2017-18 Department Student Success Plan Update Department of Mathematics and Computer Science

Please complete this plan update and submit to your Dean by November 3. Your Dean will offer you feedback by November 17 and advance final version¹ to Academic Affairs by November 21. Previous report and plans can be found at this website: <u>http://irt2.indstate.edu/cms7/sp16/index.cfm/department-plans/</u>.

Person Primarily Responsible for Preparing this Report: Liz Brown

1. Department goals to facilitate persistence to degree (include action steps, dates, and person(s) responsible underneath each goal):

(a) Require juniors and senior to meet with their academic advisor to do a degree audit to ensure they are on track for graduation. Continuing goal. Responsible persons: Ramachandra Abhyankar, Robert Sternfeld, Derrick Bowman, Jodi Frost, Winnie Ko (undergraduate advisors in the CS, math, and math ed programs); ongoing.

(b) Improve success rates in freshman classes for majors so that students remain at ISU, even if they change programs.

Have a "peer assistant" embedded in each of our freshman classes for majors. Some of these courses (CS 151, MATH 131 and 132) are required for majors other than our own. The freshman "majors" classes include CS 151, CS 201, MATH 122, MATH 131, and MATH 132. The purpose of this is to help our majors an those in allied majors navigate their first year of college while learning the foundational concepts found in computer science, mathematics, and mathematics education. Hence, the peer assistant will help freshman with both the content of the courses as well as how to be successful in the major and in college in general. We would like funding for this. We were given funding in Spring 2015 for this, but nothing since then. If funds are forthcoming, we will have instructors of the sections of these courses identify a successful undergraduate student who will attend the section and hold "office hours" outside of class to meet with freshmen. This would mirror our "SA" model that has been so successful in MATH 115. This will also help retain our upperclassmen as it will keep them involved with department faculty outside of their own classes. Once funded, it could start immediately. Responsible persons: Those teaching the identified courses (in the past and near future these could be: Derrick Bowman, Henjin Chi, Bob Johnson, Winnie Ko, Jodi Frost, Liz Brown, Vin Isaia, Jeff Kinne, Steve Baker, Cheng Zhao, Rob Sternfeld).

(c) Revive the Mathematics Honor Society, Pi Mu Epsilon. We have located the charter and will determine the steps we need to take to make this a vibrant student organization in the department. Responsible persons: Liz Brown, Derrick Bowman, Vin Isaia), Spring 2018.

(d) Ensure the "right" faculty are teaching the required courses in the majors. Persons responsible: Liz Brown, Henjin Chi, Jeff Kinne, Winnie Ko; ongoing.

2. Department goals to enhance student performance and/or learning outcome achievement² (include action steps, dates, and person(s) responsible for each goal):

(a) Continue the wildly successful "Student Assistant" program in MATH 115. Persons responsible: Liz Brown, Derrick Bowman, Alison Breiding; ongoing.

(b) Develop a "Student Assistant" program for Calculus I, II, III (MATH 131, 132, 231) and Statistics (MATH 241). With the start of the BS Engineering in Fall 2018, we must support these students as they take their required five mathematics courses. The successful "student assistant" model for MATH 115 should be adapted

¹ Dean will request a refinement to plan if it is not suitably addressing the questions. Plan will be shared with Trustees.

² Department/Program Student Learning Summary Form report may inform what is noted here.

for these other courses. Persons responsible: Liz Brown, Henjin Chi, Winnie Ko, Alison Breiding; planning must begin in Spring 2018 so this can be included in the Fall 2018 schedule.

(c) Bring the Math Tutoring Center to the basement of Root Hall under the control of the Department of Mathematics and Computer Science. There are several reasons that this would help our students more than the current structure:

(1) Closer connections between faculty and tutors will aid our graduation/retention goals and help us ensure the professionalism needed for effective career readiness preparation.

(2) Consistent messages sent to students and tutors. This is critical. Currently, we receive reports that students seeking tutoring are given incorrect information and there is a time and distance lag in correcting the problem. Faculty report to the chair of MACS, the chair reports to the MWC, and the MWC tries to figure out what has happened and generally the problems persist.

(3) Proximity to the location where most of the mathematics courses are taught. This advantage cannot be overstated. We have seen this with the SA program for MATH 115. More students are coming to the voluntary sessions held in the math lab than ever went to the MWC over in the library for MATH 115 tutoring. We believe this is due largely to the proximity of the math lab with the mathematics classrooms. Although it seems that this shouldn't make a difference because the library isn't "that far away," it does.

(4) Currently, there are no masters-trained mathematics leadership in the MWC. There is one math grad student and one grad student from business. Although they seem to be doing a fine job, they simply do not have the experience and expertise to properly train tutors in the nuances of the various mathematics courses.

(5) This would ensure consistency among tutoring in the developmental math and college-level math courses. Currently, there are different models used among the various classes. This would help students who start behind get caught up and set them up for success in the rest of their courses.

This could be accomplished in a revenue-neutral way if the current resources in the MWC devoted to mathematics were shifted to the Department. We could have this fully functioning by Fall 2018. Responsible persons: Liz Brown, Alison Breiding, faculty teaching the identified courses.

Metric	2016-17 FTFT-BDS Cohort Actual	2017-18 Target	3 Year Target (2019-20)
Freshmen Retention ³	74.51%	75%	77%
(by <u>latest</u> department)			
4-Year Grad Rate	29.03%	30%	32%
(by <u>latest</u> department)			
	Source data for 2016-17 actual	2017-18 Target	3 Year Target (2019-20)
Other Metric #1 ⁴	63.45%	65%	70%
Other Metric #2	1 section/semester	1 section/semester	2 sections/semester

Benchmark Metrics

Other Metric #1: Completion ratio in MATH 035

Other Metric #2: Increased co-requisite sections of MATH 241 and MATH 035

³ In a very few cases, such as with departments with very small numbers of majors or who have few or no new freshmen who enroll in their program, this metric and a grad rate may not be applicable. Other appropriate metrics should be used instead (e.g., service course student performance, transfer students, part-time students, etc.).

⁴ Departments may wish to also focus on key metrics for sub-populations (e.g., transfer students, distance students, minority students, students at a particular class year or years where bottlenecks/movement out of the major/drop out from ISU appear to be a concern) or metrics such as credit hour productivity or D/F/drop rates. See Blue Reports or Institutional Research for ideas.