

**Office of Academic
Planning and Assessment**

A Report of the Critical Thinking Assessment Test (CAT)

College of Sciences

2015-2016

Description of the Critical Thinking Assessment Test (CAT)

The CAT is a nationally normed, short-answer essay test designed to assess critical thinking and problem solving skills. The CAT was developed at Tennessee Tech University, with support of the National Science Foundation. The CAT is administered each academic year to approximately 500 students in upper division courses (3000- and 4000-level). Over a three-year period, each academic college at SHSU will participate in the CAT and submit tests for scoring. The student data presented within this report reflect student performance regarding the Texas Higher Education Coordinating Board's Core Learning Objective of Critical Thinking (THECB, 2016). The THECB (2016) defines Critical Thinking as "creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information."

Methodology

A total of 109 students in upper division courses College of Science took the CAT in Spring 2016. The tests were scored by faculty and staff volunteers during a two-day scoring session in July 2016. Facilitators trained by the Center for Assessment and Improvement of Learning at Tennessee Tech University lead the scoring sessions to ensure norming and validity. The scored tests were mailed back to the Center to determine college and department averages. Student SamID's were collected with the tests so that we can cross-reference the scores with demographic datasets requested from Institutional Effectiveness. The following is a listing of the departments within the College of Science that participated in the CAT for 2015-2016:

College of Sciences (COS)

- a. Department of Agricultural Sciences and Engineering Technology (AGRI)
- b. Department of Mathematics and Statistics (MATH)
- c. Department of Physics (PHYS)
- d. Department of Chemistry (CHEM)
- e. Department of Biological Sciences (BIOL)
- f. Department of Geography and Geology (GEOG/GEOL)

Results

Readers are directed to Table 1 for a breakdown of these results.

Table 1: *Descriptive Statistics for Student Scores on Critical Thinking and Assessment Test (CAT) in the College of Science for 2015-2016*

College/Department	<i>n</i>	Min.	Max.	<i>M</i>	<i>SD</i>
College of Sciences	109	5	30	16.98	5.83
Ag Sciences & Engineering Technology	31	5	24	14.32	4.77
Mathematics & Statistics	12	6	29	16.44	7.32
Physics	12	12	28	19.92	6.64
Chemistry	16	7	30	19.94	6.10
Biological Sciences	29	10	25	16.66	4.68
Geography & Geology	9	11	27	18.74	5.57

References

Texas Higher Education Coordinating Board. (2016). Elements of the Texas Core Curriculum. Retrieved from: <http://www.thecb.state.tx.us/index.cfm?objectid=427FDE26-AF5D-F1A1-E6FDB62091E2A507>