

# Mathematics & Statistics BS

## *Expanded Statement of Institutional Purpose*

### **Institutional Mission Reference**

The Mathematics & Statistics BS Program offers undergraduates a high quality, elective-rich program that meets national standards of excellence in three tracks: (1) Mathematics Secondary Education, (2) Applied Mathematics, and (3) Statistics/Biostatistics. In addition, the program supports the University's General Education program through Math 102M, Math 104M, Math 162M, and Stat 130M. Program faculty are committed to quality teaching, and 85% of the faculty are active researchers, providing students with a window on the discovery of new mathematics. The faculty support the institutional mission to serve a diverse student body and provide opportunities for lifelong learning. To that end, the program offers selected courses through TELETECHNET.

### **Institutional Goal(s) Supported**

The Mathematics & Statistics BS Program supports the University goals of (a) quality undergraduate academic programs, (b) quality teaching, (c) discovery of new knowledge, (d) lifelong learning, (e) distance education, and (f) community service through the training of the technical workforce. (See pages 3-4 of the Old Dominion University Catalog or pages 8-9 of the University Strategic Plan.) The Mathematics & Statistics BS Program also supports Strategic Initiative 1 (High Quality, Distinctive Undergraduate Programs), Strategic Initiative 5 (Distance Education), and (through the Secondary Education track) Strategic Initiative 10 (Cooperative Relationships with Regional School Systems). (See the Old Dominion University Strategic Plan, pages 22, 48, and 82.)

## *Intended Educational (Student) Outcomes, Methods for Assessment, Criteria for Success, Assessment Results, and Use of Results*

### **Intended Outcome 1**

Students will demonstrate competence in the major analytical skill areas of undergraduate mathematics.

**Method for Assessing Outcome 1 and Criterion for Success:** All graduating seniors in the Applied Mathematics and Secondary Education tracks will take the Major Fields examination in mathematics and the institutional average will be in the 75th percentile or higher.

**Summary of Assessment Data Collected for Outcome 1:** In the past three years, the departmental average for graduating seniors in the Major Fields examination in mathematics has been 67th percentile, 60th percentile, and 75th percentile, respectively.

**Alternate Method for Assessing Outcome 1 and Criterion for Success:** All graduating seniors in the Statistics track will take the written statistics assessment examination created and administered by the ODU Statistics faculty, and at least 75% of the students will pass on their first attempt. (There is not yet a nationally standardized Major Fields examination in statistics.)

**Summary of Assessment Data Collected, Alternate Method for Outcome 1:** Not yet implemented in 2001.

**Intended Outcome 2**

Students will demonstrate proficiency in using mathematical software to solve problems on computers.

**Method for Assessing Outcome 2 and Criterion for Success:** All students in the Mathematics & Statistics BS Program will pass the computer calculus sequence Math 211/212 with a C+ or better, and 75% will pass with honor grades.

**Summary of Assessment Data Collected for Outcome 2:** 1 student in the Mathematics & Statistics BS program failed to pass the Math 211/212 sequence with a C+ or better (earning a D). 80% passed Math 211 with honor grades (A or B), and 89% passed Math 212 with honor grades.

**Intended Outcome 3**

Students will communicate effectively in writing.

**Method for Assessing Outcome 3 and Criterion for Success:** All students will pass the Exit Exam of Writing Proficiency, and 75% will pass on the first attempt.

**Summary of Assessment Data Collected for Outcome 3:** 100% passed; no data is available on whether more than one try was required.

**Alternate Method for Assessing Outcome 3 and Criterion for Success:** All students in the Mathematics & Statistics BS Program will pass writing course Math 311 with a C+ or better, and 75% will pass with honor grades.

**Summary of Assessment Data Collected, Alternate Method for Outcome 3:** 69% passed Math 311 with a C+ or better; 62% passed with honor grades.

**Intended Outcome 4**

Students will give clear and effective oral presentations.

**Method for Assessing Outcome 4 and Criterion for Success:** All students in the Mathematics & Statistics BS Program will pass oral presentation course Math 317 with a C+ or better, and 75% will pass with honor grades.

**Summary of Assessment Data Collected for Outcome 4:** 75% passed with a C+ or better; the others will retake. 58% passed with honor grades.

**Alternate Method for Assessing Outcome 4 and Criterion for Success:** All students in the Secondary Education track will earn a Satisfactory rating from their external internship supervisor, and 75% will earn ratings of Good or Excellent.