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## From Problem to Approach

Latest Submission Grade 100%

1. Select the correct statement.

1 / 1 point

- ☐ The first stage of the data science methodology is Modeling.
- ☒ The first stage of the data science methodology is Business Understanding.
- ☐ The first stage of the data science methodology is Data Understanding.
- ☐ The first stage of the data science methodology is Data Collection.

✔ Correct  
Correct.

2. The main purpose of the analytic approach is identifying what type of patterns will be needed to address the posed question most effectively.

1 / 1 point

- ☒ True
- ☐ False

✔ Correct  
Correct.

3. Which machine learning algorithm was implement in the case study discussed in the videos?

1 / 1 point

- ☐ Logistic Regression.
- ☐ *k*-Nearest Neighbor.
- ☐ Support Vector Machines.
- ☒ Decision Tree Classification.

✔ Correct  
Correct.

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## From Requirements to Collection

Latest Submission Grade 100%

1. The Data Requirements stage of the data science methodology involves identifying the necessary data content, formats and sources for initial data collection.

1 / 1 point

☒ True

☐ False

✔ Correct  
Correct.

2. Which of the following statements are correct?

1 / 1 point

☒ Data scientists determine how to collect the data.

✔ Correct  
Correct.

☒ Data scientists identify the data that is required for data modeling.

✔ Correct  
Correct.

☒ Data scientists determine how to prepare the data.

✔ Correct  
Correct.

☐ None of the above.

3. In the Data Collection stage, the data requirements are revised and decisions are made as to whether or not more data is needed.

1 / 1 point

☒ True

☐ False

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## From Understanding to Preparation

Latest Submission Grade **100%**

1. In the case study, working through the **Data Preparation** stage, it was revealed that the initial definition was not capturing all of the congestive heart failure admissions that were expected, based on clinical experience.

1 / 1 point

☐ True

☒ False

✔ **Correct**

Correct. It was working through the **Data Understanding** staging that the initial definition was found to be incomplete.

2. During the Data Preparation stage, clients and stakeholders aggregate the data and merge them from different sources, enabling data scientists to use clean data in the analysis.

1 / 1 point

☐ True

☒ False

✔ **Correct**

Correct.

3. Select the correct statement about the Data Preparation stage of the data science methodology.

1 / 1 point

☐ Data Preparation is typically the least time-consuming methodological step.

☒ Data Preparation involves dealing with missing improperly coded data and can include using text analysis to structure unstructured or semi-structured text data.

☐ Data Preparation cannot be accelerated through automation.

☐ None of the above statements are correct.

✔ **Correct**

Correct.

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## From Modeling to Evaluation

Latest Submission Grade **100%**

1. Which statement best describes the Modeling Stage of the data science methodology?

1 / 1 point

- ☐ The Modeling stage is followed by the Analytic Approach stage.
- ☐ Modeling always uses training and test sets.
- ☒ Modeling may require testing multiple algorithms and parameters.
- ☐ Modeling is always based on predictive models.

✔ **Correct**  
Correct.

2. Select the correct statement(s) about the Model Evaluation stage of the data science methodology.

1 / 1 point

- ☒ Model Evaluation includes ensuring that the model is working as intended.

✔ **Correct**  
Correct.

- ☒ Model Evaluation includes ensuring that the data are properly handled and interpreted.

✔ **Correct**  
Correct.

- ☒ Model Evaluation includes ensuring the model is designed as intended.

✔ **Correct**  
Correct.

- ☐ Model Evaluation cannot include statistical significance testing.

3. The ROC curve is a useful diagnostic tool for determining the optimal classification model.

1 / 1 point

- ☒ True

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## From Deployment to Feedback

Latest Submission Grade 83.33%

1. Feedback is not required once the model is deployed because the Model Evaluation stage would have assessed the model and made sure that it performed well.

1 / 1 point

☐ True

☒ False

✔ Correct  
Correct.

2. A data scientist determines that building a recommender system is the solution for a particular business problem at hand. This is represented by the Modeling stage of the data science methodology?

1 / 1 point

☐ True

☒ False

✔ Correct  
Correct.

3. A car company asked a data scientist to determine what type of customers are more likely to purchase their vehicles. However, the data comes from several sources and is in a relatively "raw format". What kind of processing can the data scientist perform on the data to prepare it for the Modeling stage?

1 / 1 point

A. Feature Engineering.

B. Transforming the data into more useful variables.

C. Combining the data from the various sources.

D. Addressing missing invalid values.

☐ Only options A and D are correct.

☐ Only option C is correct.

☐ None of the options are correct.

☒ All of the options are correct.

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4. Which of the following represent the two important characteristics of the data science methodology?

1 / 1 point

- ☐ It has no endpoint because data collection occurs before identifying the data requirements.
- ☐ It is a highly iterative process and immediately ends when the model is deployed.
- ☐ It immediately ends when the model is deployed because no feedback is required.
- ☒ It is a highly iterative process and it never ends.

✓ **Correct**  
Correct.

5. For predictive models, a test set, which is similar to – but independent of – the training set, is used to determine how well the model predicts outcomes. This is an example of what step in the methodology?

0 / 1 point

- ☐ Model Evaluation.
- ☐ Analytic Approach.
- ☐ Deployment.
- ☒ Data Requirements.

✗ **Incorrect**  
Incorrect.

6. What are three important reasons that data scientists should maintain continuous communication with business sponsors throughout a project?

1 / 1 point

- ☒ So that business sponsors can ensure the work remains on track to generate the intended solution.

✓ **Correct**  
Correct.

- ☒ So that business sponsors can review intermediate findings.

✓ **Correct**  
Correct.

- ☒ So that business sponsors can provide domain expertise.

✓ **Correct**  
Correct.

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## Final Exam

Latest Submission Grade **100%**

1. Which of the following is the first state of the data science methodology?

1 / 1 point

- ☐ Data Understanding
- ☐ Data Collection
- ☒ Business Understanding
- ☐ Modeling

✔ **Correct**

2. Business Understanding is the least important stage in the data science methodology because none of the other stages depend on it.

1 / 1 point

- ☐ True.
- ☒ False

✔ **Correct**

3. According to the videos explaining the Data Requirements and Data Collection stages of the data science methodology, you can think of the Data Requirements and Data Collection stages as a cooking task, where the problem at hand is a recipe, and the data to answer the question is what?

1 / 1 point

- ☐ The presentation
- ☐ The temperature to cook at
- ☒ The ingredients
- ☐ The measurements

✔ **Correct**

4. In the Data Collection stage, techniques such as descriptive statistics and \_\_\_\_\_ can be applied to the data set, to assess the content, quality, and initial insights about the data.

1 / 1 point

4. In the Data Collection stage, techniques such as descriptive statistics and \_\_\_\_\_ can be applied to the data set, to assess the content, quality, and initial insights about the data.

1 / 1 point

- ☒ Visualization
- ☐ Data manipulation
- ☐ The supervised method
- ☐ The unsupervised method

 Correct

5. A training set is used for what?

1 / 1 point

- ☐ Statistical analysis
- ☒ Predictive modeling
- ☐ Descriptive modeling
- ☐ Data Visualization

 Correct

6. A type I error is a \_\_\_\_\_.

1 / 1 point

- ☐ Hypothesis error
- ☒ False-positive error
- ☐ False-negative error
- ☐ False-alarm error


 Correct

7. The Data Understanding stage refers to the stage of removing redundant data.

1 / 1 point

- ☐ True
- ☒ False

 Correct

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 Correct

7. The Data Understanding stage refers to the stage of removing redundant data.

1 / 1 point

- ☐ True
- ☒ False

 Correct

8. Select the correct statement about the Data Preparation stage.

1 / 1 point

- ☐ The Data Preparation stage involves addressing missing values.
- ☐ The Data Preparation stage involves correcting invalid values and addressing outliers.
- ☐ The Data Preparation stage involves removing duplicate data.
- ☐ The Data Preparation stage involves properly formatting the data.
- ☒ All of the above statements are correct.

 Correct

9. The final stages of the data science methodology are an iterative cycle between Modeling, Evaluation, Deployment, and \_\_\_\_\_.

1 / 1 point


- ☐ Data Understanding
- ☐ Data Preparation
- ☒ Feedback
- ☐ None of the above.

 Correct

10. Deploying a model into production represents the end of the iterative process that includes Feedback, Model Refinement, and Redeployment.

1 / 1 point

- ☐ True.
- ☒ False

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9. The final stages of the data science methodology are an iterative cycle between Modeling, Evaluation, Deployment, and \_\_\_\_\_.

1 / 1 point

- ☐ Data Understanding
- ☐ Data Preparation
- ☒ Feedback
- ☐ None of the above.

✓ Correct

10. Deploying a model into production represents the end of the iterative process that includes Feedback, Model Refinement, and Redeployment.

1 / 1 point

- ☐ True.
- ☒ False

✓ Correct

11. The data science methodology is a specific strategy that guides processes and activities relating to data science only for text analytics.

1 / 1 point

- ☐ True
- ☒ False

✓ Correct

12. Support vector machines and neural networks are what type of algorithms?

1 / 1 point

- ☐ Regression
- ☐ Extraction
- ☒ Classification
- ☐ Clustering

✓ Correct