

## **Programmatic Competencies for the PhD in Biostatistics**

All of the competencies identified for the MS or MPH in Biostatistics, though in greater breadth and depth than expected for a Masters graduate, plus:

- Demonstrate knowledge of the theoretical background of a broader class of statistical methods than is required of the M.S. graduate. This includes theoretical knowledge of their research area of interest;
- Demonstrate knowledge of the ethical issues involved in research, specifically all issues pertaining to data management, analysis, reporting, and release;
- Critically review both the applied literature and statistical research literature;
- Independently develop research questions of interest concerning the properties of tests or estimators or develop new statistical methods;
- Design innovative and complex experiments and surveys;
- Direct the analysis of data from large and complex studies;
- Interpret and communicate the results of a statistical analysis, relating them to the current level of knowledge of the statistical methods;
- Teach biostatistical courses at the graduate level;
- Train and assist others in the design and analysis of research data;
- Communicate findings orally and in writing in accordance with professional standards and audiences.