**Course Abstract**

***If you need accommodations due to a disability, contact Disability Services in***

***Edison Hall Room 100, 732.906.2546.***

***To foster a productive learning environment, the College requires that all students adhere to the Code of Student Conduct which is published in the college catalog and website.***

**Course ID and Name: DSA 230 – Data Visualization**

**Department: Business and Computer Science**

Chairperson or Course Coordinator: Dr. Aslihan Cakmak

Office Location: ED123

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Telephone: 732-906-2526

**Prerequisites:** DSA 210 and MAT 285

**Co-requisites:** None

**Course Description:**

Introducing the tools and techniques required to present complex data in visually meaningful representations for better data driven decision making, in this course, students will learn how to organize, analyze, and interpret data, determine alternate ways to tell stories with data, and to draw and present conclusions. This process includes data modeling, data aggregation, and filtering, mapping data attributes to graphical attributes, and strategic visual encoding. Dashboard design and software tools to produce effective presentations will be integrated throughout the course.

**General Education Status:** N/A

**Credits: 3 Lecture Hours: 2 Lab Hours: 2**

**Learning Outcomes:**

1. Design and create data visualizations
2. Present data visualizations
3. Conduct data analysis and data modeling using visualization
4. Evaluate visualization design alternatives
5. Design and evaluate visualization color palettes, data formats and graph formats
6. Perform data transformations such as aggregation and filtering for visualization
7. Identify opportunities for data visualizations applications
8. Critique and modify existing visualizations based on decision making needs

**Upon successful completion of this course, a student will be able to:**

1. Design and create data visualizations
2. Present data visualizations
3. Conduct data analysis and data modeling using visualization
4. Evaluate visualization design alternatives
5. Design and evaluate visualization color palettes, data formats, and graph formats aggregation and filtering for visualization
6. Identify opportunities for data visualizations applications
7. Critique and modify existing visualizations based on decision making needs

**Course Content Areas:**

1. The importance of visualizing data
2. Selecting visualization tools
3. Collecting the data
4. Evaluating data content for analysis and modeling
5. S. Cleaning the data for visualization
6. Aggregating data based on levels to be visualized
7. Extracting data to focus on identified key points to express
8. Common visualization formats
9. Determining chart design for the best visualization
10. Determining chart characteristics for emphasis
11. Tabling data based on focal points
12. Converting data to other data types
13. Stressing important data points
14. Building the storyboard narrative
15. Presenting the storyboard for decision making