



**Bubble Chart of New Jersey Towns**  
 Bubble charts facilitate the understanding of social, economical, medical and other scientific relationships.

The pioneering certificate program in Data Visualization and Analysis identifies the skills and knowledge that information workers need to succeed. It trains students to communicate information clearly and effectively through graphic depictions that stimulate and encourage viewer engagement.

TAKE THE FIRST STEP, VISIT:  
[WWW.SHU.EDU/GO/DAVA](http://WWW.SHU.EDU/GO/DAVA)



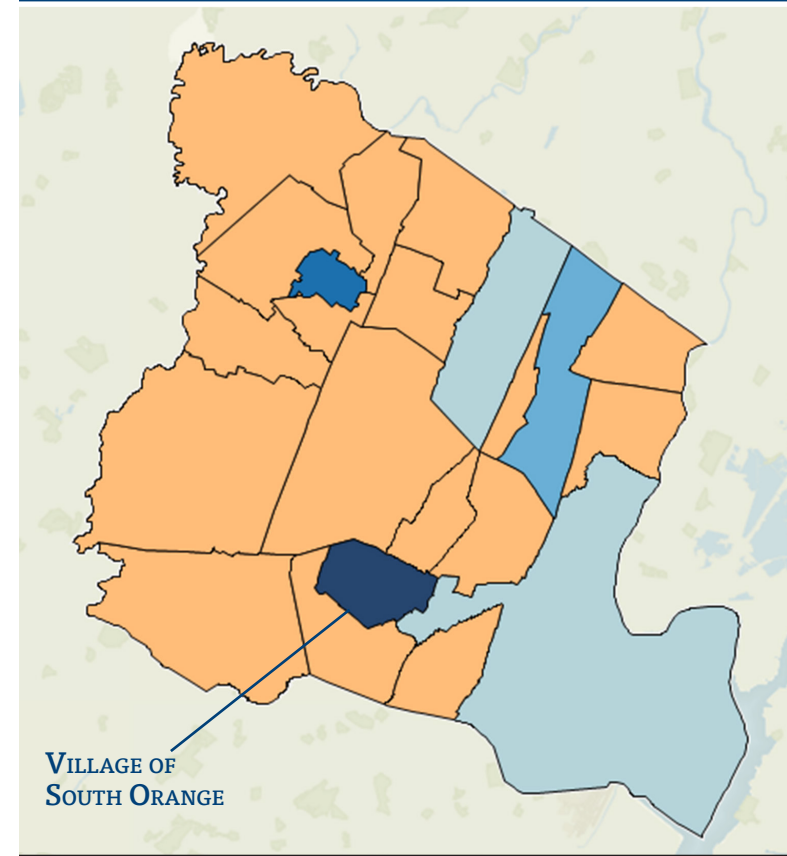
Department of Mathematics and Computer Science  
 400 South Orange Avenue  
 South Orange, NJ 07079

# UNDERGRADUATE AND GRADUATE CERTIFICATE PROGRAM IN DATA VISUALIZATION AND ANALYSIS

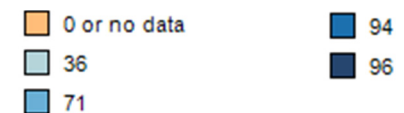
Department of Mathematics and  
 Computer Science

Department Of Psychology

SETON HALL UNIVERSITY



**PERCENTAGE OF DORMITORY-STYLE HOUSING  
 FOR COLLEGE STUDENTS IN ESSEX COUNTY, NJ**



# Undergraduate and Graduate Certificate Program in Data Visualization and Analysis

In today's society, government, industry and many other institutions collect and analyze large amounts of data to further their goals. To address these growing needs, the Department of Mathematics and Computer Science and the Department of Psychology offer an undergraduate and graduate Certification Program in Data Visualization and Analysis.

This program identifies the skills and knowledge that information workers need to succeed. It trains students to communicate information clearly and effectively through graphic depictions that stimulate and encourage viewer engagement. The students learn how to analyze and portray complex data in an attractive and vivid design format. The students practice preparing real-world data for storing in databases, analyzing data with statistics and machine-learning tools, and using visualization in order to study data and present findings.

## WHO SHOULD APPLY?

The certificates are designed for people who want to explore careers in visualization design or data analytics and who are:

1. professionals who need skills in data visualization and analysis for their careers; or
2. university students who want to supplement their education with data visualization and analysis.

The skills learned in the certificate programs are in demand in many industries, such as marketing, finance, insurance and health care, and in many academic fields, such as business, criminal justice, economics, psychology, sociology, biology and applied mathematics.

## MATRICULATION PREREQUISITES

### UNDERGRADUATE PROGRAM:

PSYC 1101 Introduction to Psychology (minimum grade of C-), or equivalent

Undergraduate admission to Seton Hall University

### GRADUATE PROGRAM:

PSYC 1101 Introduction to Psychology (minimum grade of C-), or equivalent

Minimum undergraduate GPA: 2.75

Graduate admission to Seton Hall University

## CURRICULUM FOR MATRICULATED STUDENTS

### VISUALIZATION AND COGNITION ..... 6 CREDITS

Undergraduate: DAVA 3000 and PSYC 3214

Graduate: DAVA 7000 and PSYC 7214

### DATA MINING ..... 3 CREDITS

Undergraduate: DAVA 3010

Graduate: DAVA 6010

### STATISTICS ..... 3 CREDITS

Undergraduate: MATH 1203 (or approved substitutes such as BQUA 2811, CHEM 4212, MATH 2111, MATH 3711, PSYC 2311 for majors with these courses)

Graduate: PSMA/HCAD 6002 (or approved substitutes such as CHEM 6212, GMHS 7500+7508, PSYC 6100+6200 for majors with these courses)

### INTERNSHIP ..... 3 CREDITS

Undergraduate: DAVA 4011 or PSYC 3408

Graduate: DAVA 8011 or DAVA 8021

### ELECTIVE..... 3 CREDITS

Choose from graphics, communication or applications.

Undergraduate: AART 1223, BITM 2701, BITM 3727, BMIE 3716, COGR 3323, CSAS 4115, ENVL 3150

Graduate: COGR 6323, COST 7220, EDST 6215, EDST 6304, GMHS 7604

More details can be found on the undergraduate and graduate pages accessible at [www.shu.edu/go/DAVA](http://www.shu.edu/go/DAVA)

## NON-MATRICULATED STUDENTS, DESIGN YOUR OWN PROGRAM

As a non-matriculated student you can take up to 12 credits from the curriculum for matriculated students, such as:

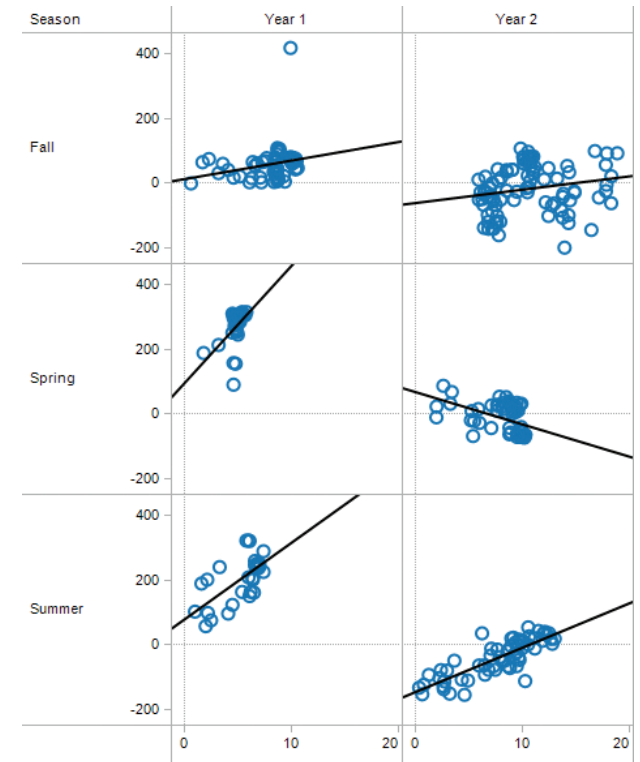
### VISUALIZATION AND COGNITION ..... 6 CREDITS

Prerequisite: PSYC 1101 Introduction to Psychology (minimum grade of C-), or equivalent

### DATA MINING ..... 3 CREDITS

If you wish, you can matriculate later to complete the whole certification program. Contact the program director if you need help in choosing your courses.

Regression lines show trends in data



## TUITION AND FEES

The tuition and fees are posted on the pages of the Office of the Bursar at [www.shu.edu/offices/bursar](http://www.shu.edu/offices/bursar)

## CONTACT

For further information, please contact the program director Dr. Manfred Minimair, Department of Mathematics and Computer Science, Seton Hall University, at (973) 761-9466 or e-mail [manfred.minimair@shu.edu](mailto:manfred.minimair@shu.edu)

## TO APPLY, TAKE THE FIRST STEP AND VISIT:

[www.shu.edu/go/DAVA](http://www.shu.edu/go/DAVA)