

Assessment Plan – Academic Programs

(Form AAP)

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| Computational and Applied Mathematics (Name of Academic Degree Program) | M.S. (Degree Level) |
| David Keyes (Completed by:) | Chair (Title) |
| | 2000-2001 (Academic Year) |

Expanded Statement of Institutional Purpose: *In this section, please provide a statement that demonstrates how your program relates to your college's or division's statement of institutional purpose and, through the college or division, to Old Dominion University's mission and goals.*

Institutional Mission Reference: The Computational and Applied Mathematics M.S. Program offers graduate students a high quality, elective-rich program that meets national standards of excellence with three options: (1) Applied Mathematics, (2) Biostatistics, and (3) Statistics. 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 Computational and Applied Mathematics M.S. Program supports the University's mission of providing advanced professional education for the Hampton Roads area and the Commonwealth.

Institutional Goal(s) Supported: The Computational and Applied Mathematics M.S. Program supports the University goals of (a) quality graduate academic programs, (b) quality teaching, (c) discovery of new knowledge, (d) community service through the training of a professional technical workforce. (See pages 3-4 of the Old Dominion University Catalog or pages 8-9 of the Strategic Plan.) The Computational and Applied Mathematics M.S. Program also supports Strategic Initiative 2 (Excellent Graduate Programs), Strategic Initiative 4 (Programs of National Prominence) through its involvement in Computational Sciences & Engineering, and Strategic Initiative 10 (Regional Cooperative Relationships) through the involvement of its M.S. candidates with local scientific and health research institutions. (See the Old Dominion University Strategic Plan, pages 35, 44, and 82.)

Please provide Intended (Student) Outcomes for your program, Methods for Assessment, and Criteria for Success for each Intended Outcome in appropriate boxes below. *(There should be a minimum of 3 Intended Outcomes and maximum of 10, with 3 to 5 outcomes being typical.)*

Intended Outcome 1: Students will demonstrate competence in the major analytical skill areas of mathematics.

Method for Assessing Outcome 1 and Criterion for Success: All students graduating with the M.S. with a concentration in Applied Mathematics will take the same written qualifying examination annually created and administered by the research faculty for the Ph.D. students, and pass at the M.S. level on the first or second attempt.

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Alternate Method for Assessing Outcome 1 and Criterion for Success (*NOTE: Alternate methods are optional*): All students graduating with the M.S. with a concentration in Statistics or Biostatistics will take the same written qualifying examination annually created and administered by the research faculty for the Ph.D. students, and pass at the M.S. level on the first or second attempt.

Intended Outcome 2: Students will demonstrate proficiency in using word-processing software to prepare technical papers and presentations, including typesetting equations.

Method for Assessing Outcome 2 and Criterion for Success: All students graduating with the M.S. concentration in Applied Mathematics will prepare a written report on their research summary (see below).

Alternate Method for Assessing Outcome 2 and Criterion for Success (*NOTE: Alternate methods are optional*): All students graduating with the M.S. concentration in Statistics or Biostatistics will prepare a written report on their research project (see below).

Intended Outcome 3: Students will demonstrate depth of knowledge in at least one area of contemporary mathematics and statistics.

Method for Assessing Outcome 3 and Criterion for Success: All students graduating with the M.S. concentration in Applied Mathematics will complete a research summary and literature survey that extends some topic of their choice in their graduate coursework beyond the scope of the course.

Alternate Method for Assessing Outcome 3 and Criterion for Success (*NOTE: Alternate methods are optional*): All students graduating with the M.S. concentration in Statistics or Biostatistics will complete a modeling project, developing or adapting an existing statistical method to analyze data arising from a scientific setting, and provide a literature survey.

Intended Outcome 4: Students will develop an appreciation for the breadth of contemporary research in applied mathematics and statistics.

Method for Assessing Outcome 4 and Criterion for Success: All students, prior to graduation, will attend and succinctly summarize and evaluate in writing at least eight (8) professional seminars given by research faculty or external seminar visitors.

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Intended Outcome 5: Students will give clear and effective oral presentations.

Method for Assessing Outcome 5 and Criterion for Success: All students, prior to graduation, will give at least one formal technical presentation to peers and faculty judges and obtain at least a Satisfactory rating from the faculty, and at least 75% will earn scores of Good or Excellent