Overview. Utah State University (USU) Academic Success Center (ASC) Math and Statistics Drop-in Tutoring Center provides free tutoring assistance to students in seventeen specific courses from MATH 0995 (College Mathematics Preparation) to MATH 2280 (Ordinary Differential Equations) and STATS 1040 (Introduction to Statistics) to STATS 3000 (Statistics for Scientists).

Assessment Name: ASC MST Attendance Data Base

Analysis of Data. Through survey feedback and statistical analysis the Center continuously reviews results and impacts of their services. This allows sustained enhancement and refinement of the assistance provided to students in order to ensure the fulfillment of the needs of an ever-changing, dynamic and vibrant student population.

The Center routinely gathers statistics on Tutoring Center usage, satisfaction of students using services, and hours spent providing services to the campus. The following charts indicate usage and hours spent providing services.

Knowledge Gained. Based on the review of the data provided from the Data Base, there are clear indications that there is a decline in the use of the Math and Statistics Drop-In Tutoring Center of the course of the last six to eight semesters. Most of these can be attributed to a reduction in hours the Center has provided tutoring, the implementation of recitations for some of the mathematics classes by the Math Department, and potentially the change in the learning habits and patterns of the students.

The primary concern associated with this is that this downward trend in use of the services does not appear to be accompanied by any significant upward shift in the overall success rate of students in the classes where tutoring services are available.

Potential methods of Improvement. In order to sustain or enhance services to students the Tutoring Center will focus on three areas. These include:

- Ensuring that the Tutoring Center hours coincide with the times when traditionally high usage rates exist
- Working with the Math Department to ensure that students are aware and where possible encouraged to use the services provided in order to enhance their chances of academic success
- Increased focus on accurately logging all visits to the Tutoring Center
- Improving the Tutoring Center Log-on interface to make it more “user-friendly” and intuitive

NOTE: All 2017 Data reflect usage lower than the actual numbers based on data that was captured using manual sign in sheets at times when the data base servers were down or slow. This data has been gathered but not yet inserted into the overall numbers, but includes approximately 300+ visits during the Spring 2017 semester and over 120 visits in the Fall 2017 Semester.
Chart 1 – Usage, Eligible Students, and Hours Scheduled. This chart is a comparative analysis of student usage, total campus-wide enrollment of students in the classes with provided support, and the number of hours worked by tutors providing services.

Total number of individual visits by students during the year is in green. Total number of students enrolled in courses with provided support in blue. Total number of hours worked during the year is in yellow.

The trend analysis of this chart indicates that overall visits to the tutoring center are down despite an increase in the number of students enrolled in classes with tutoring services available. Two major factors influence the changes:

1. The first factor is that students in lower level math and statistics classes (which are the classes that have seen the majority of growth in enrollment in the last five years) do not as a rule visit the Tutoring Center. After the elimination of MATH 1010 very few students who were enrolled in either MATH 0995 or MATH 1050 visited the Tutoring Center. This number is well below the average Tutoring Center visits by previous students in MATH 1010.
2. The second factor is the addition of recitation to the MATH 1210 and MATH 1220 course. Trends indicate a decline in visits from upper level mathematicians since the recitations have been added to these courses.

![Chart 1 – Usage, Eligible Students, and Hours Scheduled](image-url)
Chart 2 – Tutor Hours Scheduled. This chart is an analysis of tutor hours scheduled from 2013 until present by month. This chart is based on the Academic Year (July to June). Since 2016 there is a gradual decrease in over-all tutor hours scheduled. Summer months (Late May, June, July, and early August) always have reduced tutoring services based on significantly decreased enrollment of students on campus.
Chart 3 – Student Visits for Fall 2017 by Hour. This chart shows the start times of the visits to the Math and Statistics Drop-in Tutoring Center by Day and Hour.

Shown are the total number of individual visits by students for the Fall 2017 Semester by hour and day of the week. They are cumulative throughout the semester (Semester totals not daily totals averaged). Late morning and early afternoons are peak times for student visits with visits starting slowly in the morning and declining in the evenings. There is limited usage on weekends.

Pink indicates morning visits, Orange indicates afternoon visits and Brown / Tan indicates evening visits.
Chart 4 – Usage and Enrolled Students for Lower Level Math Classes. This chart is a comparative analysis of student usage and total campus-wide enrollment of students in the classes with provided support for MATH 0995 to MATH 1100.

Total number of individual visits by students during the year is in green. Total number of students enrolled in courses with provided support in blue.

The trend analysis of this chart indicates that overall visits to the tutoring center are down despite an increase in the number of students enrolled in classes with tutoring services available. The major issue influencing this change is the fact that students in lower level math classes seldom visit the Tutoring Center. After the elimination of MATH 1010 very few students who were enrolled in either MATH 0995 or MATH 1050 visited the Tutoring Center. This chart indicates that the number of students in MATH 0995 and MATH 1050 visiting the Tutoring Center is much lower than the number of visits by previous students in MATH 1010.

- MATH 0955 – College Math Preparation (implemented in 2015-16)
- MATH 1010 – Intermediate Algebra (discontinued in 2015-16)
- MATH 1050 – College Algebra
- MATH 1100 – Calculus Techniques
Chart 5 – Usage and Enrolled Students for Upper Level Math Classes. This chart is a comparative analysis of student usage and total campus-wide enrollment of students in the classes with provided support for MATH 1210 to MATH 1220.

Total number of individual visits by students during the year is in green. Total number of students enrolled in courses with provided support in blue.

The trend analysis of this chart indicates that overall visits to the tutoring center are down despite a slight increase in the number of students enrolled in upper level math classes with tutoring services available. The major issue influencing this change is the fact is most likely the implementation of recitation sessions in the calculus classes in AY 2015-16.

- MATH 1210 – Calculus I (Recitation implemented in 2015-16)
- MATH 1220 – Calculus II (Recitation implemented in 2015-16)
- MATH 2210 – Multivariable Calculus
- MATH 2250 – Linear Algebra and Differential Equations
Chart 6 – Usage and Enrolled Students in Statistics Classes. This chart is a comparative analysis of student usage and total campus-wide enrollment of students in the classes with provided support for STATS 1040 to STATS 3000.

Total number of individual visits by students during the year is in green. Total number of students enrolled in courses with provided support in blue.

The trend analysis of this chart indicates that overall visits to the tutoring center are down despite a slight increase in the number of students enrolled in statistic classes with tutoring services available. The usage by STATS 3000 level students remains relatively stable. The most significant decline per capital is in Statistics 2300.

- STATS 1040 – Introduction to Statistics
- STATS 2000 – Statistical Methods
- STATS 2300 – Business Statistics
- STATS 3000 – Statistics for Scientists