



# University of New Hampshire

## Health Data Science

|                                     | Foundations        | HDS Graduate Certificate Courses |                            |                      |                                      |
|-------------------------------------|--------------------|----------------------------------|----------------------------|----------------------|--------------------------------------|
|                                     | Pre-Program Skills | HDS 800: Health Statistics       | HDS 801: US Health Systems | HDS 802: Programming | HDS 803: Translation & Visualization |
| <b>Mathematics &amp; Statistics</b> |                    |                                  |                            |                      |                                      |
| Probability                         | X                  | X                                |                            |                      |                                      |
| Inference                           | X                  | X                                |                            |                      |                                      |
| Imputation                          |                    | X                                |                            | X                    | X                                    |
| Experiments                         |                    | X                                |                            |                      |                                      |
| Modelling                           |                    | X                                |                            |                      |                                      |
| Time Series                         |                    | X                                |                            |                      |                                      |
| Forecasting                         |                    | X                                |                            |                      |                                      |
| <b>Programming Environments</b>     |                    |                                  |                            |                      |                                      |
| Python                              |                    |                                  |                            | X                    |                                      |
| R                                   |                    |                                  |                            | X                    | X                                    |
| SAS                                 |                    |                                  |                            | X                    |                                      |
| JMP                                 | X                  | X                                |                            | X                    |                                      |
| SQL                                 | X                  |                                  |                            | X                    | X                                    |
| <b>Machine Learning</b>             |                    |                                  |                            |                      |                                      |
| Text Mining                         |                    |                                  |                            |                      |                                      |
| Neural Networks                     |                    |                                  |                            |                      |                                      |
| Deep Learning                       |                    |                                  |                            |                      |                                      |
| <b>Computation</b>                  |                    |                                  |                            |                      |                                      |
| Databases                           |                    |                                  |                            | X                    | X                                    |
| Streaming data                      |                    |                                  |                            |                      | X                                    |
| <b>Visualization Tools</b>          |                    |                                  |                            |                      |                                      |
| Storytelling                        |                    |                                  |                            |                      | X                                    |
| Tableau / Power BI                  |                    |                                  |                            |                      | X                                    |
| R / Python applications             |                    |                                  |                            |                      | X                                    |
| GIS / QGIS                          |                    |                                  |                            |                      | X                                    |
| Design Thinking                     |                    |                                  |                            |                      | X                                    |
| <b>Research Methods</b>             |                    |                                  |                            |                      |                                      |
| <b>Health Care Systems</b>          |                    |                                  | X                          |                      | X                                    |
| <b>Ethics &amp; Governance</b>      |                    |                                  | X                          |                      | X                                    |
| <b>Professional Skills</b>          |                    |                                  |                            |                      | X                                    |