Statistics

Assessment Plan for the PhD in Applied Statistics

Program Learning Outcomes
The Ph.D. program in Applied Statistics will produce graduates who:

1. Have comprehensive knowledge of fundamental areas in statistics including probability theory, statistical inference methodologies, statistical computing techniques, multi-disciplinary collaborations and are able to apply such knowledge to address complex problems in Applied Statistics.
   
   **Assessment Methods:** Assignments and examinations in all of the following course areas: Regression, ANOVA, and Design (202ABC), Statistical Computing (STAT206, STAT207), Statistical Data Mining (STAT208), Advanced Theory of Probability and Statistics (STAT210AB), Literature Seminar (STAT288), Statistical Consulting and Data Analysis (STAT293AB). Assignments and examinations in seven relevant graduate level course. Assignments and examinations in three courses in Substantive Fields appropriate to the student’s interest.

2. Are able to (1) access and critically read, understand, and evaluate scholarly literature; (2) integrate and synthesize ideas; (3) identify and evaluate novel and relevant research questions; (4) develop appropriate and effective research topics and strategies; (5) communicate clearly and effectively.
   
   **Assessment Methods:** Assignments and examinations in at least twelve relevant graduate courses; qualifying examination with written and oral components; prospectus defense.

3. Are able to (1) carry out research in statistical sciences; (4) convey findings clearly and effectively; (5) identify broader implications of findings; (6) produce publishable results.
   
   **Assessment Methods:** Assignments and examinations in at least twelve relevant graduate courses; annual progress reports; seminar presentations; student teaching evaluation; dissertation defense.

4. Are able to produce acceptable results within reasonable timeframes.
   
   **Assessment Methods:** Advancement to candidacy within three years or within one year of passing Qualifying Exams; degree conferral within three years of prospectus defense.

5. Are effective teachers.
   
   **Assessment Methods:** Assignments and examinations in teaching practicum course. Student teaching evaluations.
6. Are capable professionals.

   **Assessment Methods:** Assignments and examinations in professionalization course; conference presentations; fellowship and grant awards; publications; reviewer activities; job placement.

7. Are satisfied graduates.

   **Assessment Methods:** Exit interview.
Assessment Plan for the MS in Statistics

Program Learning Outcomes
The Master’s program in Statistics Studies will produce graduates who:

1. Have fundamental statistical knowledge in probability theory, linear models, experimental design, data mining, and statistical computing.
   **Assessment Methods:** Assignments and examinations in all of the following course areas: Theory of Probability and Statistics (201ABC), Regression, ANOVA, and Design (202ABC), Statistical Computing (STAT206), Statistical Data Mining (STAT208), Literature Seminar (STAT288), Statistical Consulting and Data Analysis (STAT293AB).

2. Are able to (1) read and understand scholarly literature; (2) use fundamental statistical techniques to formulate problem and solution in diverse real-world application; (3) communicate clearly and effectively with researchers in statistical community and other disciplines by using graphical methods to display and interpret information.
   **Assessment Methods:** Assignments and examinations in at least eight graduate courses; Written qualifying examinations.

3. Are able to (1) use at least one statistical software package to conduct statistical data analysis; (2) convey findings clearly and effectively; (3) identify broader implications of findings.
   **Assessment Methods:** Assignments and examinations in at least eight graduate courses; annual progress reports; written qualifying examinations.

4. Are able to produce acceptable results within reasonable timeframes.
   **Assessment Methods:** Degree granted within two years of entry into program.

5. Are capable professionals.
   **Assessment Methods:** Assignments and examinations in professionalization course; seminar presentations; fellowship and grant awards; job placement.

6. Are satisfied graduates.
   **Assessment Methods:** Exit interview.