

**Mathematics Students' Communication Skills**  
**Mathematics (Teaching Option) MA – College of Natural Sciences and**  
**Mathematics**

**Step 1: Student Learning Outcome**

Communicate mathematics in written and oral forms.

**Step 2: Methods and Measures**

Assessment of students' oral and written communication based on both mathematical correctness and communicative effectiveness includes MATH 580, 581, 582, 583, 584, and 587. For each course, each student is given a composite letter grade (A–F) by their instructor for oral and written communication.

**Step 3: Criteria for Success**

Aggregate grades over all courses and assessments meets or exceeds 80% A/B for both written and oral communication.

**Step 4: Results**

To control for the grading style of each professor, data for all six courses over the last three years (Fall 2019–Spring 2022) were examined (n=156). Overall, 91% of students were rated B or higher. Broken down by class, the percentages were:

- 580: 96%
- 581: 97%
- 582: 100%
- 583: 88%
- 584: 86%
- 587: 79%

The aggregate easily exceeded the criteria for success, and only one course had a percentage that missed the threshold by a small margin.

**Step 5: Improvement Actions**

Although the target for success was exceeded, faculty will look carefully at Math 587 to see why the ratings in that course are so much lower in comparison. One likely reason is that the instructor for that course consistently held the students to a higher standard than the other instructors, thus, additional calibration will be considered. There is also the possibility that the students are less confident in Math 587, which often leads to poorer performance in communication, since the course itself is less about content one can study and more about reasoning techniques.