Institutional Effectiveness
2023-2024
Program: Mathematics MS
College and Department: College of Arts and Sciences, Department of Mathematics
Contact: Michael Allen
Mission:
In alignment with Tennessee Tech’s Vision and Mission statements, the Department of
Mathematics will foster students’ tenacity and analytical abilities through the offering of a wide
variety of math courses, innovative teaching and research, and service, both public and
institutional. As a central part of a STEM-infused comprehensive institution, the Department of
Mathematics will create successful learners of mathematics in the university community and in
the region. Learning opportunities will be provided to students of all disciplines to advance their
understanding of mathematical concepts through effective use of analytical practices and
critical thinking. More specifically, the Department will provide its majors with a thorough
foundation in mathematics and the flexibility to prepare for a variety of careers through the
opportunity to study multiple areas of mathematics.

Attach Curriculum Map (Educational Programs Only):
Here is the current curriculum map for the Masters in Mathematics at Tennessee Tech. As one
can see, the map leaves room for the student to pursue their own path but with the stipulation
Algebra and Analysis are taken.
MS in MATH Curriculum Map
 Courses & Degree Requirements
Student Learning
Outcomes
MATH
6110
(3 cr hours
of
Algebra)
MATH 6410,
6310 or
6010
(3 cr hours of
Analysis)
Minimum of 30
graduate credit
hours in MATH
3 Required Sequences and
passing 2 comprehensive
exam or 2 Required
Sequences & Thesis
Students will
demonstrate breadth
of mathematical
knowledge
X X X X
Students will
demonstrate depth of
mathematical
knowledge
 X X

Program Goal 1: Ideal Number of Graduate Students
Define Outcome:
The Mathematics Masters program will grow and continue to recruit and retain an optimal
number of students who major in Math.

Criteria for Success (Thresholds for Assessment Methods):
The Department will strive for a better than 75% pass rate on these common questions.
Link to 'Tech Tomorrow' Strategic Plan:
2.B Research, Scholar, Intellect, and Creativity
Results and Analysis:
All five graduates of the 2023-24 academic year demonstrated a breadth of knowledge of
mathematics by completing Math 6110 - Abstract Algebra and a 6000-level course in Analysis.
Most answered the Algebra and Analysis questions posed to them during their oral exams
satisfactorily while three students were able to answer the problems completely. This was to be
expected given only one student earned A's in both Algebra and Analysis while another earned
only an A in Algebra.
Use of Results to Improve Outcomes:
Last year the graduate faculty did discuss how better to assess this knowledge. One small
movement was to record the question stated during the oral exam. This assessment will be
looked at again to better clarify its rubric and how to gather the results.
Student Learning Outcome 2: Depth of Knowledge in an Area of Mathematics
Define Outcome:

Attached Files
Results_Oral_Exams_Masters_2023_2024.pdf