

ASSESSMENT OF THE MASTERS PROGRAM IN STATISTICS  
Academic Year 2011-2012

GRADUATE AND POST-GRADUATE INTERVIEWS AND SURVEYS:

No students completed the M.S. degree in statistics during this academic year. Exit surveys, traditionally completed by graduating students as part of the annual assessment, are therefore not attached. The statistics program currently has two continuing master's students, both making satisfactory progress towards their degrees.

Over the past five years, the department has graduated twelve students from the M.S. program. Upon graduation, one of these students went on to pursue a Ph.D. degree in statistics, three accepted biometrician positions with a government agency (two with Alaska Department of Fish and Game and one with the U.S. Fish and Wildlife Service), six accepted university research positions involving statistics or data analysis (five at UAF and one at University of Oregon) and one accepted an industry position involving statistics or data analysis (BP). One graduate accepted a position only indirectly involving statistics, as a middle school teacher. Thus, eleven of twelve, or 92%, of graduates in the last five years either sought an advanced degree in statistics or were immediately employed in statistics-related positions. Moreover, nine of the ten graduates who accepted statistics-related positions are working in Alaska.

FACULTY EVALUATION OF EXAMS AND PROJECTS:

The department administers a comprehensive exam consisting of written and oral components. This exam is given in the spring to students who have completed their core course work. The exam is comprised of four sections designed to test students' knowledge in four core areas: Probability, Estimation, Hypothesis Testing and Linear Models. One of the current master's students took the comprehensive exam this spring semester. The student passed the exam and her overall performance was rated as Very Good by the three examining faculty. Ratings for the individual core areas were Probability: Very Good, Estimation: Very Good, Hypothesis Testing: Good and Linear Models: Very Good. (Categories for evaluation are Excellent, Very Good, Good, Satisfactory and Unsatisfactory).

The department also has a project requirement for the MS degree. Students are required to complete a research project under the direction of one or more faculty. Students are also required to give an oral presentation of their project. No students completed the project requirement this academic year.

STATISTICAL CONSULTING:

One student completed the statistics consulting seminar (STAT 654), in which they provided statistical advice to graduate students and researchers with questions. In addition, this student works in a university research office, first as an RA and now as a full-time

employee, gaining additional consulting experience.

#### GRADUATE CERTIFICATE PROGRAM:

No students earned the graduate certificate in statistics during this academic year.

#### TIME TO COMPLETION:

The two current master's students are progressing satisfactorily toward their degrees. One student is on track to complete the degree in two years. The other will take an additional semester over two years to finish her research project. This is largely due to the fact that the student also holds a full-time position at the university.

In the last five years, ten of the twelve graduates completed their degree in two years. The remaining two took one additional semester.

#### CURRICULUM AND COURSES:

We have continued to deliver courses via distance delivery, depending on student demand and room availability. In the 2011-2012 academic year, STAT 651 Statistical Theory I was taught via distance delivery with one student in Juneau and STAT 605 Spatial Statistics was taught via distance delivery with four students in Juneau and one in Healy.

Other courses continue to be updated or redesigned. STAT 401, Regression and Analysis of Variance, is now in approximately its third year being taught primarily with the software R, instead of SAS. R has become more widely-used than SAS among professionals, and so may be a better skill for students to acquire. In addition it's free so students have easy access to the program. Student response to this change continues to be positive and faculty have agreed to continue using this software. The STAT 200 Introductory Statistics textbook has been changed, beginning this summer. We opted for a text that we believe will be more accessible to students both in terms of price and content, and has more available online resources. We plan to use this new text for at least one year. Faculty will reevaluate the choice next spring semester, after multiple faculty have had the chance to teach the course with the new text.

Discussions have been started, and will continue, about adding one or two additional graduate level elective courses. Past student surveys have shown that graduate students would like more choices in electives. Possible course topics include longitudinal data analysis, statistical computing, survival analysis and nonparametric statistics.