



2016-2021 Strategic Plan

Approved December 7, 2015

I. Context for Strategic Planning

This strategic plan was developed through a collaborative process that involved all tenure-track faculty (that is, all faculty who are tenured or tenure-eligible) in the Department of Mathematics. We began by considering the forward-looking comments from our 2014 self study while asking the question, “What do we want to be able to say about our department five years from now that is not already true today?” From this context, we agreed on the following goals:

Goal 1: Enhance the experience and success of all students we serve.

- Increase the proportion of calculus and foundations-level courses taught by long-term faculty (tenure-track and affiliate).
- Increase the number of students selecting mathematics as a major or minor.
- Increase student involvement in high-impact learning experiences and co-curricular activities.
- Expand existing resources and develop new resources to support mathematics majors in the non-certification emphasis.
- Align physical and technological resources with current trends, best practices, and pedagogical needs.

Goal 2: Enhance diversity and inclusiveness within our department, particularly among our long-term faculty.

- Increase the diversity (broadly defined) of department faculty, and increase the number of female and minority faculty teaching courses at all levels.
- Enhance the professional status of affiliate faculty by increasing salaries, expanding resources for professional development, and providing greater opportunities for involvement in department activities and collaboration with tenure-track faculty.

These goals do not comprise a comprehensive list of all potential initiatives for 2016-2021. Rather, they represent aspirations the department agrees should be prioritized and given special attention over the next five years. In addition to these priorities, the department will pursue and maintain many additional outcomes consistent with our mission, vision, and values.

II. Mission

The mission of the Department of Mathematics is to cultivate in ourselves and develop in our students: (1) an understanding of mathematics, its applications, and its role in society; (2) the abilities to reason and to communicate about mathematical ideas; and (3) an appreciation of mathematics as a creative endeavor that involves exploration, problem solving, and the search for patterns and connections. Furthermore, it is the mission of the Department of Mathematics to engage in active scholarship and service that supports our teaching, furthers mathematical understanding, and builds productive connections with academic and non-academic communities.

III. Vision

Grand Valley State University's Department of Mathematics will be known as an inclusive community of learners that is committed to student success, excellence in teaching, and active engagement in scholarship and service.

Our students and graduates will be known and respected for their knowledge of mathematics, their capacity to think critically and creatively, their ability to communicate mathematical ideas effectively, and their flexibility to adapt to changes in their professions.

Our faculty and graduates will be recognized for their leadership in promoting excellence and innovation in mathematics and mathematics education, both at GVSU and beyond.

In meeting this vision, the students, graduates, and faculty will be seen as informed citizens, productive members of society, and lifelong learners.

IV. Values

The Department of Mathematics values a diverse and multicultural learning community whose members actively advance the ideals of a liberal arts education. To that end, we recognize teaching and learning as our highest priorities while also acknowledging the importance of scholarship and service. In all of our work, we value a growth mindset and the open exchange of ideas from diverse points of view.

In the area of teaching, we value:

- informed, knowledgeable, and reflective faculty who are committed to continued growth and professional development;
- learner-centered approaches to instruction, supported by class sizes that allow active student engagement in learning, personal interactions with faculty, and meaningful feedback on student work;
- learning as a collaborative endeavor that is supported by a strong sense of community among students and faculty;
- innovation in teaching and the freedom of faculty to pursue innovative pedagogies;

- effective use of instructional and mathematics-related technology to support learning and promote understanding of mathematics; and
- community engagement and participation as global citizens in diverse settings beyond GVSU.

In the area of scholarship, we value a broad range of professional activities that include but are not limited to:

- keeping current with, contributing to, and disseminating intellectual developments in mathematics, mathematics education, and related fields;
- applying mathematical knowledge in a variety of areas;
- conducting research on the teaching and learning of mathematics at all levels;
- developing innovative educational resources for use at GVSU and beyond;
- engaging in collaborative research with peers and with students; and
- participating in interdisciplinary scholarship.

In the area of service, we value:

- active participation in achieving department, college, and university goals;
- collaboration with peers, students, industry, schools, and community groups;
- initiative and leadership in bringing forth new ideas, programs, and approaches that further the mission of the department, college, and university; and
- promotion of the profession at the local, regional, and national levels;

In each of these areas, we also value collaboration and mutually supportive working relationships among all Mathematics Department faculty and staff.

IV. Objectives

For all objectives, the timeframe for completion is the end of the 2020 calendar year, unless specified otherwise.

Objective 1 (1.E.1): Staff all calculus courses (MTH 201, 202, 203) with tenure-track or affiliate faculty.

Baseline: Since Fall 2011, approximately 83% of all such courses have been taught by tenure-track or affiliate faculty.

Objective 2 (1.E.2): Staff at least 80% of foundations-level courses (MTH 097, 110, 122, 123) with tenure-track or affiliate faculty.

Baseline: Since Fall 2011, approximately 65% of all such courses have been taught by tenure-track or affiliate faculty.

Objective 3 (4.A.1): Articulate a plan, including specific strategies and initiatives, to increase the number of students choosing to major or minor in mathematics.

Timeframe for completion: By end of 2016-2017 academic year

Objective 4 (4.A.2): Increase the number of mathematics majors and minors to 400 and 250, respectively.

Baseline: As of Fall 2015, there are 308 mathematics majors and 173 mathematics minors (including all emphases).

Objective 5 (1.A.1): Conduct a survey to assess current opportunities and participation by mathematics majors in high-impact learning experiences and co-curricular activities, develop a mechanism for tracking student participation in high-impact learning experiences and co-curricular activities, and articulate a plan to increase participation in high-impact learning experiences and co-curricular activities by at least 25%.

Timeframe for completion: By end of 2016-2017 academic year

Objective 6 (1.A.2): Increase the rate of participation by mathematics majors in high-impact learning experiences and co-curricular activities by 25% from the baseline established during the 2016-2017 academic year.

Objective 7 (1.A.3): Compile, maintain, and make available to students a collection of information about faculty research interests, career opportunities, and graduate programs in mathematics.

Timeframe for completion: By end of 2016-2017 academic year

Objective 8 (1.A.4): Develop and teach a one-credit junior-level seminar course, focusing on career and graduate school opportunities in mathematics, for students in the non-certification emphasis.

Timeframe for completion: Initial offering during Winter 2017 semester

Objective 9 (3.D.1): Develop and administer a study to determine the effectiveness of current hybrid and online course offerings.

Timeframe for completion: By end of 2016-2017 academic year

Objective 10 (3.D.2): Develop and implement a plan for future hybrid and online course offerings.

Timeframe for completion: Plan by end of 2016-2017 academic year; implementation throughout 2016-2021.

Objective 11 (3.D.3): Develop and administer a faculty survey to assess how well current classroom configurations, technological resources, and other instructional aids align with current instructional practices.

Timeframe for completion: By end of 2016-2017 academic year

Objective 12 (3.D.4): Based on the faculty survey from Objective 11, develop a five-year plan to align physical and technological resources with current trends, best practices, and pedagogical needs.

Objective 13 (2.B.2): Develop and implement a survey to identify the percentage of tenure-track and affiliate faculty who identify as belonging to an underrepresented group (broadly defined).

Timeframe for completion: By end of 2016-2017 academic year

Objective 14 (2.B.3): Increase the percentage of tenure-track and affiliate faculty who identify as belonging to an underrepresented group (broadly defined) by 20%.

Objective 15 (1.B.1): Increase, to at least 40%, the proportion of mathematics content courses in the major, MTH 210 and above (210, 227, 304, 310, 327, 341, 345, 360, 402, 408, 409, 410, 431, 441, 495) taught by female faculty.

Baseline: From Fall 2011 to Fall 2015, 32% of these courses were taught by female faculty.

Objective 16 (2.E.1): Increase the salary of affiliate faculty to be comparable to salaries of similar positions at other area institutions.

Baseline: Average faculty salaries at Grand Rapids Community College and Muskegon Community College. (According to the data in our 2014 Self Study, salaries for comparable positions at these institutions are 13-38% higher than current Mathematics Department affiliate faculty salaries.)

Objective 17 (2.E.2): Increase professional development and computer upgrade funds for affiliate faculty to at least 50% of the amount provided for tenure-track faculty.

Baseline: Affiliate faculty are currently allocated \$350 per year for travel, technology, and professional development, which is 29% of the amount allocated to tenure-track faculty. There are currently no funds for regular computer upgrades for affiliate faculty.

Objective 18 (2.B.1): Appoint a task force, including both tenure-track and affiliate faculty, to investigate and make recommendations regarding the role of affiliate faculty in department governance.

Timeframe for completion: By end of 2016-2017 academic year

Appendix: GVSU Strategic Priority Areas and Outcomes

Strategic Priority Areas:

1. *Actively engage learners at all levels*
2. *Further develop exceptional personnel*
3. *Ensure alignment of institutional structures and functions*
4. *Enhance the institution's image and reputation*

Outcomes:

- A. *GVSU's learning environment is personal, challenging, and transformational, supporting excellent academic programs and co-curricular opportunities.*
- B. *GVSU is diverse and inclusive.*
- C. *GVSU has mutually beneficial relationships, partnerships, collaborations, and connections with local, state, national, and world communities.*
- D. *GVSU supports innovative teaching, learning, integrative scholarly and creative activity, and the use of new technologies.*
- E. *GVSU strategically allocates its fiscal, human, and other institutional resources.*