



**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. Students are trained in data analytics and to communicate information clearly and effectively through graphic depictions that stimulate and encourage viewer engagement.*

**NOW OFFERED  
COMPLETELY ONLINE!**



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

shu-156-13



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

# Data Visualization and Analysis

## CERTIFICATE PROGRAMS

### UNDERGRADUATE AND GRADUATE

Department of Mathematics and  
Computer Science  
Department of Psychology

**SETON HALL UNIVERSITY**



# UNDERGRADUATE AND GRADUATE CERTIFICATE PROGRAMS 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 undergraduate and graduate certification programs in Data Visualization and Analysis. These unique programs teach data analysis, visualization and cognitive psychology. Students may earn the certificates by taking courses online or on-site at Seton Hall University's campus.

Students are trained to communicate information clearly and effectively through graphic depictions that stimulate and encourage viewer engagement. Students learn how to analyze and portray complex data in an attractive and vivid design format. They also 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.

## PREREQUISITES

### UNDERGRADUATE PROGRAM:

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

Undergraduate admission to Seton Hall University (enroll as a non-matriculated student)

### GRADUATE PROGRAM:

PSYC 1101 Introduction to Psychology (minimum grade of C-), or equivalent (not required for students who enroll in the online program)

Minimum undergraduate GPA: 2.75

Graduate admission to Seton Hall University

## ON-SITE CURRICULUM

### 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)



## ONLINE CURRICULUM

The online curriculum is the same as the on-site curriculum. However, instead of taking an elective, undergraduate students must take ENGL 2516 and graduate students must take PSMA 6003. In some cases, with the permission of the program director, students may be able to substitute other courses for ENGL 2516 or PSMA 6003.

## 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)

Graduate certificate program tuition is based on College of Arts and Sciences rates.

## 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, VISIT:  
[WWW.SHU.EDU/GO/DAVA](http://www.shu.edu/go/DAVA)**