## Instruction Schedule – Based on Part-Time Cohort

• 60 minutes: welcome and content read

• 60 minutes: lecture and demo lessons

• 30 minutes: work on challenges

• 30 minutes: walkthrough challenge solutions and wrap up

## Instruction Schedule – Based on Full-Time Cohort

### Morning session:

• 60 minutes: welcome and content read

• 60 minutes: lecture and demo lessons

• 30 minutes: work on challenges

• 30 minutes: walkthrough challenge solutions and wrap up

Break – 30 mins

### Afternoon session:

• 60 minutes: recap and content read

• 60 minutes: lecture and demo lessons

• 30 minutes: work on challenges

• 30 minutes: walk through challenge solutions and wrap up

## Tableau Instructor Guide Introduction

Tableau Desktop Certification Prep will help students gain the knowledge and skills they need to effectively communicate findings as an analyst and to successfully complete the certification exam. Students will review the fundamentals of creating quality visuals using the business intelligence tool, Tableau. This workshop will walk students through sample exam questions that cover basic calculations, connecting to data sources, manipulating data, importing files, the power of visuals, and creating stories. The ability to effectively communicate, interact with, and interpret findings will be pulled together using a much-desired business intelligence tool to showcase their hard work. This workshop will prepare them to take the next step to show their skills and talents to stakeholders, impress them with data visualization abilities, and achieve certification.

# Module 1 – Instructor guide

### Introduction to Tableau

### Module Learning Outcomes

In this module students will,

1. Define what the Tableau Desktop Specialist Certification is.
2. Identify how the exam will assess your knowledge.
3. Demonstrate how to prepare for the exam.

### Module Overview Description

Welcome to the Introduction to Tableau Desktop Specialist Exam, the first module of Tableau Desktop Specialist Certification Prep. This module will familiarize students with the Desktop Specialist Exam and technology preparation, and also offers a general overview. The module wraps up with a Challenge activity to review what they have learned by answering foundational questions.

### Considerations to Keep in Mind

* Some students may still be comprehending the foundations of Tableau, be mindful that some may need additional guidance when working through sample certification examples and hands-on scenarios.
* There is a workbook for the entire Tableau Certification workshop. Encourage students to use the workbook to take notes and refer back to the Tableau workbook for additional guidance.
* Each class will start with a lesson video that will introduce key concepts and examples for the designated modules and how data analysts use Tableau.
* Each module will end with a challenge activity that will reference the [sample stocks and flights](https://www.tableau.com/sites/default/files/pages/tds_sample_data_all.xlsx) data file.

### Lesson 1: Desktop Specialist Certification

* Build students knowledge and guide them through the following areas:
  + Describe the professional value of getting the Tableau desktop specialist certification.
  + Summarize the information or value of the following resources.
    - [A student’s guide to Tableau and the desktop specialist exam](https://www.tableau.com/about/blog/2020/5/students-guide-tableau-and-desktop-specialist-exam)
    - [Desktop specialist exam guide](https://mkt.tableau.com/files/DesktopSpecialist_ExamGuide.pdf)
    - [*Tableau desktop specialist*](https://www.tableau.com/learn/certification/desktop-specialist).
    - [*Tableau desktop certified associate*](https://www.tableau.com/learn/certification/desktop-certified-associate)*.*
    - [*Tableau desktop certified professional.*](https://www.tableau.com/learn/certification/desktop-certified-professional)
    - [*Tableau desktop specialist certification free practice exam.*](https://tableaupracticetest.com/desktop-specialist-certification-free-practice-exam/)

### Lesson 2: How to Prepare

* Build students knowledge and guide them through the following areas:
  + Describe a few key strategies to prepare for the exam.
  + Explain why you would want to use an extract instead of a live connection.

### Lesson 3: Exam Format

* Using the Tableau workspace, walk students through the following areas:
  + Explain each of the various areas of the exam.
  + Describe the importance of the time factor for the exam.

### Lesson 4: Technical Requirements

* Guide and walk students through the following:
  + Identify the platform that you will be taking the exam on.
  + Identify environmental preparations that you should consider before taking the exam.
  + Describe some of the notable tips on the Required Exam Setup document.

# Module 2 – Instructor guide

### Connecting and Preparing Your Data

### Module Learning Outcomes

In this module students will,

1. Identify the difference between dimensions and measures with in-depth examples.
2. Identify the difference between discrete and continuous data types with in-depth examples.
3. Demonstrate how to aggregate data and how it impacts views.
4. Demonstrate how to modify data connections and manipulate data.

### Module Overview Description

Welcome to the Connecting and Preparing Your Data module of Tableau Desktop Specialist Certification Prep. This module will get students familiar with the key concepts that will be covered in the Desktop Specialist Exam. This module will to walk through the skills measured section of the exam and how to work through hands-on examples. The module wraps up with a Challenge activity to review what they have learned by answering foundational questions.

### Lesson 1: Dimensions and Measures

* Build students knowledge and guide them through the following areas:
  + Identify how data fields are assigned in Tableau.
  + Identify the roles assigned to data fields in Tableau.
  + Identify the type data that are considered qualitative.
  + Describe the visual cue that Tableau offers to identify when a field is a measure or an aggregate function.
  + Answer the question below and explain your reasoning.
    - Sample Data Types Question: A data field that shows the average sales values for the United States in 2019 is most likely:

a) A discrete date part dimension

b) A continuous date value dimension

c) A geographical dimension

d) An aggregated measure

### Lesson 2: Discrete Versus Continuous

* Build students knowledge and guide them through the following areas:
  + Describe the difference between discrete and continuous data.
  + Identify the color code that differentiates discrete versus continuous data.
  + Identify what discrete draw in your visual.
  + Identify what continuous fields draw in your visual.
  + Answer the question below and explain your reasoning.
* Sample Discrete Versus Continuous Fields Question: Using the Stocks 2010-2013 table, create a chart to see the average changes in columns across stocks. Begin in January 2010 and end in 2012. Which months saw the highest average across each year?

### Lesson 3: Aggregations

* Using the Tableau workspace, walk students through the following areas:
  + Identify what Tableau takes into consideration when aggregating measures.
  + Identify when you can change your measures once they are in the view.
  + Describe how to change the aggregate measure.
  + Describe when aggregate functions are used.
  + Answer the question below and explain your reasoning. Use the sample stocks and flights data file provided in the online classroom.
    - Sample Aggregations Questions:
      * Using the Flights table, create a bar chart showing the average of Minutes of Delay per Flight broken down by Carrier Name, and filtered by State to only show Minnesota (MN). What were the average minutes of delay per flight for United in Minnesota?
      * Using the sample stocks and flights data file, and the stocks 2010 - 2013 data what is the average High across the Company data field?

### Lesson 4: Modify Data Connections

* Guide and walk students through the following:
  + Describe the difference between a live and extract connection and when to use each.
  + Define joining data and the types of joins.
  + Describe what blending data does.
  + Describe what creating a union does.
  + Identify the steps for renaming data fields.
  + Explain how and why you might want to assign an alias to data values.
  + Explain how and why you might want to assign geographic roles to data values.
  + Discuss how and why you might want to change data types.
  + Discuss how and why you might want to change default properties of data fields.
  + Answer the question below and explain your reasoning. Use the sample stocks and flights data file provided in the online classroom.
    - Sample Modifying Data Connections Question:
      * Step 1: Union the Stocks 2010-2013 and Stocks 2014 tables
      * Step 2: Create a chart of your choice that shows the average Close price by year and quarter for each Company from 2011 to 2013.
      * Question: How many quarters was Amazon’s average closing price over $200?

# Module 3 – Instructor guide

### Data Exploration and Analysis

### Module Learning Outcomes

In this module students will,

1. Identify how to create basic charts and answer sample exam questions.
2. Identify how to organize data by creating sets, hierarchies, date filters, and filters while answering sample exam questions.
3. Demonstrate how to apply worksheet analytics to your organized data, while answering sample exam questions.
4. Demonstrate how to pull it all together by creating a dashboard and story.

### Module Overview Description

Welcome to the Data Exploration and Analysis module of Tableau Desktop Specialist Certification Prep. This module will get students familiar with the Desktop Specialist Exam. Students will review basic charts, data organization, worksheet analytics, and presentations. The module wraps up with a Challenge activity to review what was presented throughout the exam prep modules and pull it all together.

### Lesson 1: Charts

* Build students knowledge and guide them through the following areas:
  + Describe the following chart types and answer the questions posed in the online classroom for each category.
    - Bar Charts
    - Line Charts
    - Scatterplot
    - Geographical Map Charts
    - Combined Axis Charts
    - Dual Axis Charts
    - Stacked Bar Charts
    - Crosstab

### Lesson 2: Data Organization

* Build students knowledge and guide them through the following areas:
  + Discuss some tips about organizing your data for the exam.
  + Describe what strong visuals include.
  + Discuss creating groups while using labels.
  + Discuss how and why you might want to create sets.
  + Discuss how and why you might want to organize dimensions using hierarchies.
  + Discuss how and why you might want to add filters to your view.
  + Discuss how and why you might want to add context filters to your view.
  + Discuss how and why you might want to add date filters to your view.
  + Answer the question below and explain your reasoning. Use the sample stocks and flights data file provided in the online classroom.
    - Sample Data Organization Question: Using the flights table create a group using data fields of your choice.
      * What happens when you create a view using that group?
      * What happens if you create a date range filter?
      * How can you remove members from that group? How does that change the data story?

### Lesson 3: Worksheet Analytics

* Using the Tableau workspace, walk students through the following areas:
  + Describe why sorting data is beneficial.
  + Discuss why you might want to add a reference or trend line to your view.
  + Discuss table calculations and how they are used.
  + Discuss calculated fields and how they are used.
  + Discuss bins and histograms and how they are used.
  + Describe what forecasting allows for you to do in Tableau.

### Lesson 4: Communication Insights

* Guide and walk students through the following:
  + Describe what needs to be completed to format views for a presentation.
  + Describe the steps involved in creating a dashboard.
  + Discuss the steps involved in creating a story view.