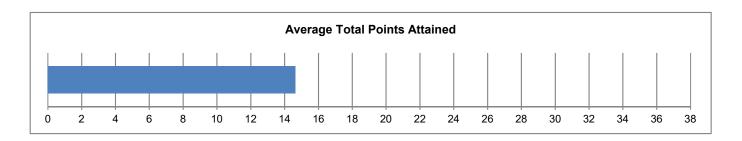# Sam Houston State University

CAT Institutional Report

July 2019 - College of Science and Engineering Tech

CAT Overview: Descriptive Statistics for CAT Total Score
Sam Houston State University: July 2019 - College of Science and Engineering Tech

	N	Min.	Max.	Mean	Std. Dev
CAT Total Score	245	3.00	32.00	14.64	5.36

Average Total Points Attained

CAT Demographics: Descriptive Statistics for Sample

		Freq.	Freq. %
Gender	Male	145	59.7%
	Female	98	40.3%
Class Standing	Freshman	2	0.8%
	Sophomore	4	1.6%
	Junior	65	26.5%
	Senior	174	71.0%
Class	Undergraduate	239	100.0%
	Graduate	0	0.0%
Age	≤ 20 years	27	11.7%
	21-25 years	172	74.5%
	≥ 26 years	32	13.9%

		Freq.	Freq. %
Race**	White	177	72.2%
	Black or African American	32	13.1%
	American Indian or Alaska Native	5	2.0%
	Asian	15	6.1%
	Native Hawaiian or Other Pacific Islander	0	0.0%
	Other Race	24	9.8%

**The cumulative percent may exceed 100% as students are allowed to select more than one category.

		Freq.	Freq. %
Proficiency with the English Language*	Excellent	166	67.8%
	Very Good	63	25.7%
	Good	15	6.1%
	Fair	1	0.4%
	Poor	0	0.0%

* Self-rated

	Freq.	Freq. %
Spanish/Hispanic/Latino Ethnicity	69	28.2%
Considered English primary language?	220	89.8%

CAT Breakdown: Frequency of Points Awarded for Each Question

Sam Houston State University: July 2019 - College of Science and Engineering Tech

	Skill Assessed by CAT Question	Points Awarded	Freq.	Freq. %
Q1	Summarize the pattern of results in a graph without making inappropriate inferences.	0	102	41.6%
		1	143	58.4%
Q2	Evaluate how strongly correlational-type data supports a hypothesis.	0	100	40.8%
		1	85	34.7%
		2	31	12.7%
		3	29	11.8%
Q3	Provide alternative explanations for a pattern of results that has many possible causes.	0	127	51.8%
		1	62	25.3%
		2	36	14.7%
		3	20	8.2%
Q4	Identify additional information needed to evaluate a hypothesis.	0	134	54.7%
		1	86	35.1%
		2	16	6.5%
		3	9	3.7%
		4	0	0.0%
Q5	Evaluate whether spurious information strongly supports a hypothesis.	0	51	20.8%
		1	194	79.2%
Q6	Provide alternative explanations for spurious associations.	0	49	20.0%
		1	91	37.1%
		2	85	34.7%
		3	20	8.2%
Q7	Identify additional information needed to evaluate a hypothesis.	0	156	63.7%
		1	78	31.8%
		2	11	4.5%
Q8	Determine whether an invited inference is supported by specific information.	0	91	37.1%
		1	154	62.9%
Q9	Provide relevant alternative interpretations for a specific set of results.	0	106	43.3%
		1	108	44.1%
		2	31	12.7%
Q10	Separate relevant from irrelevant information when solving a real-world problem.	0	4	1.6%
		1	8	3.3%
		2	52	21.2%
		3	95	38.8%
		4	86	35.1%
Q11	Use and apply relevant information to evaluate a problem.	0	98	40.0%
		1	122	49.8%
		2	25	10.2%
Q12	Use basic mathematical skills to help solve a real-world problem.	0	50	20.4%
		1	195	79.6%
Q13	Identify suitable solutions for a real-world problem using relevant information.	0	98	40.0%
		1	85	34.7%
		2	33	13.5%
		3	29	11.8%
Q14	Identify and explain the best solution for a real-world problem using relevant information.	0	92	37.6%
		1	36	14.7%
		2	9	3.7%
		3	45	18.4%
		4	56	22.9%
		5	7	2.9%
Q15	Explain how changes in a real-world problem situation might affect the solution.	0	157	64.1%
		1	48	19.6%
		2	31	12.7%
		3	9	3.7%

Institutional/Departmental Profile

Sam Houston State University: July 2019 - College of Science and Engineering Tech

Evaluate and Interpret Info	Problem Solving	Creative Thinking	Effective Comm.		Skill Assessed by CAT Question	Institution/Department	
						Mean	Avg. % of Attainable Points
X				Q1	Summarize the pattern of results in a graph without making inappropriate inferences.	0.58	58%
X			X	Q2	Evaluate how strongly correlational-type data supports a hypothesis.	0.96	32%
		X	X	Q3	Provide alternative explanations for a pattern of results that has many possible causes.	0.79	26%
	X	X	X	Q4	Identify additional information needed to evaluate a hypothesis.	0.59	15%
X				Q5	Evaluate whether spurious information strongly supports a hypothesis.	0.79	79%
		X	X	Q6	Provide alternative explanations for spurious associations.	1.31	44%
	X	X	X	Q7	Identify additional information needed to evaluate a hypothesis.	0.41	20%
X				Q8	Determine whether an invited inference is supported by specific information.	0.63	63%
		X	X	Q9	Provide relevant alternative interpretations for a specific set of results.	0.69	35%
X	X			Q10	Separate relevant from irrelevant information when solving a real-world problem.	3.02	76%
X	X		X	Q11	Use and apply relevant information to evaluate a problem.	0.70	35%
	X			Q12	Use basic mathematical skills to help solve a real-world problem.	0.80	80%
X	X			Q13	Identify suitable solutions for a real-world problem using relevant information.	0.97	32%
X	X		X	Q14	Identify and explain the best solution for a real-world problem using relevant information.	1.83	37%
	X	X	X	Q15	Explain how changes in a real-world problem situation might affect the solution.	0.56	19%
					CAT Total Score	14.64	39%

The map of skills covered by each question above is a suggested theoretical guide for interpreting results.

Upper Division CAT Means Comparison Report

Sam Houston State University: July 2019 - College of Science and Engineering Tech

Evaluate and Interpret Info	Problem Solving	Creative Thinking	Effective Comm.		Skill Assessed by CAT Question	Institution Mean	National Mean	National Probability of difference[a]	National Effect Size[b]
X				Q1	Summarize the pattern of results in a graph without making inappropriate inferences.	0.58	0.67	**	-.17
X			X	Q2	Evaluate how strongly correlational-type data supports a hypothesis.	0.96	1.21	***	-.27
		X	X	Q3	Provide alternative explanations for a pattern of results that has many possible causes.	0.79	1.35	***	-.59
	X	X	X	Q4	Identify additional information needed to evaluate a hypothesis.	0.59	1.41	***	-.87
X				Q5	Evaluate whether spurious information strongly supports a hypothesis.	0.79	0.73		
		X	X	Q6	Provide alternative explanations for spurious associations.	1.31	1.56	***	-.28
	X	X	X	Q7	Identify additional information needed to evaluate a hypothesis.	0.41	0.82	***	-.71
X				Q8	Determine whether an invited inference is supported by specific information.	0.63	0.68		
		X	X	Q9	Provide relevant alternative interpretations for a specific set of results.	0.69	0.93	***	-.35
X	X			Q10	Separate relevant from irrelevant information when solving a real-world problem.	3.02	3.14		
X	X		X	Q11	Use and apply relevant information to evaluate a problem.	0.70	1.11	***	-.61
	X			Q12	Use basic mathematical skills to help solve a real-world problem.	0.80	0.82		
X	X			Q13	Identify suitable solutions for a real-world problem using relevant information.	0.97	1.18	***	-.22
X	X		X	Q14	Identify and explain the best solution for a real-world problem using relevant information.	1.83	2.29	***	-.26
	X	X	X	Q15	Explain how changes in a real-world problem situation might affect the solution.	0.56	1.15	***	-.73
					CAT Total Score	14.64	19.04	***	-.84

[a]. * $p<.05$ **$p<.01$ ***$p<.001$ (2 –tailed)   Does not Account for entering ACT/SAT.

[b]. Mean difference divided by pooled group standard deviation.

(0.1 - 0.3 = small effect; 0.3 - 0.5 = moderate effect; >0.5 = large effect)

The map of skills covered by each question above is a suggested theoretical guide for interpreting results.