able to select the correct method for their work.

Participants will learn how to use tables in Excel and the differences between tables and worksheets. They will also learn how to refresh static worksheets or connect to live data. This will allow participants to refresh their analysis work, visuals and dashboards without having to rebuild these items on top of new data.

This course is designed for those who work with Excel and would like to load and manipulate data more effectively. Participants will have the opportunity to practice these skills during the course and will be given additional resources to help continue self-study after the course is completed.

Objectives:

Upon successful completion of this training, students will be able to:

- Describe data Extraction, Transformation and Loading concepts
- Explain the differences between MS Excel worksheets and tables
- Set up static or live connections to outside data sources
- Load data into MS Excel
- Extract data from MS Excel
- Transform Data using MS Excel's Power Query
- Improve efficiency by automating data transformation
- Set up Power Pivot in preparation for data analysis
- Describe Power Pivot's data model and how it's used to link multiple data sources