Annual Assessment Report

Department: Mathematics and Computer Science
Academic Year: 2017 – 2018
Date of Submission: November 8, 2018
Department Chair: Russell W. Howell

I. Response to the previous year PRC's recommendations

Item: Continue doing good assessment work	**Response:** Thank you; we will try to do so.
Item: In the future, collect the results of student learning over several years in order to construct a larger sample. The sample should be large enough and representative enough so that uyou can use the results with confidence to make decisions about student learning in the program	**Response:** The collection process is in progress.
Item:	**Response:**
Item:	**Response:**
Notes:	

II A. Program Learning Outcome (PLO) assessment
If your department participated in the ILO assessment you may use this section to report on your student learning in relation to the assessed ILO. The assessment data can be requested from the Dean of Curriculum and Educational Effectiveness.

Program Learning Outcome	**Creativity** Students will demonstrate their creativity by formulating and making progress toward solving nonroutine mathematical problems. Comment: Problems and exercises that students encounter in mathematics courses typically give them practice applying material they are learning in the course and enable them to demonstrate their mastery of that material. As they mature as

	mathematicians, our students are expected to demonstrate creativity and an ability to solve problems that require the creative application of ideas from a range of disciplines.
Who is in Charge /Involved?	Ray Rosentrater (teacher of MA 180) and the rest of the department (evaluating of presentations).
Direct Assessment Methods	Keep records of the work done in MA 180. Samples of the solutions will be preserved and a record of submissions to journals will be maintained.
Indirect Assessment Methods	Student presentations at conferences and other settings outside MA 180.
Major Findings	1. From Fall 2009 to Spring 2018, 53 students attempted 103 problems from 5 different journals. Of these 103 attempts, 73 problems were solved, 44 of these solutions were submitted to the journals, and 7 of these solutions were published in the journals (see Appendix A). 2. Put differently, about 71% of the problems attempted were solved, about 43% of the problems' solutions were submitted to the journal, and about 0.07% of the solutions were published in their respective journals. 3. We are satisfied with the performance of our students in general. It should be noted, however, that the current senior class is an exceptionally strong one. By contrast, the sophomore level class (at this point at least) seems weaker.
Closing the Loop Activities	1. Keep close track of students who enter their junior year. 2. If progress seems below par for those students discuss what action might be taken to redress the situation.
Collaboration and Communication The department discussed the above outcomes and concur with the assessment and recommendations.	

or/and

II B. Key Questions

Key Question	
Who is in Charge/Involved?	
Direct Assessment Methods	
Indirect Assessment Methods	
Major Findings	
Recommendations	
Collaboration and Communication	

III. Follow-ups

Program Learning Outcome or Key Question	Written and Oral Communication
Who was involved in implementation?	Ray Rosentrater, Russell Howell
What was decided or addressed?	We will monitor the two students who gave weak oral presentations to ensure that their presentation skills improve.
How were the recommendations	One of the two students was off campus all year; the second has been monitored closely in MA-108 and given almost daily presentations. The skills of that student are improving.

implemented?	
Collaboration and Communication The department recently observed the one student speaking in a public setting. The student still lacks confidence and is shy about public speaking, but we are confident that more practice will lessen that characteristic.	

IV. Other assessment or Key Questions related projects

Project	
Who is in Charge /Involved?	
Major Findings	
Action	
Collaboration and Communication	

V. Adjustments to the Multi-year Assessment Plan (optional)

Proposed adjustment	Rationale	Timing

VI. Appendix: Problem Solving Data

	Student	Journal	Prob. Number	Solved	Submitted	Solution Published
	Fall 2009					
	David Montgomery	Math Horizons	234	X	X	x
	Daniel Mathis	Math Horizons	235	X	X	x
x	Aaron Panchal	Math Mag.	1821	X	X	
	Phil Davis	Math Mag.	1821			
	Phil Davis	Math Mag.	1822			
	Steve Bergen	Math Mag.	1822			
	William Hodge	Math Mag.	1824	X	X	
x	Brad Pearson	Math Mag.	1830	X	X	
x	Sabrina Dangc	Math Monthly	11435	X	X	
x	David Montgomery	Math Monthly	11449			
	Spring 2010					
x	Sabrina Dangc	Math Horizons	233	X	X	X
x	Steve Bergen	Math Horizons	238	X		
x	Rebecca Akaka	Math Horizons	239	X		
x	Kent Stormans	Math Horizons	244	X		
x	Kaitlin Bagby	Math Monthly	11470			
S	Kent Stormans	Math Monthly	11480			
S	Phil Davis	Math Monthly	11480			
	Fall 2010					
x	Jackson Roberts	Math Horizons	241	X		
x	Brad Pearson	Math Monthly	11508	x		
	Richard Lopez	Math Monthly	11511	X		
	Spring 2011					
X	Kaitlin Bagby	College Math J.	936	X		
X	Carol Downes	College Math J.	937	X		
X	Amelia Hobart	Math Horizons	255	X	X	X
X	Richard Lopez	Math Horizons	255	X	X	X
x	Richard Lopez	Math Mag.	1857	X	X	
x	Greg Wallen	Math Mag.	1858			
	Amy Cooper	Math Monthly	11543	X	X	

Benn Smith	Math Monthly	11543		
Fall 2011				
Amy Cooper	Math Monthly	11582		
Katie Elliot	Math Mag.	Q1011	X	NA
Katie Elliot	Math Monthly	11581	X	
Ally Fredrickson	Math Mag.	1873	X	
Daniel Mathis	Math Monthly	11587		
Daniel Mathis				
Spring 2012				
Carol Downes	Math Mag.	1881	X	X
Carol Downes	Math Mag.	Q1015	X	NA
Katie Elliot	Math Monthly	11613	X	X
Katie Elliot	Math Monthly	11611		
Amelia Hobart	Math Monthly	11604	X	X
Amelia Hobart	Math Horizons	271	X	
Jackson Roberts	Math Horizons	273	X	
DJ Stout	Math Mag.	Q1016	X	NA
DJ Stout	Math Monthly	11615	X	X
Fall 2013				
Tyler Brannan	CMJ	1007	x	x
Riley Hall				
Rachael Huo	CMJ	1002		
Daniel Ray	Monthly	11712	X	X
Spring 2014				
Amy Hamilton	Math Horizons	298	X	X
Amy Hamilton	Monthly	11751		
Riley Hall	Monthly	11737	X	X
Riley Hall	Math Horizons	304	X	X
Riley Hall	CMJ	1016	X	X
Russell Harmening	CMJ	1019	X	X
Sarai Mitchel	Math Horizons		X	X
Daniel Ray	Monthly	11744	X	X
Daniel Ray	Monthly	11733		

Ashley Ward	Math Horizons	302	X	X	
Fall 2014					
Austin Woods	Math Horizons	313	X	X	X
Austin Woods	Math Horizons	314	X		
Austin Woods	Math Horizons	310	X	X	X
Austin Woods			X		
Fall 2015					
Olivia Hughes	Math Monthly	11857	X	X	
Olivia Hughes	Math Horizons	333			
Dillon Montag			X	X	
Dillon Montag					
Jonah Kock	Math Mag	1971			
Miranda Witrock	CMJ	1052			
Miranda Witrock	Math Horizons	327			
Abby DeYoung	Math Horizons	330	x		
Abby DeYoung	Math Monthly	11860			
Austin Zuidama	CMJ	1055	\		
Austin Zuidama	Math Mag	1973			
Spring 2016					
Katie Morhoff	Math Mag	Q1053	X		
Katie Morhoff	Math Mag	1976	X	X	
Amy Hamilton	Math Monthly	11867			
Amy Hamilton	Horizon	334	X		
Dillon Montag					
Kyle Fredrickson	CMJ	1059			
Abby DeYonge	Math Monthly	11860			
Abby DeYonge	Math Monthly	11876	X		
Miranda Wittrock	Math Mag	1979	X	X	
Miranda Wittrock	Monthly	11881	X	X	
James Solum	CMJ	1059			
James Solum	Horizon	340	X		

David Kyle	CMJ	1056	X	X
David Kyle	Math Monthly	11870		
David Kyle	Horizon	339	X	
Julian Danc	Math Mag	1979		
Julian Danc	Math Horizon	337		
Fall 2016				
Emma Donnelson	Math Monthly	11922	X	X
Katie Morhoff	Math Mag	1996	X	
David Spindler	Horizon	342	x	
Austin Zuidama	Horizon	343	X	
Spring 2017				
Kyle Fredrickson	Math Mag	2001	X	X
Kyle Hansen	Math Monthly	11944	X	X
David Kyle	Math Monthly	11947	X	X
David Kyle	Math Mag	2006	X	X
Samuel Muthiah	Math Monthly	11949	X	X
Cameron Parker	Horizons	357	X	
Heather Totten	Horizons	352	X	X
Fall 2017				
Matt Coffman	Math Monthly	11985		
Natelli Cripe	Math Monthly	11994	x	x
Kevin Gao	Math Monthly	11998	x	
Leal Makaroff	Math Monthly	11986		
David Spindler	Math Monthly	11996		
Spring 2018				
Emma Donnelson	Math Monthly	12018	x	x
Emma Donnelson	CMJ	1120	x	x
Hannah Fisk	Coll. Math J.	1106	x	x
Samuel Muthiah	Math Monthly	12008		
Samuel Muthiah	Math Magazine	2037		