

# Health Data Science

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## Graduate Certificate in Health Data Science

### CERTIFICATE CODE - CG59

Health Data Science is the science of applying data analytic and visualization methods to address questions or problems in a variety of public health and healthcare related areas. The Health Data Science Certificate is designed to develop a basic understanding of standard analytic techniques, data visualization tools, practical methods for modeling problems and interpreting data content. This program is especially useful for public health practitioners and positions where health data is collected and utilized in a practical setting.

### PROGRAM OVERVIEW

The Health Data Science Certificate program is offered in two formats:

- In-Person/On Campus
- Online/Blended Synchronous

By offering the curriculum in both formats, WVU's program is accessible to individuals from a variety of backgrounds, locations and experiences. The program will take advantage of existing course technology where courses are taught in a synchronous fashion in which the instructor presents a lecture in-class, and the lecture (along with associated slides or other files) is broadcast online. The video or audio recording of the lecture is archived and available on the course for access at any time.

All course notes, homework assignments and programs are available online, and the instructor is available in a number of formats (online chat, email, phone) to accommodate distance-learning students.

Students in the Health Data Science Certificate program typically take one to two classes per semester. Completion of the 16-credit-hour program usually takes two years.

### ADMISSIONS GUIDELINES

To apply to the Health Data Science Certificate program, student must complete the WVU graduate application for code CG59, and pay the processing fee and submit a statement of purpose, official GRE test scores, two letters of reference, a current resume/curriculum vitae, and all university transcripts.

To be considered for the fall, students should submit their applications by July 1. Completed applications are sent to the Health Policy, Management, and Leadership department for review. Students will receive an e-mail from the department regarding their recommendation for acceptance.

Interested students must apply online for admission consideration. Students currently enrolled at WVU should also submit the online application but need to contact Dr. Robert Duval (rduval2@hsc.wvu.edu) prior to application.

| Code                              | Title  | Hours |
|-----------------------------------|--|-------|
| A minimum GPA of 3.0 is required. |  |       |
| BIOS 601                          | Applied Biostatistics 1  | 4     |
| HPML 622                          | Analytic Methods for Health Policy, Management, and Leadership                   | 3     |
| HPML 661                          | Health Services Research Informatics   | 3     |
| HPML 671                          | Population Health Policy Analysis Informatics 1                                  | 3     |
| HPML 675                          | Healthcare and Insurance Policy: Medicaid, Medicare, and the Affordable Care Act | 3     |
| Total Hours                       |  | 16    |

### Suggested Plan of Study

| First Semester  | Hours |
|-----------------|-------|
| BIOS 601        | 4     |
| <hr/>           |       |
|                 | 4     |
| Second Semester | Hours |
| HPML 661        | 3     |
| HPML 671        | 3     |
| <hr/>           |       |
|                 | 6     |
| Third Semester  | Hours |
| HPML 622        | 3     |
| <hr/>           |       |
|                 | 3     |

| Fourth Semester | Hours |
|-----------------|-------|
| HPML 675        | 3     |
|                 | 3     |

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Total credit hours: 16

## Certificate Learning Outcomes

### HEALTH DATA SCIENCE

The purpose of this certificate is to prepare professionals across a variety of public health and healthcare-related disciplines to skillfully use data in an increasingly data-driven industry. In particular, the proposed program has the following educational outcomes for its students, which will be refined as the program is developed:

- Enhance understanding of the way data is used within the health care system and (including privacy protections)
- Collect, interpret, and visualize a variety of types of commonly-used health-related data
- Develop analytic skills that inform health care policy analysis and management
- Use basic data analytic knowledge to design and implement studies that answer important health care questions oriented for practitioners in the field.
- Use common analytic and statistical software to implement analysis and description for health oriented organizational decision-making underpinning studies