Here are 20 data mining course project ideas inspired by Kaggle challenges, each accompanied by a brief description and a link to the corresponding competition:

1. **Titanic: Machine Learning from Disaster**
   * **Description:** Predict passenger survival on the Titanic using demographic and socio-economic data.
   * **Link:** <https://www.kaggle.com/competitions/titanic>
2. **House Prices: Advanced Regression Techniques**
   * **Description:** Develop a model to predict house prices based on various features such as square footage, number of rooms, and location.
   * **Link:** <https://www.kaggle.com/competitions/house-prices-advanced-regression-techniques>
3. **Digit Recognizer**
   * **Description:** Classify handwritten digits from the MNIST dataset using image recognition techniques.
   * **Link:** <https://www.kaggle.com/competitions/digit-recognizer>
4. **Santander Customer Transaction Prediction**
   * **Description:** Identify which customers will make a specific transaction in the future based on anonymized data.
   * **Link:** <https://www.kaggle.com/competitions/santander-customer-transaction-prediction>
5. **Predict Future Sales**
   * **Description:** Use historical sales data to forecast future sales for a large retailer.
   * **Link:** <https://www.kaggle.com/competitions/competitive-data-science-predict-future-sales>
6. **New York City Taxi Fare Prediction**
   * **Description:** Predict taxi fares in New York City based on factors like pickup and drop-off locations, time of day, and passenger count.
   * **Link:** <https://www.kaggle.com/competitions/new-york-city-taxi-fare-prediction>
7. **Zillow Prize: Zillow’s Home Value Prediction (Zestimate)**
   * **Description:** Build a model to improve the accuracy of Zillow's home value estimates.
   * **Link:** <https://www.kaggle.com/competitions/zillow-prize-1>
8. **Instacart Market Basket Analysis**
   * **Description:** Analyze customer purchasing habits to predict which products will be in their next order.
   * **Link:** <https://www.kaggle.com/competitions/instacart-market-basket-analysis>
9. **TalkingData AdTracking Fraud Detection Challenge**
   * **Description:** Detect fraudulent clicks on mobile app advertisements.
   * **Link:** <https://www.kaggle.com/competitions/talkingdata-adtracking-fraud-detection>
10. **Porto Seguro’s Safe Driver Prediction**
    * **Description:** Predict the probability that a driver will initiate an auto insurance claim.
    * **Link:** <https://www.kaggle.com/competitions/porto-seguro-safe-driver-prediction>
11. **Home Credit Default Risk**
    * **Description:** Assess the likelihood of a client defaulting on a loan using various client attributes.
    * **Link:** <https://www.kaggle.com/competitions/home-credit-default-risk>
12. **IEEE-CIS Fraud Detection**
    * **Description:** Identify fraudulent credit card transactions using a combination of transactional and identity data.
    * **Link:** <https://www.kaggle.com/competitions/ieee-fraud-detection>
13. **Jigsaw Unintended Bias in Toxicity Classification**
    * **Description:** Build a model to detect toxic comments while minimizing unintended bias.
    * **Link:** <https://www.kaggle.com/competitions/jigsaw-unintended-bias-in-toxicity-classification>
14. **LANL Earthquake Prediction**
    * **Description:** Predict the timing of laboratory earthquakes using seismic signal data.
    * **Link:** <https://www.kaggle.com/competitions/lanl-earthquake-prediction>
15. **Google Analytics Customer Revenue Prediction**
    * **Description:** Predict the total revenue per customer based on Google Analytics data.
    * **Link:** <https://www.kaggle.com/competitions/ga-customer-revenue-prediction>
16. **Elo Merchant Category Recommendation**
    * **Description:** Predict customers' loyalty scores based on their transaction history.
    * **Link:** <https://www.kaggle.com/competitions/elo-merchant-category-recommendation>
17. **Quora Insincere Questions Classification**
    * **Description:** Identify insincere questions on Quora that are based on false premises or intend to make a statement rather than seek helpful answers.
    * **Link:** <https://www.kaggle.com/competitions/quora-insincere-questions-classification>