Assessment of programs 2017
B.S. and B.A degrees in Mathematics

Assessment of our mathematics majors is done in a variety of forms, mostly in an on-going basis through the department's Undergraduate Committee's review of STEM and mathematics major courses. In addition to course work, students are also assessed by through their overall levels of participation in department, university and professional activities; these include interdisciplinary research projects, career fairs, REU's, internships, The Math Club, AWSM, Celebration of Mind, tutoring, and the Putnam Exam.

Our production of math graduates has increased in the last few years. According to the Office of Institutional Research and Assessment the following are the number of BA and BS degrees in the last 10 years:

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018*
13	19	27	27	25	23	26	22	28	31	27

One of the main assessments of our math majors occurs in the Mathematics Major Seminar (MATH 4933). This course serves as a capstone course for students in the major, and requires the completion of a written paper on a topic of mathematics. (An honors thesis can substitute for the paper.) Students are also assessed by taking a national standard exam in Mathematics.
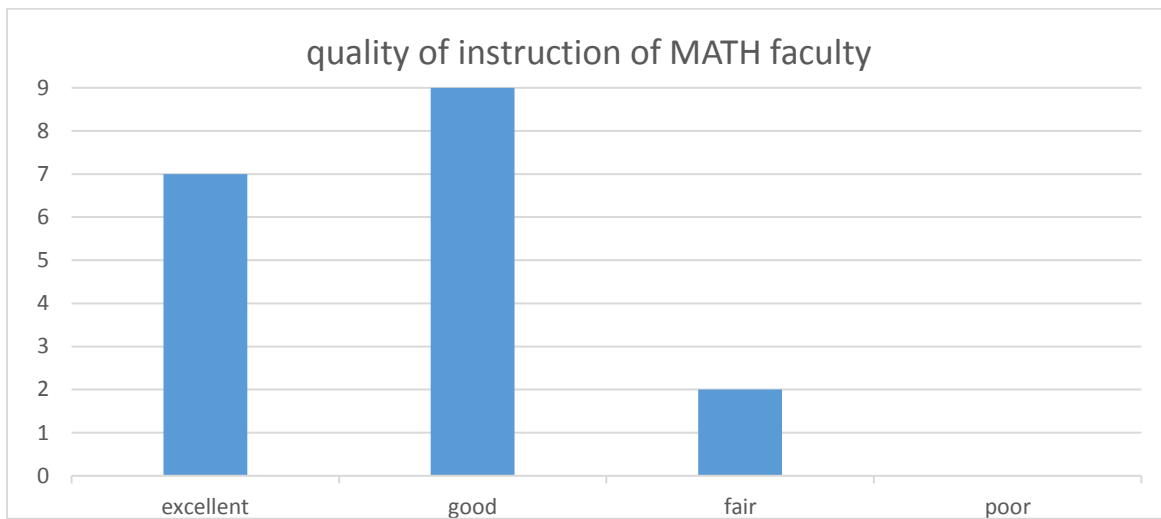
The MFT exam in Mathematics is taken by students from 300 institutions across the country. Over the last five years, their reported data has a mean of 156.5 and median of 154.0. Furthermore, the institutional mean (respectively, median) is 154.8 (respectively, 155.0). Our students compare well, with a mean of 154.6 and median of median of 150.
For the BS majors, the MFT averages report a mean of 156 and median 151, while for the BA majors the mean is 150 with median 148.   Our BS majors have the same mean and slightly higher median than the national figures (we have too few BA students to report an accurate average).   The individual results for each student are listed in the following tables.   (The scores also include results from several students who are not graduating, and took the exam early, having yet to complete all their required mathematics courses, which may explain partially several lower scores.)
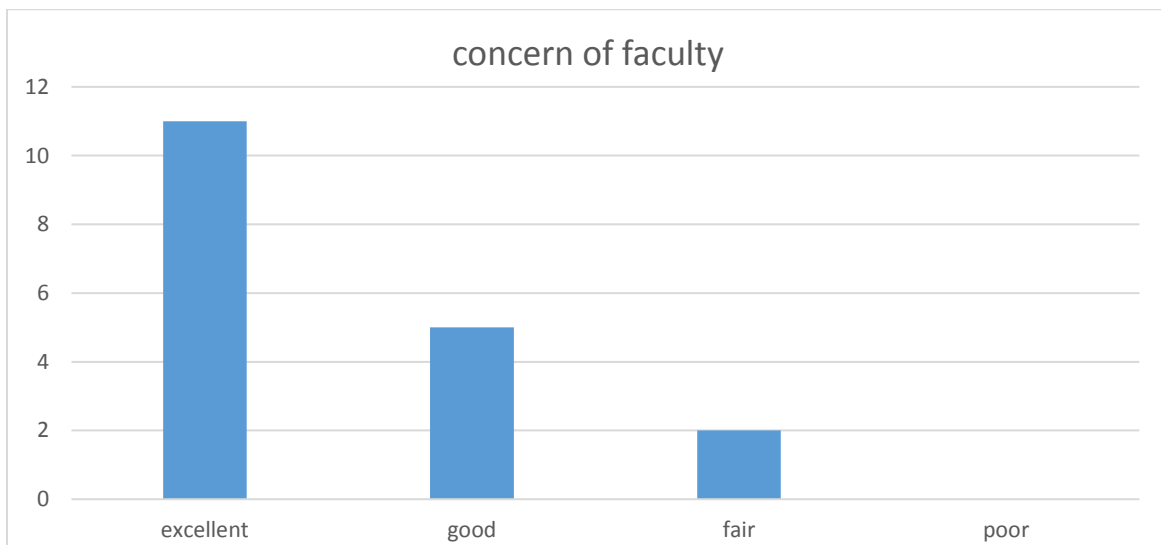
BA exam scores

BS exam scores
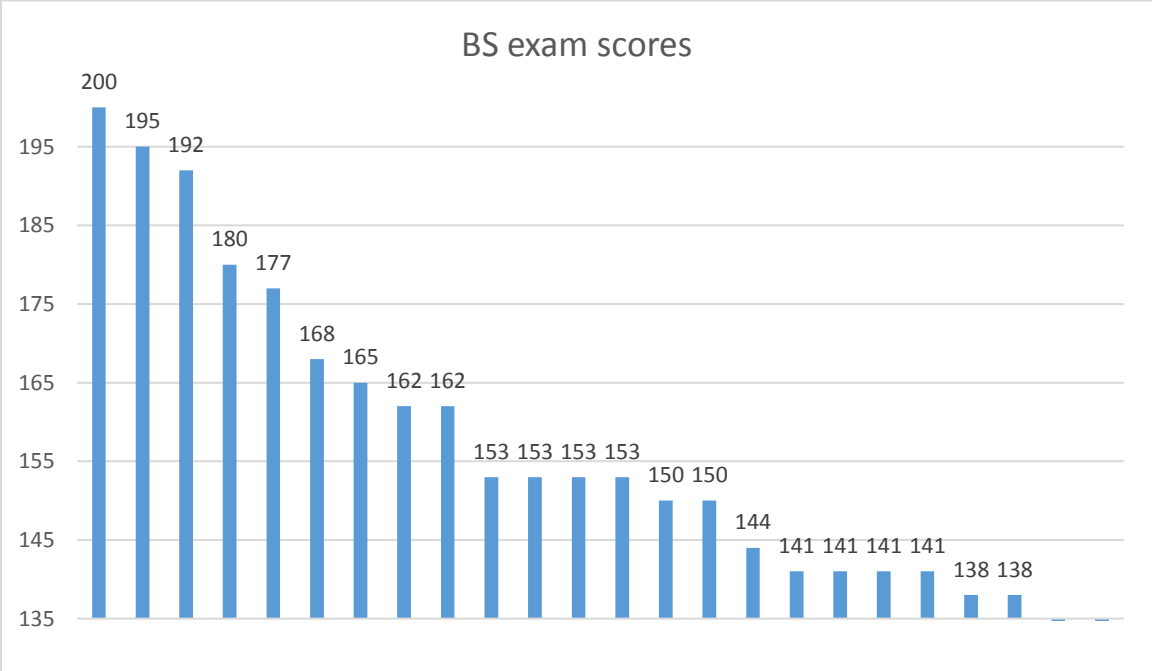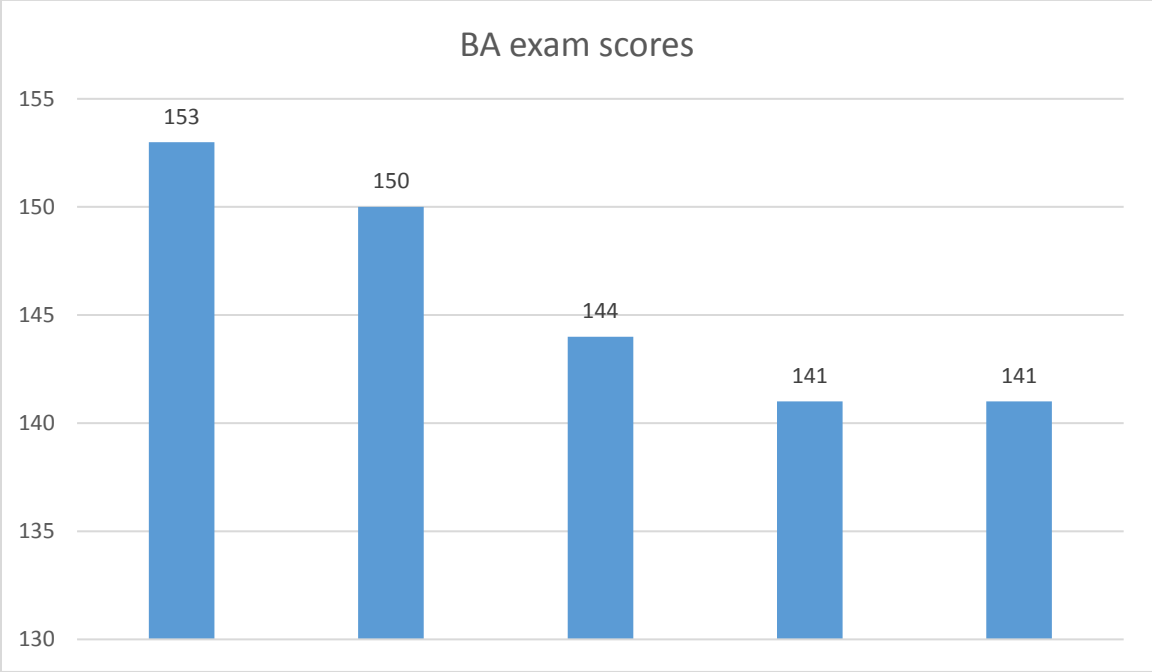
Graduating students are also assessed via an exit interview questionnaire.   The following are responses for 18 volunteering students.

In the first 5 questions, students were asked to rate responses either
Excellent, good, fair, or poor. The final question was the overall assessment of the department.

1. Quality of instruction

quality of instruction of MATH faculty

	excellent	good	fair	poor
value	7	9	2	0

2. Concern of faculty towards majors

concern of faculty

	excellent	good	fair	poor
value	11	5	2	0

3. Sense of community

sense of community

	excellent	good	fair	poor
value	6	6	6	
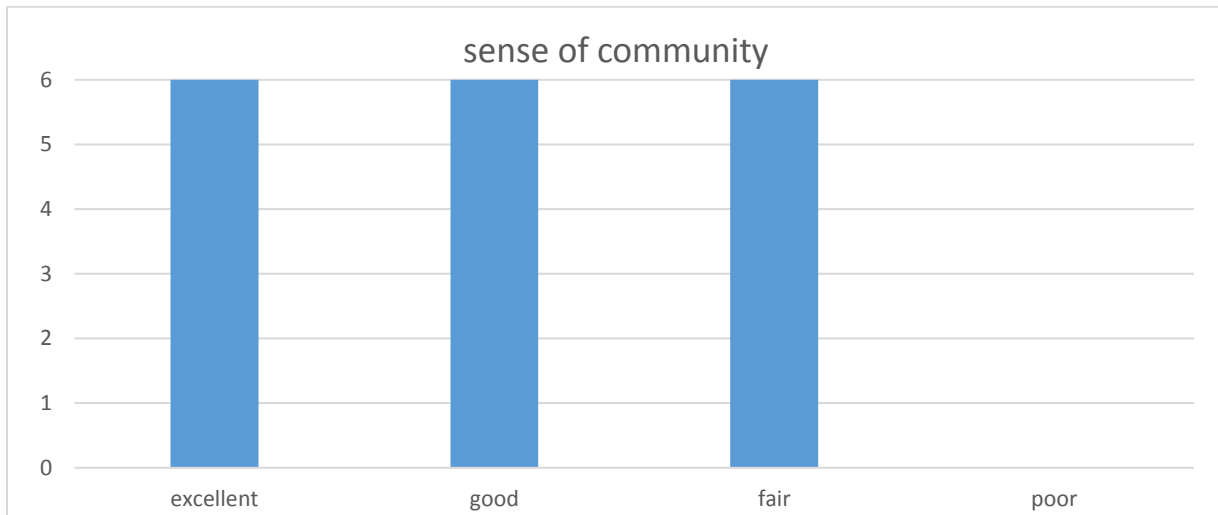
4. Quality of mathematics advising

quality of advising

	excellent	good	fair	poor
value	9	3	4	

5. Overall assessment

overall assessment

	excellent	good	fair	poor
	6	10	2	0
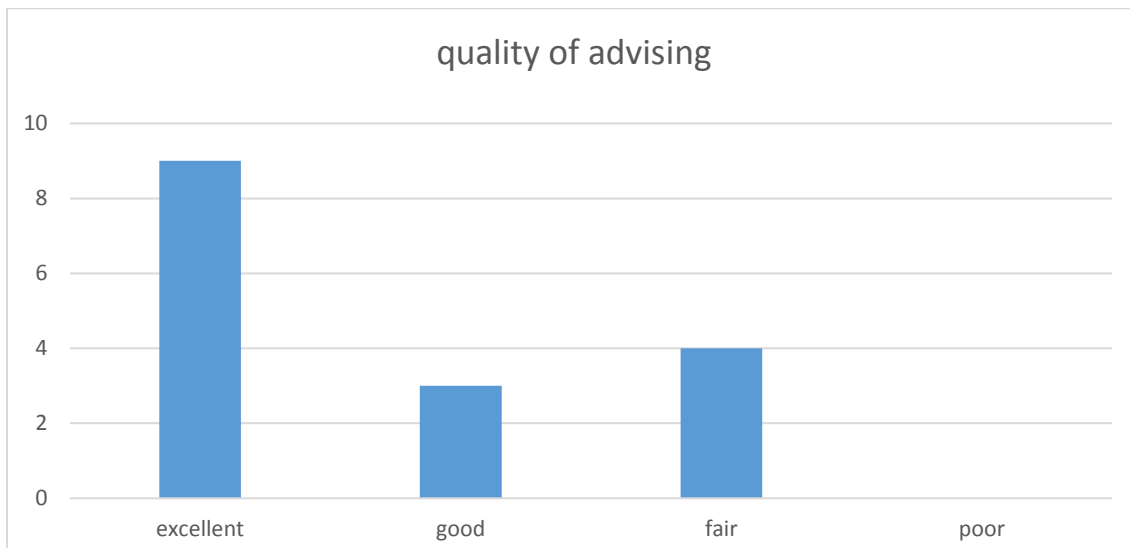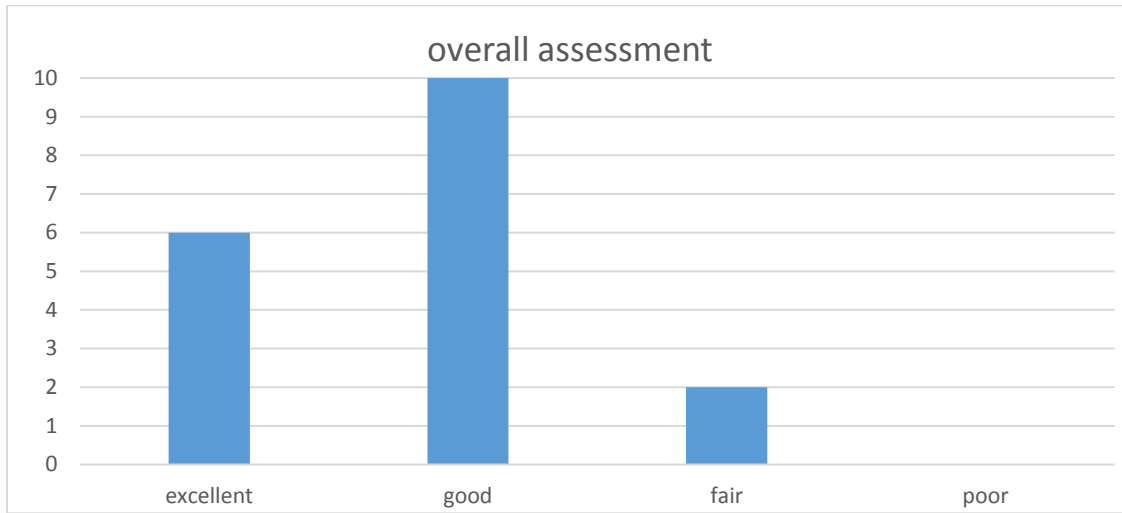
In the next three questions, majors were asked about the degree they agreed with the following: (1) MATH 2803 significantly improved their critical thinking, reasoning and problem solving skills, (2) The courses for the major were challenging, (3) The program prepared them for their career plans.

three questions

	strongly agree	agree	somewhat agree	somewhat disagree	disagree	strongly disagree
(1)	7	6		2	1	1
(2)	11	6	1			
(3)	4	8	5	1		
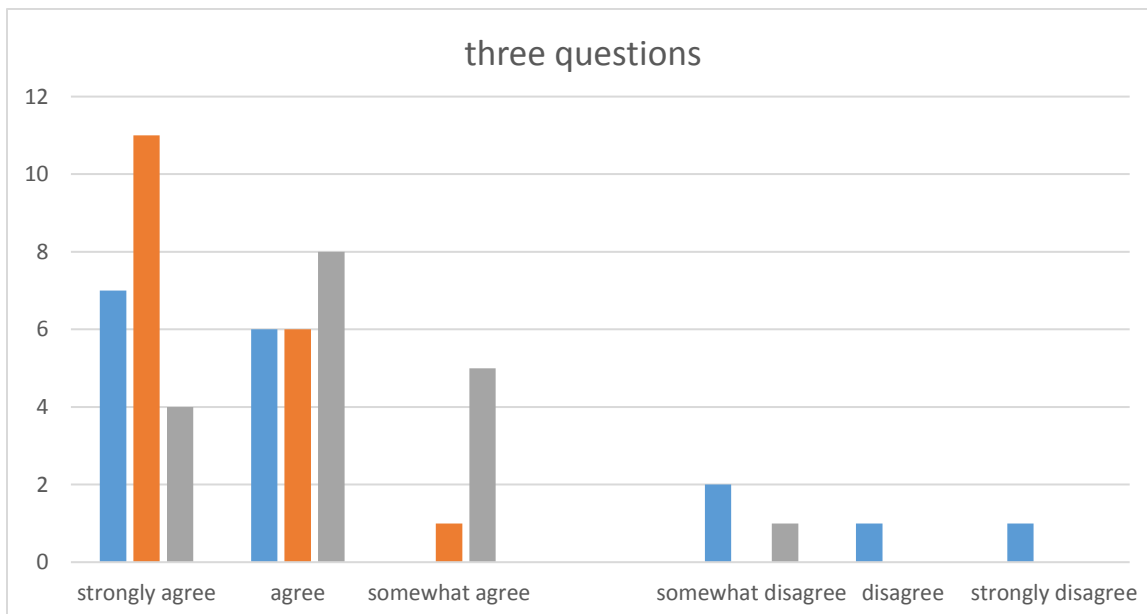
From these responses, we find a few students critical of the value of MATH 2803 (blue). There was overwhelming agreement in that courses were challenging (orange). There is also strong agreement that the program is preparing majors for their career plans (gray), although not overwhelmingly so.

Our students responded almost unanimously (94%) that they were glad they chose to be a math major, and only one respondent would not recommend to others becoming a math major at the University of Arkansas.   All but 4 students (78%) reported that they were satisfied with the variety of courses offered by the department.

The future plans of graduates include:

Software engineer/computer programmer (4)
Master's in data science
Master's in Astronomy
Masters study at U of A
Doctoral study in CS at U of A
JB Hunt
US Army
Walmart
Doctoral Program in Chemistry at Virginia Tech
Masters in Economics
Teach Middle/High School

M.S. degree in Mathematics

Assessment of students in our master's program is done on an on-going basis through the department's Graduate Committee's review of graduate MATH courses. In addition to course work, students are also assessed by through their overall levels of participation in department, university and professional activities; these include interdisciplinary research projects, career fairs, AWSM, Celebration of Mind, tutoring.

The main assessment is the comprehensive examination. The exam is taken at the end of the students second year in the program.

Three of out four students who attempted passed their masters comprehensive examinations. (Several other students in the program attempt to pass Ph.D. qualifying examinations to satisfy their MS degree requirements.)

 According to the Office of Institutional Research and Assessment the following are the number of master's degrees in the last 10 years:

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018*
11	7	1	2	11	6	17	10	7	8	6

*estimated

Ph.D. degree in Mathematics

Assessment of students in our doctoral program is done in on an on-going basis through the department's Graduate Committee's review of graduate MATH courses.   The main assessments are the department's Qualifying examination, Candidacy examination, and the defense of a doctoral dissertation.

The Qualifying examination is taken after the completion of basic graduate-level course work, usually after one or two years in the program.   Students have three attempts to pass the exam.

Last year, 13 students attempted the qualifying examination. Of these, 4 passed.   Most of the remaining students have partially passed their exam and have further attempts to complete the requirements.

Three students passed their Candidacy exam and are beginning doctoral dissertation research with their thesis advisors.

Three students completed their doctoral degree. Of these, two have academic positions at four-year public universities.

Our production of doctoral students has increased in the last few years. According to the Office of Institutional Research and Assessment the following are the number of Ph.D. degrees in the last 10 years:

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018*
2	1	2	3	5	4	4	1	5	4	4

*estimated

M.A. in Secondary Mathematics

The program has only recently begun offer the degree as an online program. One student has completed the new program. Currently there are 7 students in the program.