

Program Name Mathematics, B.S

Program Mission The Bachelor of Science degree in Mathematics is designed to provide students with a strong background in key areas of mathematics and prepare students to successfully pursue graduate study in mathematics or a career requiring substantial use of mathematical reasoning and techniques. The program is focused on developing analytical and critical reasoning skills through the study of foundational mathematics, algebra, analysis, and applied mathematics.

Referring to your annual assessment reports, please reflect on and report any changes or improvements you have made to your program as a result of evidence you have gathered

As outlined below, there is more than one opportunity for students to meet each PLO. 1). Demonstrate college-level knowledge in foundational mathematics, e.g., Calculus and Linear Algebra (MATH 114, 221, 222, 351). 2). Demonstrate competence in routine analytical reasoning (MATH 299, 351, 446, 448, and other upper division electives). 3). Demonstrate college-level knowledge in applied mathematics (MATH 310, 320, 341, 360, 361, 368, 371). 4). Demonstrate college-level knowledge in algebra/geometry (MATH 345, 346, 448, 449). 5). Demonstrate college-level knowledge in analysis (MATH 446, 447, 460, 461, 462). 6). Demonstrate competence in nonroutine critical reasoning (MATH 299, 351, 446, 448, and other upper division electives). 7). Demonstrate college-level knowledge in fields related to mathematics (CMPS 134, 134L and PHYS 140, 140L, 141, 141L)

Curriculum

The curriculum provides more than one opportunity for students to meet the Program Learning Objectives

Which key courses and assignments does the program use to ensure that students are meeting these program learning outcomes?

MATH 114,221,222,299,351,446,448 and selections from {MATH 310,320,341,360,361,368,371}, {MATH 345,346,449} and {MATH 447,460,461,462} along with cognate courses CMPS 134,134L and PHYS 140,140L,141,141L

Program Learning Outcomes to be Assessed

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Program Learning Outcome

1).Demonstrate college-level knowledge in foundational mathematics, e.g., Calculus and Linear Algebra

How will you collect and analyze the evidence that students are meeting the PLO (e.g. Review aggregate scores on embedded questions; review scores on standardized tests; use a rubric to score samples of student writing).

The evidence for PLOs 1 through 6 will be collected and analyzed through the review of a variety of data (e.g., overall scores, scores on five assessment indicators, and item information reports about the individual questions on the test) from the Educational Testing Service's Mathematics Major Field Test. The evidence for PLO 7 will be the satisfactory completion of the required cognate courses, which will be recorded and analyzed in the aggregate.

Where in the program does the evidence reside? Evidence can reside in a particular course, sections of a particular course, or outside of courses (e.g. survey of graduates)

The evidence for PLOs 1 through 6 resides in the Educational Testing Service's Mathematics Major Field Test, which is a graduation requirement for the program. As such, it is a part of the curriculum that resides outside of courses. The evidence for PLO

Is the evidence direct or indirect Direct evidence is actual student outputs, which can be analyzed or aggregated using quantitative or qualitative methods. Indirect is secondary information, such as perceptions, attitudes, or self-ratings.

The evidence for PLOs 1 through 6 is direct, objective and standardized. The evidence for PLO 7 is direct and objective.

What tools are necessary to collect evidence? (Rubrics, Portfolio,Embedded Exam Questions etc.)

The Educational Testing Service's Mathematics Major Field Test with its associated metrics provides the assessment tool for PLOs 1 through 6. The tool for PLO 7 will consist of a cataloging of anonymous student achievement in the required cognate courses

Are there benchmarks that you will use to interpret your results? Benchmarks are associated with quantitative evidence and can be determined based on disciplinary norms or previous results on the same assignment, survey, etc.

Yes, benchmarks for PLOs 1 through 6 are provided by previous results from the same assessment tool, along with comparative results from schools across the nation that use the same tool. The benchmark for PLO 7 will be a minimum of 2.0 for the aggregate a

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2). Demonstrate competence in routine analytical reasoning

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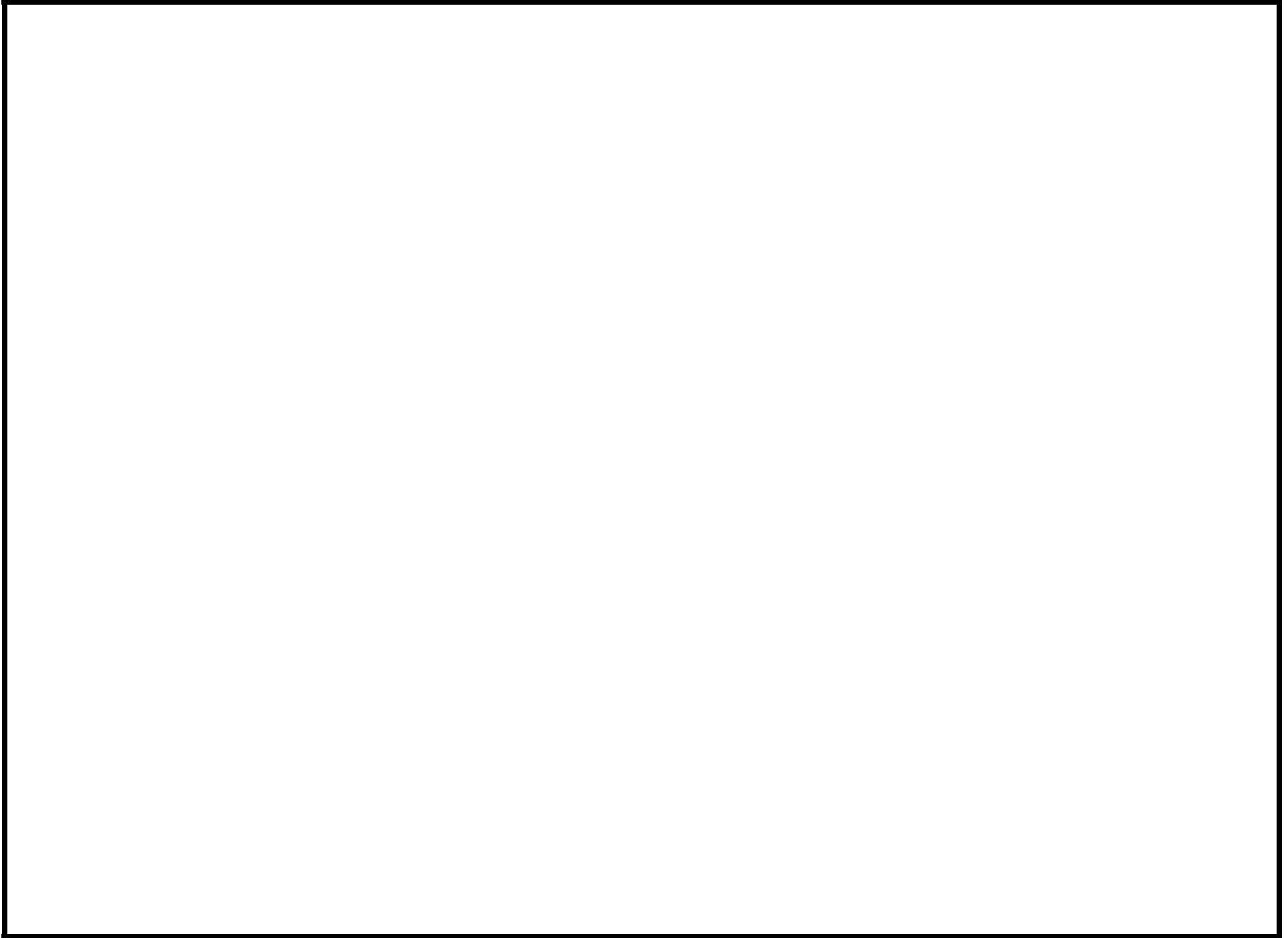
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3). Demonstrate college-level knowledge in applied mathematics

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4).Demonstrate college-level knowledge in algebra/geometry

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5).Demonstrate college-level knowledge in analysis

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6). Demonstrate competence in non-routine critical reasoning

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7). Demonstrate college-level knowledge in fields related to mathematics

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